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Structural Dynamic Response of the Circular Arch Bridge

Master Thesis



Structural Dynamic Response of the Circular Arch Bridge

By

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in partial fulfilment of the requirements for the degree of

Master of Science
in Civil Engineering

at the Delft University of Technology,
to be defended publicly on Thursday February 3, 2022 at 10:30 AM.

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Preface

Before you lies my master thesis, which concludes the end of my study at the TU Delft. After years of hard work, it makes me proud to be able to call myself a Civil Engineer.

First of all, I would like to thank my thesis committee for their guidance, help, criticism and most importantly their motivation. I would like to thank Rob Nijse for being the chair of my committee. But I would also like to thank you for all the knowledge I have learned from you during my entire studies. Your lectures have always inspired me. You are a true example of what Civil Engineering is about. I would like to thank Ate Snijder for the inspiration you have always been in the development of structural glass. You have been the first person to show me the possibilities there are with structural glass, and it has inspired me since. To Francesco Messali I would like to say thank you on your help with my finite element model. You had an answer for every question I had, which I value a lot. Finally, I would like to thank Alessandro Cabboi for his help on structural dynamics. Your critical question motivated me to get understand the topic better, bringing my thesis to a higher level.

I would also like to thank my parents Hans and Karin. You have done everything for me to make it possible to become a Civil Engineer. For that I will be forever grateful.

Furthermore, I would like to thank Kayleigh. You have always been there for me to motivate me, take my mind of my work and listen to my problems. I could not have done it without you.

I am grateful for all the friends that I have met at TU Delft. Besides the great time that at TU Delft I look back on, I am grateful for all the help that you have provided. I could not have achieved it on my own.

Finally, I would like to thank my family and friends. Your help with taking my mind of my thesis, your advice and your motivation have helped me a lot.

J.C. (Rick) Kooijman

Maasdam, January 2022

Abstract

The Circular Arch Bridge is a pedestrian bridge consisting out of four different recycled materials: cast glass, ceramic, circumvent and geopolymer concrete. Due to an increasing amount of vibration problems in modern pedestrian bridges they should not only be designed for static loads, but dynamic loads have to be considered as well. There are currently no guidelines in the Eurocodes for the dynamic assessment of a bridge like the Circular Arch Bridge. Therefore, this paper provides a research on how the dynamic assessment of the Circular Arch Bridge should be conducted.

The Circular Arch Bridge is considered a dry-stacked masonry arch bridge. A full dynamic assessment is conducted, with the use of finite element software, according to the guidelines for pedestrian bridges. The eigenvalues of the Circular Arch Bridge are not within the critical range for pedestrian induced dynamic loads. It is found that for everyday use the Circular Arch Bridge is within Comfort Class 2 from the Eurocode, thereby providing a medium comfort level. A special load case is added to the analysis representing a group of 60 people dancing on the bridge during experimental testing of the bridge. For this load case the Circular Arch Bridge is within Comfort Class 3 from the Eurocode, thereby providing a minimum level of comfort.

With a sensitivity analysis it is determined that the most sensitive input parameter of the finite element model is the modulus of elasticity of the interlayer. An investigation of the effect of large stiffness differences between the interlayer and the stones on the dynamic properties of the bridge is conducted. It is concluded that the large stiffness differences have a positive effect on the dynamic properties of the bridge. The effect of the dry-stacked assembly of the bridge on the dynamic properties is also investigated. This as a negative effect on the dynamic properties of the bridge.

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1. Introduction

1.1 Introduction of the research

In a world where we are all working towards a circular society, there lies an important task for the engineers. To achieve the goal of a circular society, there is a mission for the current and future generation engineers: “*Reduce, Reuse and Recycle*”. A demonstration of these so-called three R’s is the Circular Arch Bridge. The Circular Arch Bridge is a demonstrator project by TU Delft and industry that shows the three R’s in structural design and engineering.

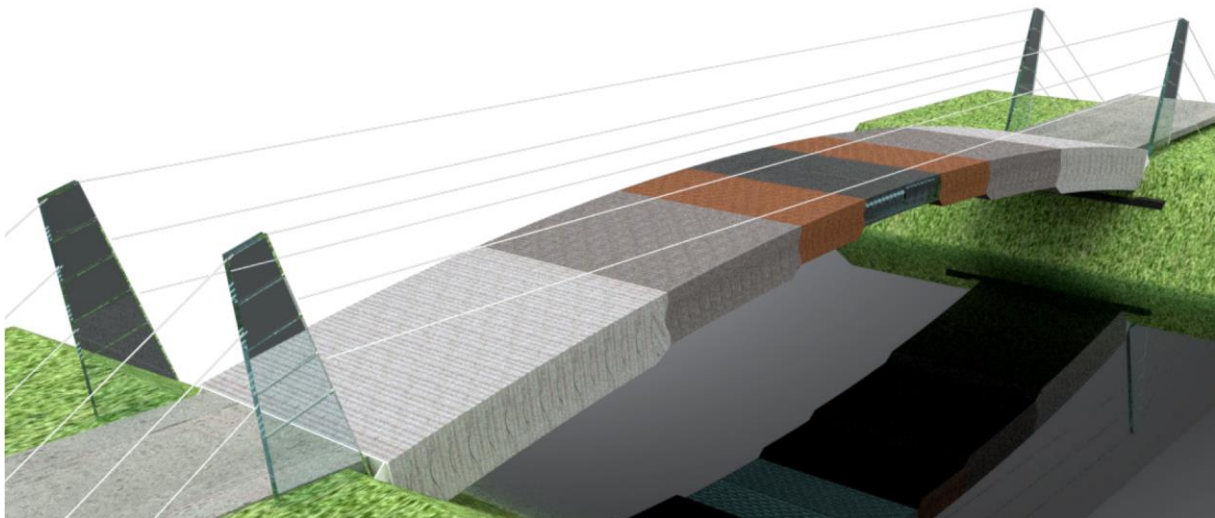


Figure 1.1: The Circular Arch Bridge, taken from (R. Nijssse, personal communications, November 17 2020);

Within the design of the Circular Arch Bridge, it has been optimised to *reduce* the amount of material needed. Due to a dry-stacked assembly, it is possible to assemble and disassemble the bridge on location. This allows for *reuse* of the separate stones. The Circular Arch Bridge consists out of four different *recycled* materials: cast glass, ceramic, circumvent and geopolymer concrete.

1.1.1 Problem introduction

An increasing amount of vibration problems in modern pedestrian bridges has shown that pedestrian bridges should no longer be designed for static loads only (Heinemeyer, et al.,

2009) . With the Circular Arch Bridge being a pedestrian bridge, a dynamic assessment of the bridge is necessary to complete the design of the bridge.

At this point the Eurocodes do not provide special guidelines for assessing the dynamics of a hybrid structure like the Circular Arch Bridge. Besides that, the Eurocodes do not provide guidelines for the use of cast glass structural elements.

A study is needed to provide a full dynamic assessment of the Circular Arch Bridge. By live testing the bridge after construction, a better understanding of the dynamic properties of hybrid structures and structural cast glass structures is obtained. The results can be used in the development of guidelines for designing with structural glass.

1.2 Objective and methodology

1.2.1 Objective

The objective of this research to understand and predict the dynamic behaviour of the Circular Arch Bridge, give insight in the sensitivity of the parameters within the design and give insight in the effect of design choices on the dynamic properties of the bridge.

The following assumptions have been made:

- **Design:** The available information about the design of the bridge is assumed correct and reliable.
- **Loads:** Only the self-weight of the bridge and human-induced loads have been considered present on the bridge. Wind and temperature induced loads have not been considered present.

The main research question of this research is:

What is the structural dynamic response of the Circular Arch Bridge when subjected to dynamic loading for pedestrian bridges?

The main research question can be answered when the following sub-questions have been answered:

Theoretical framework:

- What is the static structural response of the Circular Arch Bridge?
- What are the guidelines for determining the dynamic behaviour of a pedestrian bridge?
- What are the loads that a pedestrian bridge is subjected to?

Numerical analysis

- What are the eigenfrequencies of the Circular Arch Bridge?
- What is the dynamic response of the Circular Arch Bridge?

1.2.2 Additional research

A part of this research has been conducted in the context of an additional research project. The additional research is an integral part of this thesis report and can be found in chapter **6. Sensitivity of the Finite Element Model**. The research questions belonging to the additional research project are stated below. A separate report of the additional research project: *Sensitivity Analysis of the Circular Arch Bridge* is available on <http://www.repository.tudelft.nl/>.

Additional research

- What is the sensitivity of the input parameters of the Circular Arch Bridge?
- What is the effect of big stiffness variation, for instance between a stone and the PU interlayer, on the dynamic properties of the bridge?
- What is the effect of the dry-stacked assembly on the dynamic properties of the bridge?

1.2.3 Methodology

Literature review

A review is made on the earlier research of the structural static behaviour of the Circular Arch Bridge. This is essential in understanding the design of the bridge, but also to interpretate and verify the results obtained in the numerical analysis. Also, relevant literature regarding the dynamic assessment of a pedestrian bridge is reviewed. This serves as the input for the numerical analysis.

Numerical analysis

Finite element analyses are executed to calculate the dynamic properties of the Circular Arch Bridge. The literature review is used as input for several finite element analyses to fully address the dynamic assessment of the Circular Arch Bridge.

Additional research

The sensitivity of the model is reviewed by performing finite element analyses. Also, finite element analyses are used to give insight in the effect that certain design choices have on the dynamic properties of the Circular Arch Bridge.

1.3 Outline

Part I – Introduction

- Chapter 1. Introduction

Part II – Theoretical framework

- Chapter 2. Static behaviour of the Circular Arch Bridge
- Chapter 3. Dynamic Assessment of a Pedestrian Bridge

Part III – Numerical analysis

- Chapter 4. Finite Element Model
- Chapter 5. Dynamic Assessment of the Circular Arch Bridge

Part IV – Additional research

- Chapter 6. Sensitivity of the Finite Element Model

Part V – Conclusion and recommendations

- Chapter 7. Conclusions and recommendations

Part VI – Bibliography

- Bibliography

Part VII – Annex

- Annex A - Eurocodes for Pedestrian Bridges
- Annex B - Sensitivity Analysis
- Annex C - Description of the Finite Element Model

2. Static behaviour of the Circular Arch Bridge

In order to perform a dynamic analysis of the Circular Arch Bridge, it is important to first understand the static behaviour of the bridge. The static behaviour of the Circular Arch Bridge is discussed in this chapter. This knowledge is essential when creating the Finite Element Model because the static behaviour of the model is used to verify the model. When the model has been verified, the dynamic analysis of the Circular Arch Bridge can be made.

2.1 Circular Arch Bridge

The Circular Arch Bridge is an innovative and sustainable experimental bridge that will replace the Glass Truss Bridge at the Green Village in Delft. The bridge is a demonstration of circularity in structures: the stones are dry stacked, without the use of adhesives, so they can be easily demounted and reused. Four different recycled materials are used for the stones, namely: glass, ceramic, circumment and geopolymers concrete. The glass stones are made of recycled glass. Recycled masonry and sanitary ceramics are used to produce the ceramic stones. Both circumment and geopolymers concrete are types of recycled concrete.

Each of the used materials has a high compressive, but a relatively low tensile strength. Therefore, the most efficient way of using the stones is to use them as compression members. An arch transfers loads mainly through axial compression forces, therefore an arch has been chosen as structural support system of the Circular Arch Bridge.

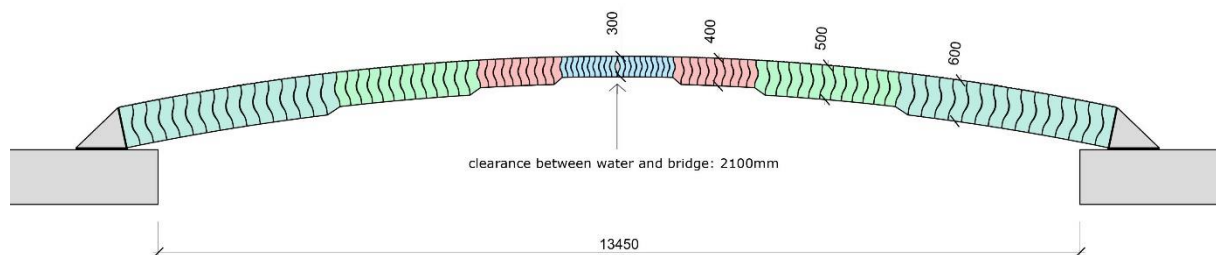


Figure 2.1: Schematic side view of Circular Arch Bridge (R. Nijssse, personal communications, November 17 2020);

2.2 Arched bridge

Arches are curved support systems which transfer loads mainly through axial compressive forces. As arches also have bending- and shear stiffness can also take up bending moments and shear forces, resulting in internal moments and shear stresses. (Welleman, 2019)

However, the internal moments and shear stresses are small compared to the internal moments and shear stresses that would occur in a beam support system. (Aurik, 2017)

2.2.1 Line of thrust

The simplest arch is obtained by inverting a hanging cable. The cable only has internal tensile forces in the direction of the cable itself. In other words, the line of force of the structural system is in line with the axis of the structure. When the cable exposed to a certain load configuration is inverted, while keeping its shape, all tensile forces are converted to compressive forces. In this way the ideal arch shape is created, the principle is shown in **Figure 2.2**. The line of forces is still in line with the axis of the structure. This line of forces is called the *line of thrust*. (Welleman, 2019) In an ideal arch the line of thrust is similar to the shape of the arch, given that the load configuration is similar.

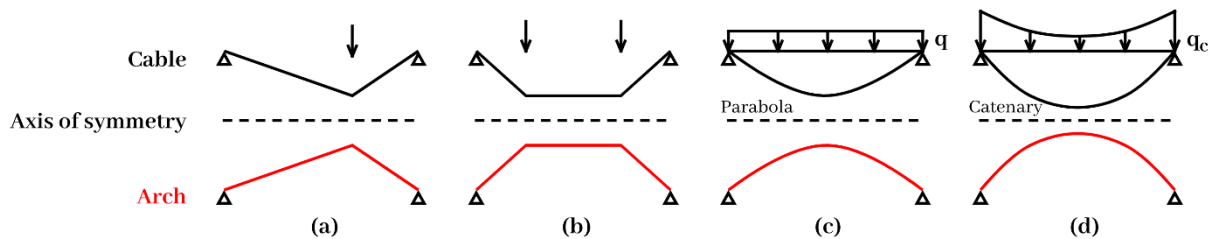


Figure 2.2: Obtaining the ideal arch shape by inverting the cable shape under a certain load configuration, based on (Aurik, 2017);

The parabolic arch shape in **Figure 2.2** is obtained by putting a horizontally distributed force on the cable. When the cable is loaded by its self-weight, the load configuration is slightly different. The self-weight is distributed along the curve, resulting in the catenary shape. The difference is illustrated in **Figure 2.3**. (Aurik, 2017)

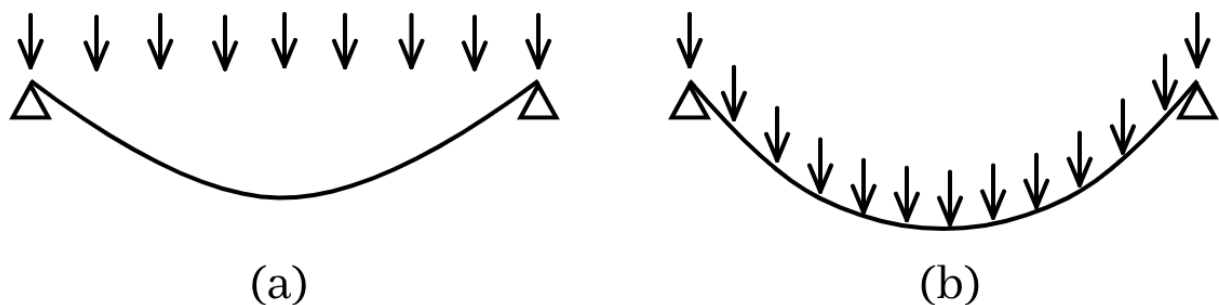


Figure 2.3: Distributed load on a cable, based on (Hartsuijker & Welleman, 2016) ; (a) Horizontally distributed; (b) Distributed along the cable;

Since structures exposed to compressive forces also have some bending stiffness, it is not necessary that the line of thrust is in line with the axis of the structure. If the line of thrust remains within the core of the structure, it will only be exposed to compressive forces. In that

case it is safe to construct with stone-like materials. (Welleman, 2019) For a rectangular cross section, the core lies within the middle third of the cross section.

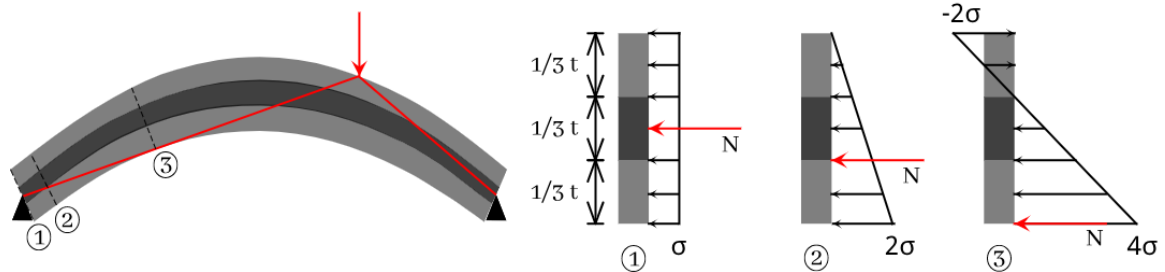


Figure 2.4: Stress distribution due to an eccentric line of thrust, based on (Aurik, 2017);

2.3 Materials

As mentioned in the introduction the Circular Arch Bridge consists out of four different materials, with similar properties. The characteristics of each material will be discussed in this section.

2.3.1 Glass

The first used material of the Circular Arch bridge is glass. According to (Le Bourhis, 2014) glass is considered a ceramic material, which is characterised by the following material properties:

- rigid;
- brittle;
- elevated yield stress;
- high hardness;
- elevated melting point;
- corrosion resistant;
- low toughness;
- low thermal shock resistance;
- elevated density.

The most common used glass is soda-lime-silica glass. It is a brittle material that can only deform elastically. Once the ultimate stress is reached, the material will fracture. The brittle

behaviour of glass is determined by the molecular structure of the material. The molecular structure of glass is amorphous, rather than crystalline. Within a crystalline structure molecules are able to form new bonds after a bond is broken, which results in ductile behaviour of the material. In an amorphous structure broken bonds cannot be easily reformed. When bonds are broken around a defect the local stresses will increase. This increase can cause another bond to be broken, which will again lead to increased local stresses. This process results in the complete destruction of glass material. Due to the brittle behaviour, special care is demanded in the design of glass structures. (Aurik, 2017) (Schittich, Staib, Balkow, Schuler, & Sobek, 2007) (Veer, 2007)

In **Figure 2.5** a stress-strain diagram is shown in which the brittle behaviour of glass is compared to the ductile behaviour of steel.

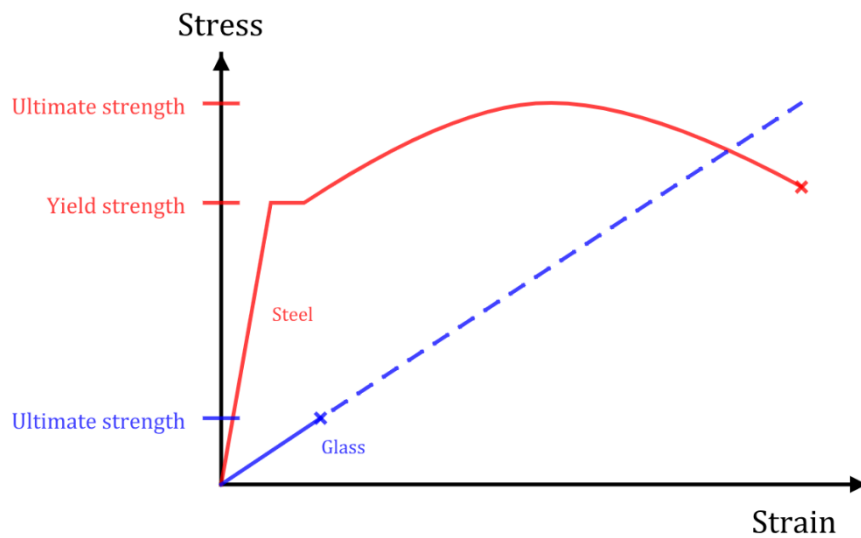


Figure 2.5: Stress-strain diagram of glass and steel, based on (Aurik, 2017);

The properties of soda-lime-silica glass are presented in **Table 2-1**.

Table 2-1: Properties of soda-lime-silica glass, based on (Schittich, Staib, Balkow, Schuler, & Sobek, 2007);

Property	Symbol	Unit	Value
Density	ρ	kg / m ³	2500
Hardness	H K _{0.1 / 20}	GPa	6
Modulus of elasticity	E	GPa	70
Poisson's ratio	ν	-	0.2
Thermal expansion coefficient	α	10 ⁻⁶ K ⁻¹	9
Thermal conductivity	λ	W / (mK)	1

2.3.2 Ceramic

The second material of the Circular Arch Bridge is ceramic. This material is made of recycled sanitary ceramics and masonry. As glass is a ceramic material, ceramic stones are characterised by the same material properties as mentioned for glass (Le Bourhis, 2014). Although the values of material properties differ from glass, both materials will show similar behaviour.

2.3.3 Circument

Circument is a product that is produced by the company C2CA Technology. This company has developed a technology in which ultra-fine concrete debris is treated and processed into a secondary building material with binding properties. This material is called circument and is excellent to be used to produce cement. The technology also recycles the aggregate from the concrete debris, splitting it into fine- and coarse aggregate. The recycled materials can then be used to produce new sustainable concrete blocks, which are implemented in the design of the Circular Arch Bridge. (C2CA Technology, 2021)

2.3.4 Geopolymer concrete

Geopolymer concrete is a material in which geopolymer is used as the binding agent, replacing ordinary Portland cement. The usage of geopolymer over ordinary Portland cement results in a significantly lower CO₂ emission, thereby making geopolymer concrete more sustainable. It is possible to add industrial by-products, like high oven slag and fly ash, to geopolymer concrete. Disposition of these by-products is a global concern; therefore, it is beneficial to add these products to the material. (Xia, Nematollahi, & Sanjayan, 2019)

When comparing geopolymer concrete to regular concrete, it turns out that geopolymer concrete performs equal or better than regular concrete on all aspects apart from shrink and creep (E. van der Weij, personal communications, January 15 2021). A summary of the properties of geopolymer concrete compared to regular concrete is given in **Table 2-2**.

Table 2-2: Summary of the properties of geopolymer concrete compared to regular concrete, based on (E. van der Weij, personal communications, January 15 2021).

Property	Geopolymer concrete
Compressive strength	Compressive strength is the reference value between geopolymer concrete and regular concrete. High to very high compressive strength can be achieved in geopolymer concrete.
Tensile strength	Tensile strength is generally higher compared to regular concrete with equal compressive strength.
Modulus of elasticity	The modulus of elasticity is generally lower compared to regular concrete with equal compressive strength.
Shrink	Water has a different role in geopolymer concrete, therefore shrink can be lower but also significantly higher.
Creep	Creep is slightly higher or equal to regular concrete.

2.4 Masonry arches

Masonry is a solid mass structure consisting out of separate units. These units are traditionally bonded by mortar, however in dry-stacked masonry there is no material bonding the separate units. The unit's range of different materials, the common ones are:

- stone;
- brick;
- concrete;
- clay;
- gypsum. (Ambrose, 1991)

The materials used in the Circular Arch Bridge can be placed in the commonly used materials for masonry. Although glass is not mentioned, it was previously concluded that glass is a ceramic material, with similar structural properties to the other materials. Therefore, glass can also be considered to be within the range of masonry materials. Also, the Circular Arch Bridge is made out of separate units, that together form a solid mass structure. Therefore, the Circular Arch Bridge can be regarded as a masonry structure. Therefore, from here onwards the Circular Arch Bridge will be considered as a masonry arch.

2.4.1 Structural criteria

In order to design a safe structure, there are three main criteria that need to be verified, namely:

- strength;
- stiffness;
- stability.

Meaning that the structure is strong enough to resist the loads, does not show extreme deflections and does not develop large unstable displacements. When the three main criteria are met, the criteria regarding the serviceability of the structure can be accessed. (Aurik, 2017)

Three assumptions about masonry can be made for the purpose of establishing general principles and theorems:

- masonry has no tensile strength;
- the compressive strength of masonry is infinite;
- sliding between stones does not occur.

Although a masonry stone may have some tensile strength, the joints do not have tensile strength. This means that tensile forces cannot be transferred from one stone to another. Because the stresses in masonry are generally low, it can be assumed that compressive strength of masonry is infinite. This assumption generally provides that the strength criterium is met. However, stress concentrations might cause local failure, the structure is still considered safe if the local failure does not result in global failure. As masonry structures are relatively non-slender structures and stone is a relatively stiff material, the stiffness criterium is generally met. (Heyman J. , 1966)

Usually, the stability criterium is governing in masonry structures. According to (Hartsuijker & Welleman, 2016) the buckling length of a flat arch is equal to half of the length. The critical load can be calculated by:

$$H_{crit} = \frac{\pi^2 EI}{\left(\frac{1}{2}l\right)^2} \quad (2.1)$$

The displacement is calculated by:

$$w = \frac{n}{n-1} \cdot w_0 \quad (2.2)$$

Where:

$$n = \frac{H_{crit}}{H} \quad (2.3)$$

The relation between the displacement and the load is shown in **Figure 2.6**. This shows that large displacements occur as the load approaches the critical load. A masonry arch is generally very stiff and the occurring stresses are rather low (Heyman J. , 1966). According to (Aurik, 2017) the factor n for a masonry arch is typically $n > 11$. From equation (2.1) follows that this results in an amplification factor $n/n-1 < 1.1$, meaning that the additional displacement is smaller than 10% of the initial imperfection w_0 . It can therefore be stated that when the stability of a masonry arch is accessed the additional eccentricity can be neglected.

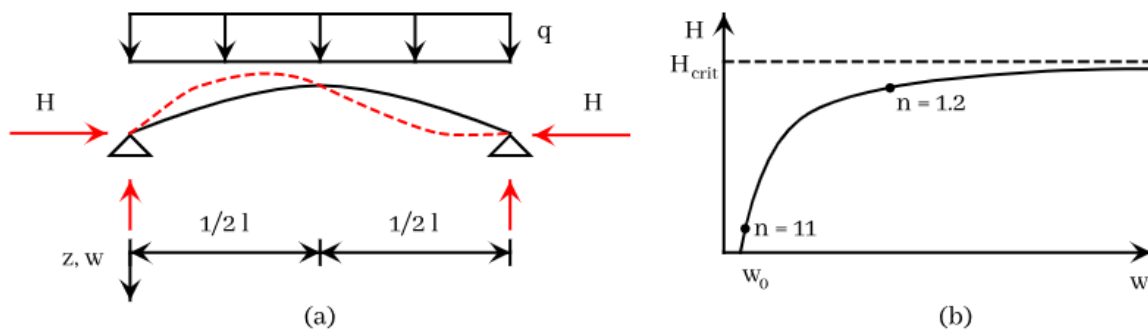


Figure 2.6: Buckling of a flat arch; (a) Buckling mode; (b) Relation between displacement and axial force of a flat arch, based on (Hartsuijker & Welleman, 2016);

In masonry arches a hinge will occur in the cross-section when the line of thrust reaches the arch's intrados or extrados. For an arch that is rigidly supported on both ends, a five-hinge collapse-mechanism is formed. However, for a flat arch, due to its geometry, a five-hinge collapse-mechanism cannot be formed. Failure of a flat arch will only occur when the material crushes due to high loads, or when a three-hinge collapse mechanism is formed (**Figure 2.7**). This mechanism is called a snap-through collapse-mechanism and occurs due to support settlement, axial shortening due to the arch being compressed or thermal shrinkage. (Aurik, 2017) (Ochsendorf, 2002)

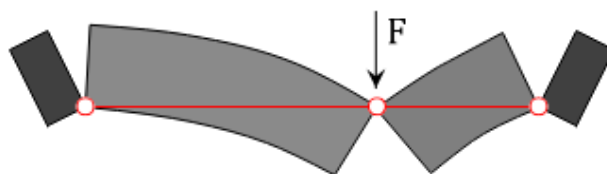


Figure 2.7: Three-hinge collapse-mechanism in a flat arch, based on (Aurik, 2017);

2.4.2 Elasticity

A collapse -mechanism will not occur when the line of thrust remains within the intrados and extrados of a masonry structure. Meaning the stability of the structure can be determined by determining the position of the line of thrust. The stability assessment using the line of thrust is an elastic approach. As masonry arches are generally hyperstatic (statically indeterminate), the position of the line of thrust cannot be obtained using only the equilibrium equations. When small deformations are allowed in the structure, the line of thrust in the structure can be obtained. The result is very sensitive to small imposed deformations at the location of the supports. Imposed displacements of less than 5% of the thickness have significant effects on the position of the line of thrust. Small imposed deformations always occur in structures, meaning that the line of thrust cannot be accurately determined using this approach. (Aurik, 2017) (Heyman J. , 1995)

2.4.3 Plasticity

It can be stated that practical imperfection in a structure results in an unpredictable working state. Due to this plastic analyses are made regarding the collapse-mechanism of a structure, rather than regarding the actual state of the structure. If two visually similar structures are compared, their working state might differ significantly due to imperfections within the structure. However, for any ductile material holds that when loaded slowly until failure, the same failure load will be found for both structures. Although the materials in the Circular Arch Bridge are not ductile materials, they may be regarded as ductile when it is applied in the form of masonry. When the structure is loaded slowly, cracks can slowly develop in between the stones. These cracks allow plastic hinges to form, thus the materials act as ductile materials. The collapse-mechanism is created by increasing the loads by a hypothetical factor. This means that in reality loads are smaller, thus the safety of the structure is proven. (Aurik, 2017) (Heyman J. , 1995)

2.4.4 Structural safety

When regarding a masonry arch plastically, a hypothetical equilibrium state at the boundary of collapse is regarded. Because a masonry arch is a hyperstatic structure there is an infinite amount of equilibrium states. To access the stability of a masonry arch the master safe theorem of plasticity may be applied. The master safe theorem for masonry structures is stated in **Theorem 2.1**. (Aurik, 2017)

Theorem 2.1: Master safe theorem for masonry (Heyman J. , 1995);

If, for a certain loading on a structure, any equilibrium state can be found in which the internal forces lie within the boundaries of the structure, then the structure is stable, and collapse can never occur under the loading.

Small imposed deformations have an effect on the equilibrium state, so they affect the master safe theorem. However small imposed deformations barely affect the geometry of the arch. It can be stated that although small imposed deformations might result in a large position shift of the line of thrust, it will never cause a collapse-mechanism. (Aurik, 2017)

2.5 Differential equation for arches

This section, entirely based on (Welleman, 2019), shows how an elastic analysis for an arch is made with the use of differential equations. This analysis can be used to determine the deflections, internal forces, and the position of the line of thrust. The position of the line of thrust can be used to prove the stability of the arch.

For this section an arch clamped on one side and hinged on the other side, as shown in **Figure 2.8**, is considered. The arch has a parabolic shape and is subjected to a distributed load. The arch will transfer loads mainly through axial forces, however it also transfers loads through bending. Therefore, the differential equation has to combine the differential equations of arches and a beam. The differential equations for arches and beams are given in (2.4) and (2.5).

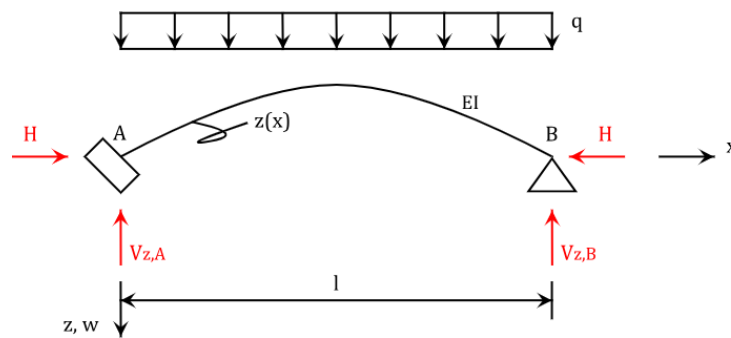


Figure 2.8: Parabolic arch subjected to distributed load , based on (Welleman, 2019);

$$H \frac{d^2 z}{dx^2} = q_{arch} \quad (2.4)$$

$$EI \frac{d^4 w}{dx^4} = q_{beam} \quad (2.5)$$

During construction the total loads are usually permanent and are carried by the arch system. After construction is finished the increasing loads will be carried by the arch and beam system. Additional displacements w are developed next to the arch position z . As both the arch and the beam are subjected to the same deformations, their support systems can be added up. The

system can be regarded as a system of two parallel springs carrying the load, resulting in the following equation:

$$EI \frac{d^4 w}{dx^4} + H \frac{d^2(z + w)}{dx^2} = q_{beam} + q_{arch} = q \quad (2.6)$$

Because w will be small compared to z , the equation can be simplified to:

$$EI \frac{d^4 w}{dx^4} = q - H \frac{d^2 z}{dx^2} \quad (2.7)$$

The parabolic shape of the arch is defined by:

$$z = -\frac{4fxl(l-x)}{l^2} \quad (2.8)$$

Substitution of (2.8) into (2.6)(2.7) results in an expression for the displacement w :

$$w = \left(\frac{-8Hf}{l^2} + q \right) \frac{x^4}{24EI} + Ax^3 + Bx^2 + Cx + D \quad (2.9)$$

Since the differential equation is of the fourth order there are four integration constants, meaning four boundary conditions are needed to solve the equation. Each end of the arch has two boundary conditions:

$$x = 0 \rightarrow w = 0; \varphi = -\frac{dw}{dx} = 0 \quad (2.10)$$

$$x = l \rightarrow w = 0; M = -EI \frac{d^2w}{dx^2} = 0 \quad (2.11)$$

After solving the integration constants, the only unknown is the horizontal force H . This unknown can be solved by introducing the requirement that the total horizontal displacement at the support is zero. The total horizontal displacement is given by:

$$u(l) - u(0) = \int_{x=0}^{x=l} -\frac{dz}{dx} \frac{dw}{dx} dx = 0 \quad (2.12)$$

Working out this equation results in the following expression for the horizontal force H :

$$H = \frac{\frac{1}{8}ql^2}{f} \quad (2.13)$$

Now that all unknowns have been solved, the internal forces, displacements and the position of the line thrust can be calculated. The vertical component of the internal forces is calculated by the following equation:

$$V_z = -EI \frac{d^3w}{dx^3} - H \frac{dz}{dx} \quad (2.14)$$

Because an arch is sloped V_z is not equal to the shear force and H is not equal to the axial force in the cross-section. With the slope of the arch θ being known, the shear force V and axial force N can be computed by:

$$\theta(x) = \arctan \frac{dz}{dx} \quad (2.15)$$

$$V(x) = H \sin \theta + V_z \cos \theta \quad (2.16)$$

$$N(x) = -H \cos \theta + V_z \sin \theta \quad (2.17)$$

When the internal forces are known, the position of the line of thrust z_t can be determined. The position of the line of thrust is determined by the eccentricity of the axial force N relative to the centroidal axis.

$$e(x) = \frac{M}{N} \quad (2.18)$$

$$z_t(x) = z(x) + e(x) \quad (2.19)$$

As mentioned before no axial tensile stresses will occur when the line of thrust lies within the core of the arch.

2.6 Asymmetric loading

As can be seen in **Figure 2.2 (d)** the self-weight of an arch results in a symmetric line of thrust. **Figure 2.2 (a)** shows that an asymmetric load causes an asymmetric line of thrust. Adding an external force to the structure affects the position of the line of thrust. When the external force is asymmetric a collapse-mechanism can occur in the structure. The stability of an asymmetrically loaded arch is depending on:

- geometry;
- load configuration;
- ratio between self-weight and the asymmetric load (Aurik, 2017).

2.6.1 Superfluous arch

A superfluous arch is an arch which is stable for any asymmetric load configuration, not depending on the ratio between self-weight and the asymmetric load. An external point load has the most unfavourable effect on the position of the line of thrust. So, in a superfluous arch the line of thrust must be kept inside the structure for any position of an external point load. **Figure 2.9** shows how the superfluous arch is derived for an arch with t = thickness of the arch. The self-weight has a positive effect on the line of thrust, it is neglected so that the arch is independent of the ratio between self-weight and the asymmetric load. It is now visualised that an arch is superfluous when a horizontal line between the supports can be drawn within the structure. (Aurik, 2017)

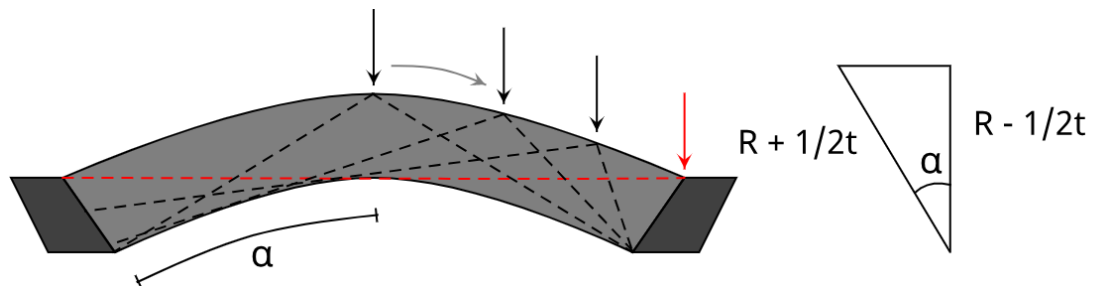


Figure 2.9: Definition of the superfluous arch, based on (Aurik, 2017);

(Aurik, 2017) derives that a horizontal line can be drawn in the structure, thus the arch is proven to be superfluous, when the geometrical requirement given in equation (2.20) is met.

$$\alpha \leq \arccos \left(\frac{1 - \frac{t}{2R}}{1 + \frac{t}{2R}} \right) \quad (2.20)$$

2.6.2 Analytical safety assessment

When the geometry of an arch does not meet the geometrical requirement of the superfluous arch, an additional analysis is needed to prove the stability under asymmetric loading of the arch. The master safe theorem, given in **chapter 2.4.4**, can be used to prove the stability of the arch.

Another option is to assess the safety of the arch by an analytical approach. The assessment is done by considering an asymmetrical load configuration, shown in **Figure 2.10**. This load configuration is considered to be critical for arched masonry pedestrian bridges, where vehicles are not allowed to enter the bridge. (Aurik, 2017)

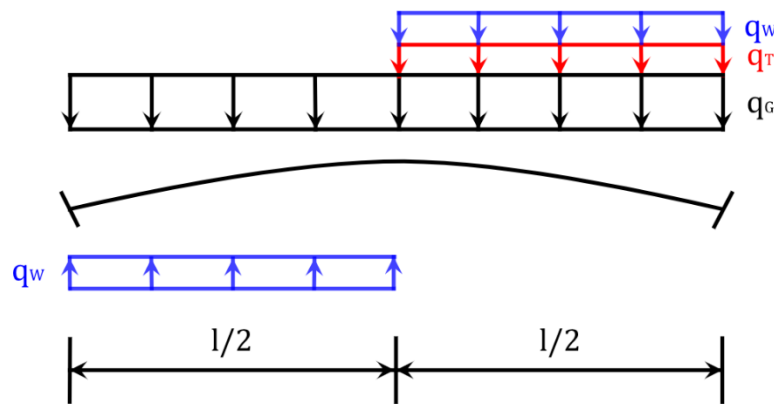


Figure 2.10: Load configurations ; (a) Scenario 1: Asymmetric loading by crowd; (b) Scenario 2: Asymmetric loading by service vehicle;

A differential equation is formulated for every continuous interval, see

Figure 2.11. For scenario 1 there are two continuous intervals, for which the following differential equations are derived:

$$EI \frac{d^4 w_A}{dx^4} + H \frac{d^2 z}{dx^2} = q_A(x) \quad (2.21)$$

$$EI \frac{d^4 w_B}{dx^4} + H \frac{d^2 z}{dx^2} = q_B(x) \quad (2.22)$$

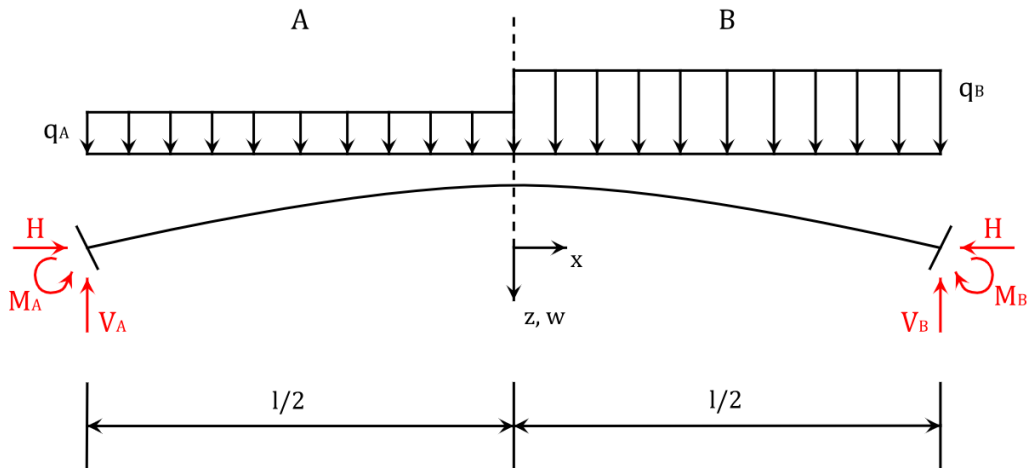


Figure 2.11: Discontinuous load configuration of scenario 1;

Integration of the equations will result in four unknown integration constants for each equation. The integration constants can be solved by formulating four boundary conditions and four matching conditions at the interface of domain A and B.

$$x = -\frac{1}{2} l \rightarrow w_A = 0; \quad \phi_A = 0;$$

$$x = 0 \rightarrow w_A = w_B; \quad \phi_A = \phi_B; \quad M_A = M_B; \quad V_{z,A} = V_{z,B};$$

$$x = \frac{1}{2} l \rightarrow w_B = 0; \quad \phi_B = 0;$$

As the method is only suitable for flat arches, some simplifications for flat arches can be made. These simplifications make sure that the results are better interpretable. The following simplifications are made:

- loads are horizontally distributed;
- the arch has a parabolic shape. (Aurik, 2017)

The position of the line of thrust is obtained by applying the boundary- and matching conditions onto equation (2.21) and (2.22). This results in the formulas for the eccentricity to the neutral axis of the line of thrust:

$$e_A(x) = -\frac{1}{2} \frac{(q_A - q_B)(8x^2 + 3lx)f}{(q_A + q_B)l^2} \quad (2.23)$$

$$e_B(x) = -\frac{1}{2} \frac{(q_A - q_B)(-8x^2 + 3lx)f}{(q_A + q_B)l^2} \quad (2.24)$$

The position of the line of thrust is then obtained by:

$$z_{t,A}(x) = z(x) + e_A(x) \quad (2.25)$$

$$z_{t,B}(x) = z(x) + e_B(x) \quad (2.26)$$

3. Dynamic Assessment of a Pedestrian Bridge

Since modern day pedestrian bridges are becoming more lightweight and slender, the influence of dynamic forces on the amplitude of vibrations has increased. An increasing amount of pedestrian bridges has encountered problems with vibrations. Due to this increase it can be stated that pedestrian bridges should not only be designed to resist static loads but should also be designed to fulfil the comfort criteria when subjected to dynamic loads. (Heinemeyer, et al., 2009) This chapter will discuss the steps that need to be taken in the dynamic assessment of a pedestrian bridge. A flowchart of the steps is shown in **Figure 3.1**.

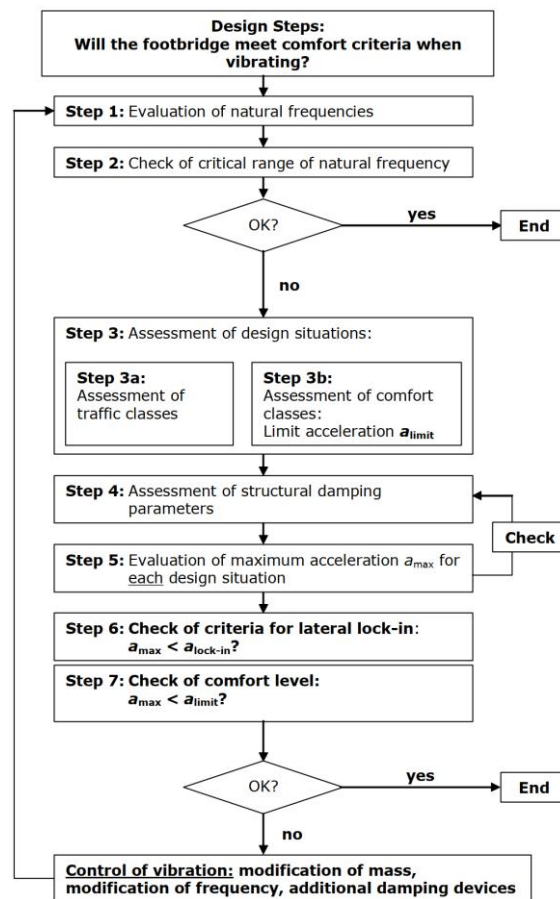


Figure 3.1: Flowchart of the dynamic assessment of a pedestrian bridge, taken from (Heinemeyer, et al., 2009) ;

3.1 Evaluation of natural frequencies

In the design of pedestrian bridges, it should be avoided that the natural frequencies of the bridge coincide with the average stepping frequencies of pedestrians (Bachmann, et al., 1995). Therefore, the first step of the process is to evaluate the natural frequencies of the bridge. This can be done by using hand formulas, however the use of finite element software provides a more accurate prediction of the natural frequencies of more complex structures. (Heinemeyer, et al., 2009)

Investigations in dynamic characteristics of pedestrian bridges shows that for lightweight bridges the natural frequencies are significantly influenced by the addition of mass due to pedestrians. This effect depends on the ratio between the mass distribution of the deck and mass distribution of the pedestrians. For individual and group loading the decrease in natural frequencies can usually be neglected, however when the bridge is subjected to pedestrian streams the natural frequencies can be decreased significantly. The effect of decreasing natural frequencies is larger in bridges with a lower dead load. (Heinemeyer, et al., 2009)

3.2 Check of critical range of natural frequencies

When regarding pedestrian bridges the vibration problems are mostly caused by forced motions caused by the stepping frequency of pedestrians. For most bridges it only takes a finite number of steps to cross the bridge. This results in a motion of transient nature, where no steady state is being reached. (Bachmann, et al., 1995) Empirical investigation of the stepping frequencies of pedestrians has resulted in a critical range of natural frequencies of pedestrian bridges. The boundaries of the critical range are based on the 5th and 95th percentile of the stepping frequency, therefore the critical range is coherent with the principles of the Eurocodes. When the natural frequency of a pedestrian bridge lies within the critical range, a dynamic assessment regarding pedestrian excitation is necessary. (Heinemeyer, et al., 2009)

The critical range of natural frequencies f_i , based on the dominant contribution of the first harmonic, is defined by:

- for vertical and longitudinal vibrations:

$$1.25 \text{ Hz} \leq f_i \leq 2.3 \text{ Hz}$$

- for lateral vibrations:

$$0.5 \text{ Hz} \leq f_i \leq 1.2 \text{ Hz}$$

In some situations, the natural frequencies lie in an interval which is susceptible of excitation by the second harmonic of the pedestrian excitation. In this situation the critical range is expanded:

- for vertical and longitudinal vibrations:

$$1.25 \text{ Hz} \leq f_i \leq 4.6 \text{ Hz}$$

The expansion of the critical range is only applied to the vertical and longitudinal vibrations, the lateral vibrations are not affected by the second harmonic. (Heinemeyer, et al., 2009)

3.3 Assessment of Design Situations

The assessment of design situations can be divided into two parts: the assessment of traffic classes and the assessment of comfort classes. For a pedestrian bridge several design situations can be defined, each consisting of a different combination of traffic- and comfort classes. Some of the design situations can occur on a daily basis, while other design situations may only occur once in the lifetime of the bridge. The assessment of the design situations will define the dynamic requirements of the bridge.

3.3.1 Assessment of traffic classes

The dynamic loading is determined by the expected type of pedestrian traffic and the traffic density. **Table 3-1** shows an overview of the different traffic classes with the corresponding density, description, and characteristics. The presented traffic classes do not consider pedestrian formations, processions, or marching groups. (Heinemeyer, et al., 2009)

Table 3-1: Pedestrian traffic classes, taken from (Heinemeyer, et al., 2009);

Traffic Class	Density d (P = pedestrian)	Description	Characteristics
TC 1	Group of 15 P ; $d = 15P / (B * L)$	Very weak traffic	B = width of deck L = length of deck
TC 2	$d = 0.2 P/m^2$	Weak traffic	Comfortable and free walking. Overtaking is possible. Single pedestrians can freely choose pace.
TC 3	$d = 0.5 P/m^2$	Dense traffic	Still unrestricted walking. Overtaking can intermittently be inhibited.
TC 4	$d = 1.0 P/m^2$	Very dense traffic	Freedom of movement is restricted. Obstructed walking. Overtaking is no longer possible.
TC 5	$d = 1.5 P/m^2$	Exceptionally dense traffic	Unpleasant walking. Crowding begins. One can no longer freely choose pace.

3.3.2 Assessment of comfort classes

The criteria for pedestrian comfort classes are most often described as vertical and lateral acceleration limits of the bridge. There are four different comfort classes, which are presented in **Table 3-2**.

Table 3-2: Comfort classes, taken from (Heinemeyer, et al., 2009);

Comfort class	Degree of comfort	Vertical a_{limit}	Lateral a_{limit}
CL 1	Maximum	$< 0.50 \text{ m/s}^2$	$< 0.10 \text{ m/s}^2$
CL 2	Medium	$0.50 - 1.00 \text{ m/s}^2$	$0.10 - 0.30 \text{ m/s}^2$
CL 3	Minimum	$1.00 - 2.50 \text{ m/s}^2$	$0.30 - 0.80 \text{ m/s}^2$
CL 4	Unacceptable discomfort	$> 2.50 \text{ m/s}^2$	$> 0.80 \text{ m/s}^2$

3.4 Assessment of structural damping parameters

The amplitude of pedestrian induced vibrations is highly influenced by the amount of damping provided by the bridge. Damping is provided by intrinsic damping of the construction materials, but also on local effects of bearings and other control devices. Also, non-structural elements, such as handrails and surfacing provide damping of the bridge. Because there are various systems providing damping in the structure, it is very hard to accurately predict the actual damping. The most accurate way of determining the damping is by measurements after the bridge is fully constructed, including all parts like handrails and surfacing. (Heinemeyer, et al., 2009)

3.4.1 Damping model

In civil structures damping and stresses due to service loads are normally relatively low, therefore linear behaviour is normally accepted. This allows for Rayleigh damping assumptions to be applied to the analysis, the damping matrix can be found with equation (3.1)

$$C = \alpha \cdot M + \beta \cdot K \quad (3.1)$$

In this equation M is the mass matrix, K is the stiffness matrix and α and β are the Rayleigh damping parameters. A N -degrees-of-freedom system can be transformed into N single-degree-of-freedom (SDOF) systems. In this system a set of N damping ratios ξ_n can be defined, representing the fraction of the damping to the critical damping of a n^{th} order mode. The damping ratios are defined by:

$$\xi_n = \frac{1}{2} \left(\frac{\alpha}{\omega_n} + \beta \omega_n \right) \quad (3.2)$$

The damping values are usually obtained from experiences of past build constructions of the same type and material. (Heinemeyer, et al., 2009)

3.4.2 Damping ratios for service loads

A recommendation for minimum and average damping ratios is given in **Table 3-3**. The recommendation provides an adequate comfort level, which is in line with the reliability and serviceability conditions given in the Eurocodes.

Table 3-3: Damping ratios of different construction materials for serviceability conditions, taken from (Heinemeyer, et al., 2009);

Construction type	Minimum ξ	Average ξ
Reinforced Concrete	0.8%	1.3%
Prestressed concrete	0.5%	1.0%
Composite steel-concrete	0.3%	0.6%
Steel	0.2%	0.4%
Timber	1.0%	1.5%
Stress-ribbon	0.7%	1.0%

Guidelines for the dynamic assessment of pedestrian bridges do not provide damping ratios for masonry. An assumption of the damping ratio should therefore be made based on experiments on existing masonry structures. Based on (Bayraktar & Hökelekli, 2021) and (Demirel & Aldemir, 2021) an assumption is made for the structural damping coefficient being 5%. This structural damping coefficient can be implemented into equation (3.2), together with two eigenfrequencies to determine the Rayleigh damping coefficients.

3.5 Determination of maximum acceleration

Next step in the process is to determine the maximum acceleration a_{max} for each design situation determined in chapter 3.3. Several methods for determining the maximum acceleration are shown in **Figure 3.2**. This section will limit itself to the Finite Element Method.

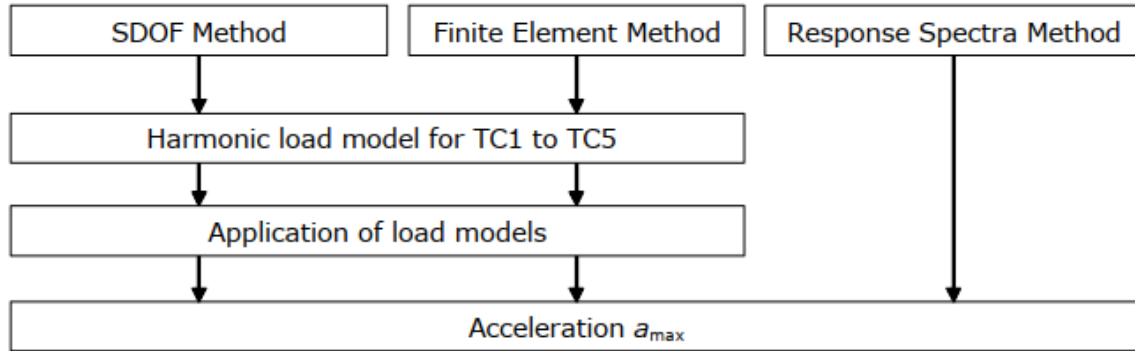


Figure 3.2: Methods for determining the maximum acceleration, taken from (Heinemeyer, et al., 2009);

3.5.1 Harmonic load model for TC1 to TC5

3.5.1.1 Equivalent number of pedestrians for streams

To calculate the acceleration of the bridge with the use of the Finite Element Method, harmonic load models are needed. In order to model a pedestrian stream of n “random” pedestrians, an equivalent stream of n' perfectly synchronised pedestrians has to be determined. Both streams have the same effect on the vibrations of the bridge, however the equivalent stream is deterministic and can thus be used in a model. A visualisation of the random- and equivalent pedestrian streams is shown in **Figure 3.3**. (Heinemeyer, et al., 2009)

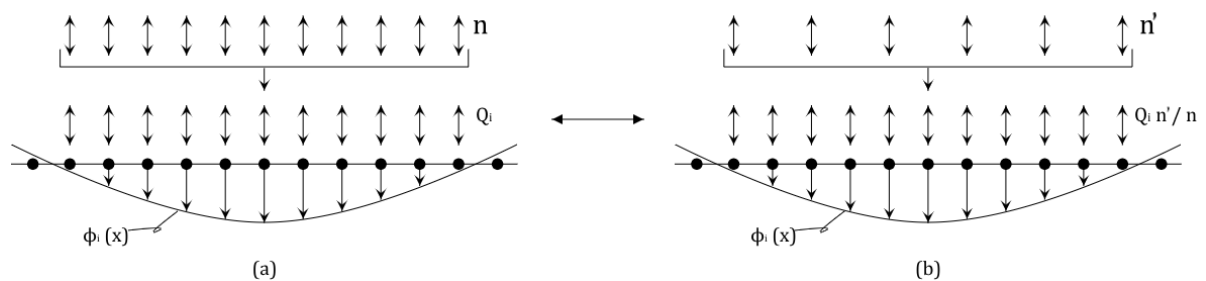


Figure 3.3: **a)** random pedestrian stream; **b)** equivalent pedestrian stream; based on (Heinemeyer, et al., 2009);

3.5.2 Application of load models

3.5.2.1 Pedestrians

When considering the load models for pedestrians a distinction can be made between two load models, depending on the density of the stream:

- load model for TC1 to TC3 (density $d < 1.0 \text{ P/m}^2$);
- load model for TC4 and TC5 (density $d \geq 1.0 \text{ P/m}^2$).

The equivalent pedestrian stream is represented by a distributed harmonic load $p(t)$, given in equation (3.3), for both load models. (Heinemeyer, et al., 2009)

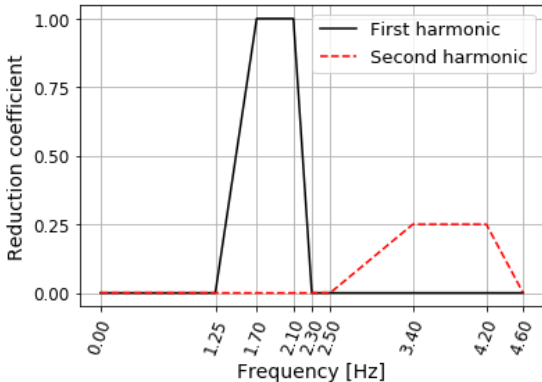
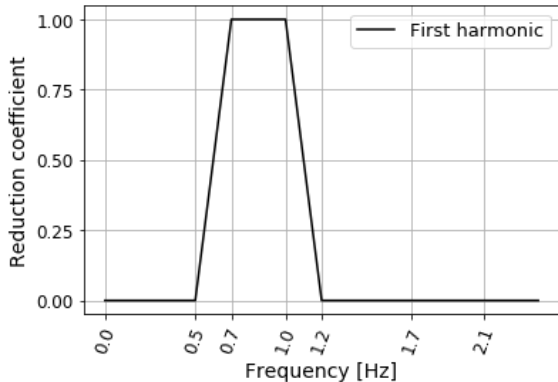
$$p(t) = P \cdot \cos(2\pi f_s t) \cdot n' \cdot \psi \quad (3.3)$$

In which:

$P \cdot \cos(2\pi f_s t)$	is the harmonic load due to a single pedestrian;
P	is the force component due to a single pedestrian with a walking step frequency f_s ;
$p(t)$	is the uniformly distributed harmonic load;
t	is the time;
f_s	is the walking step frequency;
n'	is the equivalent number of pedestrians on loaded surface S ;
S	is the area of the loaded surface;
ψ	is the reduction coefficient, taking into account the probability that the footfall frequency approaches the critical range of natural frequencies under consideration. (Heinemeyer, et al., 2009)

All necessary parameters for load models TC1 to TC5 are presented in **Table 3-4**.

Table 3-4: Parameters for load models TC1 to TC5, taken from (Heinemeyer, et al., 2009);

P [N]		
Vertical	Longitudinal	Lateral
280	140	35
Reduction coefficient ψ		
Vertical and longitudinal		Lateral
		
Equivalent number of pedestrians n'		
TC1 to TC3		TC4 and TC5
$n' = \frac{10.8\sqrt{\xi \cdot n}}{S} [\text{m}^{-2}]$		$n' = \frac{1.85\sqrt{n}}{S} [\text{m}^{-2}]$
ξ = structural damping coefficient		
n = number of pedestrians on the loaded surface S ($n = S \cdot d$)		

As load model TC1 represents a low density, free movement of pedestrians is possible. Hence for this load model synchronisation of group members is equal to a low-density stream. For load models TC4 and TC5 the streams are dense, which causes forward moving to slow down and synchronisation of groups to increase. When the upper limit of density (1.5 P/m^2) is surpassed, forward moving gets impossible and the dynamic effects reduce. It can be stated that with an increasing density the synchronisation between pedestrian increases, but the dynamic effects decrease. (Heinemeyer, et al., 2009)

3.5.2.2 Joggers

The load models described in chapter 3.5.2.1 are induced by pedestrians walking along a bridge. Some bridges are also affected by load models induced by joggers. The harmonic load induced by joggers is given by a single load $P(t,v)$ that moves across the bridge with a velocity v of the joggers. The single load $P(t,v)$ can be calculated as:

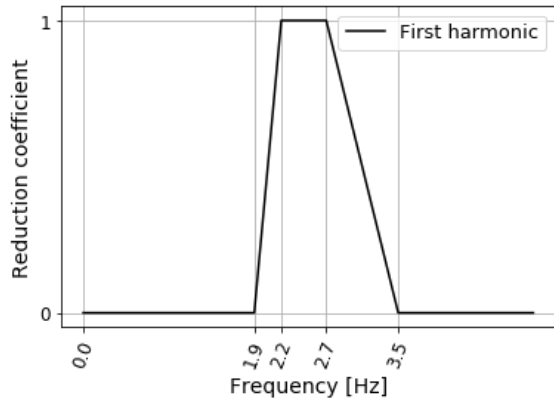
$$P(t, v) = P \cdot \cos(2\pi f t) \cdot n' \cdot \psi \quad (3.4)$$

In which:

$P \cdot \cos(2\pi f_s t)$	is the harmonic load due to a single pedestrian;
P	is the force component due to a single pedestrian with a walking step frequency f_s ;
t	is the time;
f	is the walking step frequency;
n'	is the equivalent number of pedestrians on loaded surface S ;
ψ	is the reduction coefficient, taking into account the probability that the footfall frequency approaches the critical range of natural frequencies under consideration.

All necessary parameters for the load models for joggers are given in **Table 3-5**.

Table 3-5: Parameters for load models for joggers, taken from (Heinemeyer, et al., 2009);

P [N]		
Vertical	Longitudinal	Lateral
1250	-	-
$n' = n [\quad]$		
Reduction coefficient ψ		
Vertical		
		

In the load model only single joggers are considered, therefore it is not necessary to assess the equivalent number of joggers for streams (Heinemeyer, et al., 2009). This can also be seen in **Table 3-5** as the number of joggers n is equal to the equivalent number of joggers for streams n' .

The load model for joggers is a single load moving across the bridge with a given speed. However, this kind of load can only be modelled with specialised software and is not available in Diana. Therefore, it is considered sufficient to position the load at the position where maximum displacement is observed in the mode shape. (Heinemeyer, et al., 2009)

3.5.3 Maximum acceleration

After the load models have been determined, they can be implemented in the Finite Element Model of the bridge. The Finite Element Model can then be used to calculate the occurring accelerations due to pedestrian induced vibrations for every occurring design situation.

3.6 Check of criteria for lateral lock-in

The lateral lock-in effect is the phenomenon of pedestrians experiencing excessive lateral accelerations of the structure they are using. The effect occurs in low-damped structures with a natural frequency in the range of 0.4 – 1.3 Hz. In order to reach the excessive accelerations in a pedestrian bridge, the number of pedestrians on the bridge has to surpass a certain critical number. (Cuevas, Jiménez-Alonso, Martinez, & Diaz, 2020) According to (Ingólfsson, Georgakis, & Jönsson, 2012) pedestrian bridges with a natural frequency that lies within the above-mentioned range have the potential to experience excessive pedestrian-induced vibrations.

The lock-in effect is usually assumed to be caused by resonant loads, however the effect can also be caused by interaction between pedestrians and the structure. Because pedestrians walk with their legs widespread, their centre of gravity is in an eccentric position compared to their foot which applies a force to the structure. Due to this eccentricity a lateral force is applied to the structure while pedestrians are walking. Pedestrians are very sensible of lateral vibrations of the structure. When a structure starts to vibrate laterally pedestrians unconsciously alter their gait to maintain their balance. They alter their gait in such a way that the lateral frequency synchronises with the lateral natural frequency of the structure. As a consequence of the synchronisation, the lateral forces applied by the pedestrian amplify the lateral vibrations of the bridge. The presence of a dense crowd increases the chance for lateral lock-in, as synchronisation between pedestrians occurs. (Venuti & Bruno, 2009) A schematic representation of the synchronisation between a pedestrian and a structure is shown in **Figure 3.4**.

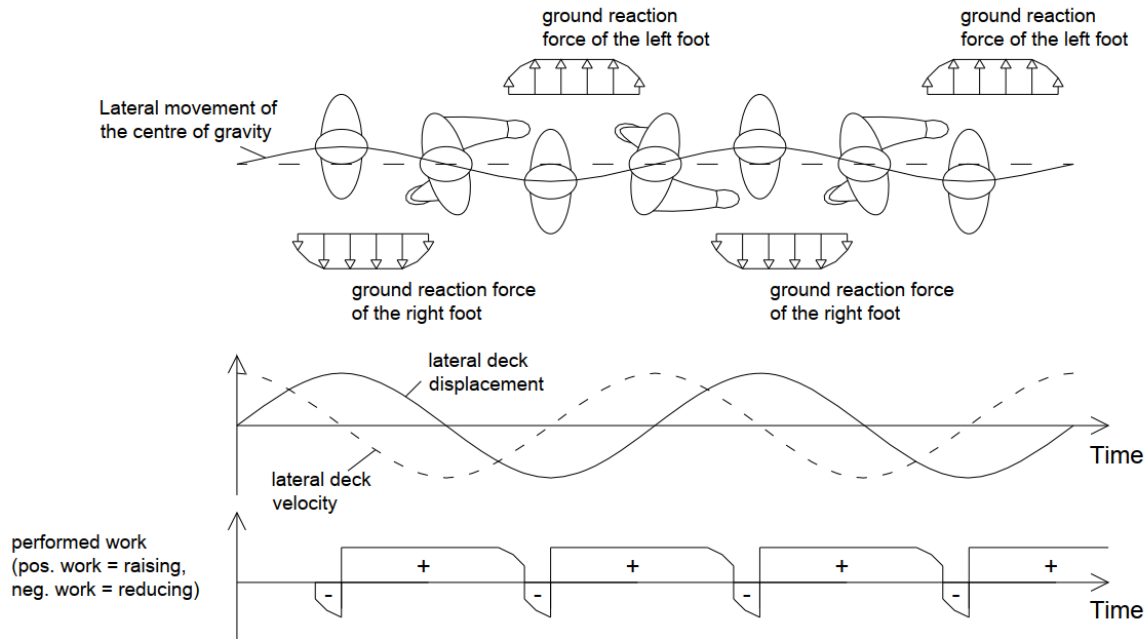


Figure 3.4: Schematic representation of pedestrian-structure synchronisation, taken from (Heinemeyer, et al., 2009);

Lateral lock-in can be triggered when the critical number of pedestrians N_L is surpassed. When the number of pedestrians on the structure is larger or equal to the critical number of pedestrians, overall damping of the structure can be vanished leading to a sudden amplified lateral response of the structure. The critical number of pedestrians is given in equation (3.5). (Heinemeyer, et al., 2009)

$$N_L = \frac{8\pi \cdot \xi \cdot m^* \cdot f}{k} \quad (3.5)$$

Where:

- ξ is the structural damping ratio;
- m^* is the modal mass;
- f is the natural frequency;
- k is a constant (approximately 300 N/s over the range 0.5-1.0 Hz).

Lateral lock-in can also be checked by defining the triggering acceleration amplitude when lateral lock-in begins to develop, the amplitude is defined in equation (3.6). (Heinemeyer, et al., 2009)

$$a_{lock-in} = 0.1 \text{ to } 0.15 \text{ m/s}^2 \quad (3.6)$$

Verification of lateral lock-in is done by checking if the obtained maximum lateral acceleration is lower than the triggering acceleration for lateral lock-in:

$$a_{max} < a_{lock-in} \quad (3.7)$$

3.7 Check of comfort level

The last step of the verification is to check whether the obtained maximum acceleration is smaller than the acceleration limits for the comfort class given in **Table 3-2**:

$$a_{max} < a_{limit} \quad (3.8)$$

In case the obtained acceleration is larger than the limit, measures must be taken to improve the dynamic behaviour of the bridge. Measures that can be taken to improve the dynamic behaviour are:

- modification of the mass;
- modification of the frequency;
- modification of structural damping;
- addition of damping. (Heinemeyer, et al., 2009)

4. Finite Element Model

In **Chapter 3. Dynamic Assessment of a Pedestrian Bridge** it was discussed how the dynamic assessment of a pedestrian bridge must be made and which dynamic requirements a pedestrian bridge must fulfil. In order to be able to numerically assess the dynamic behaviour of the Circular Arch Bridge, a finite element model will be created. This model will be used to analyse the structure and numerically assess the dynamic response of the Circular Arch Bridge. The results of the analysis will be used to check if the Circular Arch Bridge fulfils the dynamic requirements of a pedestrian bridge.

The finite element program Diana 10.5 is used to create the finite element model of the Circular Arch Bridge.

This chapter will first provide a general description of the finite element model. Then the results of the eigenvalue analysis will be discussed. After that the dynamic response of the bridge subjected to a crowd loading is assessed. Thereafter the effect of the dry-stacked assembly on the dynamic properties of the bridge is analysed. This analysis is followed by an analysis of the effect of big stiffness variations on the dynamic behaviour of the bridge. Finally, the effect of the varying thickness of the bridge deck on the dynamic behaviour of the bridge is discussed.

4.1 Description of the model

This section will describe the finite element model and what elements are used. It also explains the types of non-linearity that was used, why they are used and how it is modelled.

4.1.1 Overview of the model

An overview of the model is shown in **Figure 4.1**. The stones are made of four different types of material and are indicated with a different colour. The abutments are modelled as stiff blocks, supporting the stones on both ends of the bridge. The force transfer between the stones is modelled by applying interface elements in between each stone, in both longitudinal and lateral direction.

The horizontal support reactions of the bridge will lead to horizontal movement of the supports. This movement is depending on the abutment-soil interaction. This effect is modelled by using a horizontal translational spring, with a stiffness that is based on the response of the abutments ($k = 4.8 \cdot 10^4 \text{ kN/m}$). (Aurik, 2017)

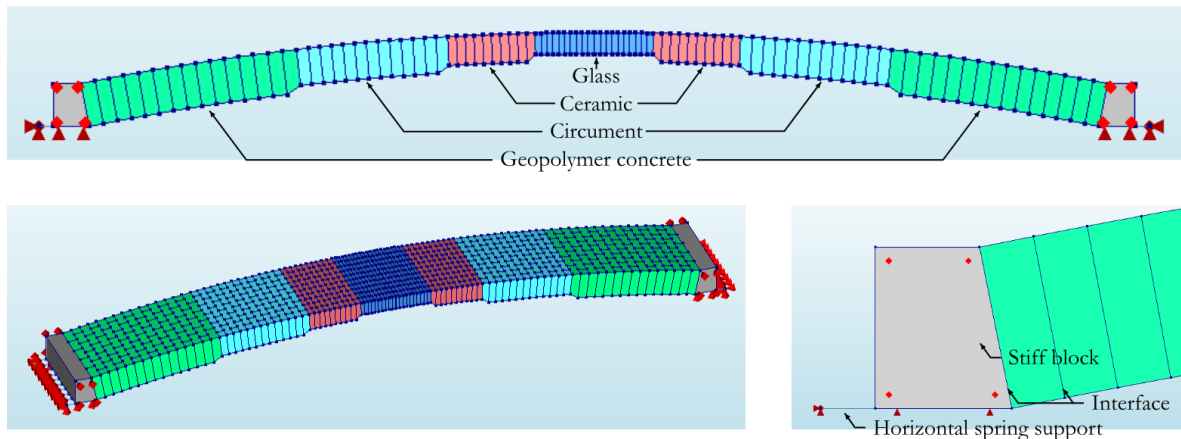


Figure 4.1: Overview of the finite element model;

The material properties used in the finite element model are given in **Table 4-1**.

Table 4-1: Material properties of the finite element model;

	Unit	Glass	Ceramic	Circument	Geopolymer concrete	Stiff material
Young's modulus	GPa	70	5	70	5	70000
Poisson's ratio	-	0.2	0.2	0.2	0.2	0.2
Mass density	kN/m ³ /g	2.5	2	2.5	2	1·10 ⁻⁶

	Unit	Interface
Normal stiffness modulus – z	N/m ³	3·10 ⁹
Shear stiffness modulus – x	N/m ³	3·10 ⁹
Shear stiffness modulus – y	N/m ³	3·10 ⁹
Tensile strength	N/m ²	1·10 ⁻⁴
Interface non-linearities	-	Discrete cracking
Mode-I Model	-	Brittle
Mode-II Model	-	Zero shear traction

The finite element model has been built up with the use of solid elements. At every position where a solid is in contact with another solid, an interface element has been modelled. The interfaces are shown in **Figure 4.2**. The interface elements represent a 2mm thick polyurethane (PU) interlayer in between the stones of the bridge, preventing peak stresses. An overview of the types of elements used in the finite element model is given in **Figure 4.3**. In the model elements of higher order are used. This is done because of the non-linear analyses that will be executed. When linearly interpolated elements are used in a non-linear analysis, the occurrence of false kinematic modes would be more susceptible (Aurik, 2017).

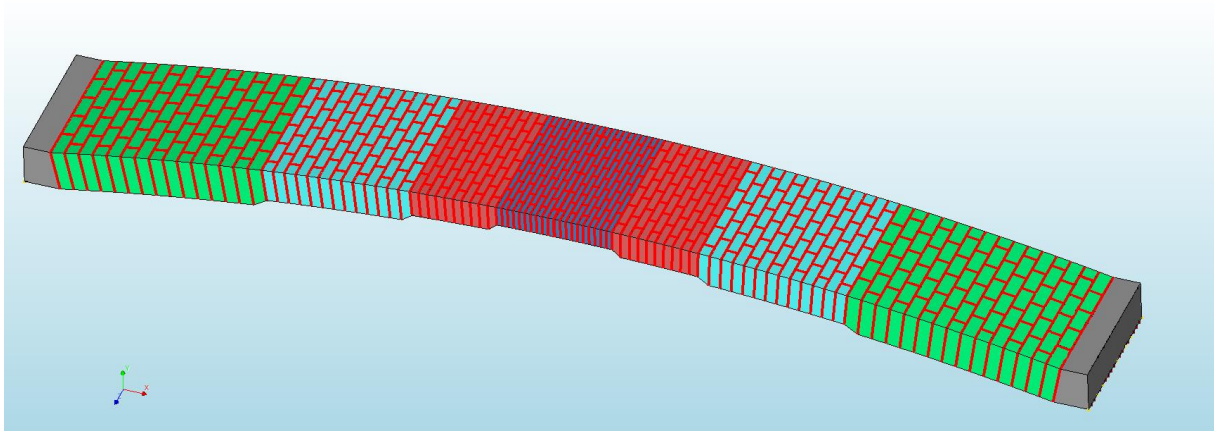


Figure 4.2: Overview of the location of the interfaces in red;

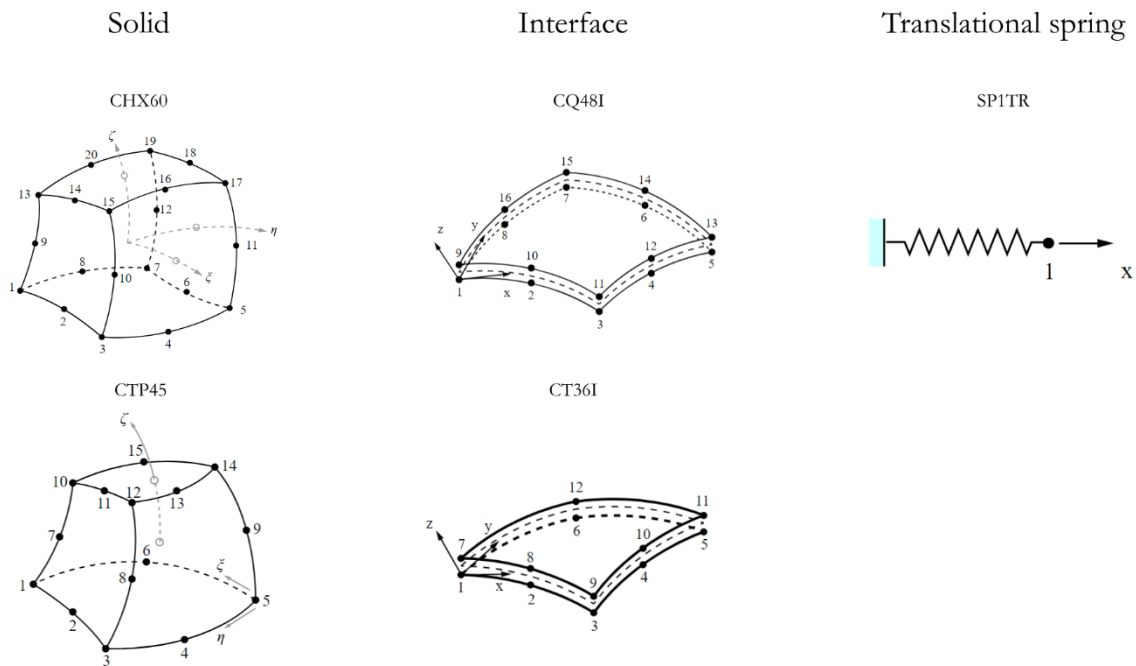


Figure 4.3: Overview of the type of elements used in the finite element model, taken from Diana user's manual;

4.1.2 Non-linearity

4.1.2.1 Physical non-linearity

Due to its dry-stacked masonry design, the Circular Arch Bridge is only able to transfer compressive forces and no tensile forces. This means that the interfaces in the bridge behave physically non-linear. This non-linearity has been implemented in the model by assigning a

brittle behaviour to the interface opening mode (Mode-I). A brittle opening mode means that neither normal stresses, nor shear stresses can be transferred once the tensile strength of the interface has been surpassed. The PU-interlayer in the Circular Arch Bridge has no tensile capacity. In the model a very small tensile capacity ($f_t = 0.0001 \text{ N/m}^2$) is given to the interface. This assures that the structure remains intact when there is yet no stress present, however it is such a low value that it will resemble an interface with zero tensile strength once there is a stress present.

The brittle opening mode results in a different stress distribution in the cross-section. A representation of this stress-distribution is shown in **Figure 4.4 (a)**.

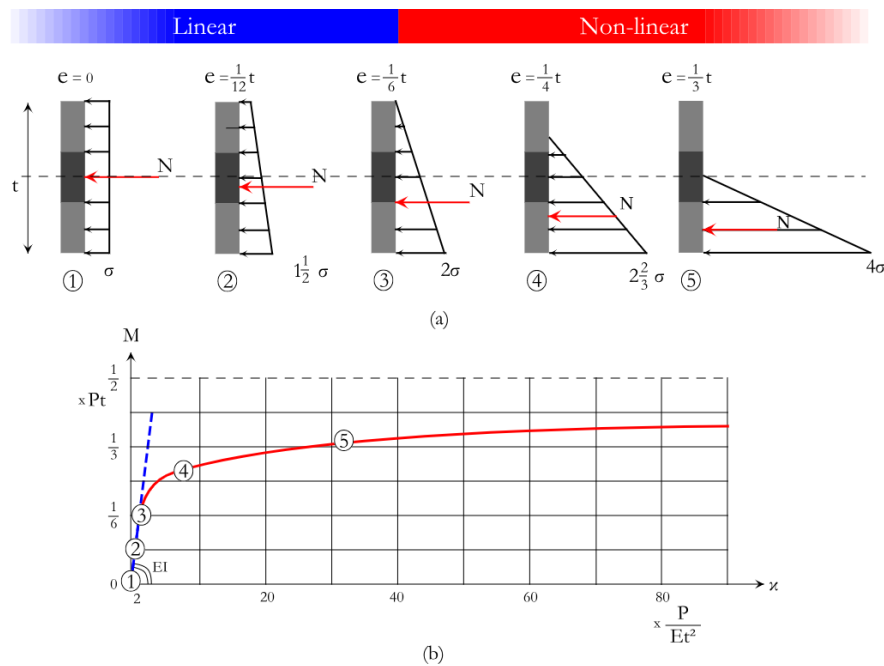


Figure 4.4: (a) Stress distribution in cross-section due to brittle opening mode; (b) Corresponding M, κ -diagram; taken from (Aurik, 2017);

This means that the moment of inertia of the cross-section changes. (Aurik, 2017) derives the following equation for the moment of inertia:

$$I_{nonlin} = \frac{1}{12}b \left[3 \left(\frac{1}{2}t - |e| \right) \right]^3 \quad (4.1)$$

for:

$$e \in \left[-\frac{1}{2}t, \frac{1}{6}t\right] \text{ and } \left[\frac{1}{6}t, \frac{1}{2}t\right] \quad (4.2)$$

This expression is then used to derive the relation between the curvature and the moment:

$$\kappa_{non-linear} = \frac{M_{non-linear}}{EI_{non-linear}} = \left(\frac{e}{\frac{1}{12} \left(3 \left(\frac{1}{2} - e \right) \right)^3} \right) \frac{P}{Et^2} \quad (4.3)$$

The M, κ -diagram shown in **Figure 4.4 (b)** is constructed with the use of expression (4.3). This diagram shows that there is a non-linear relation between the curvature and the moment. This means that when the bending moment within the structure increases, the curvature increases at a progressively higher rate. In other words: the higher the occurring bending moment within the structure is, the higher the increase in curvature is due to an equal increase in the bending moment. This means that the bending moment capacity of the structure is lower due to the physical non-linearity within the structure. It is therefore important to include physical non-linearity in order to prevent overestimation of the capacity of the structure.

4.1.2.2 Geometric non-linearity

It is important to include geometric non-linearity in the finite element model to prevent a large overestimation of the capacity. The rise of the arch decreases to the horizontal support settlements, which will lead to an increase of horizontal support reactions. The load-dependent behaviour of the horizontal supports is included in the model by the application of horizontal springs, representing the stiffness of the abutment-soil interaction. This geometric non-linearity is amplified by axial deformation of the structure. For this load dependent support system, a softening behaviour of the structure can be expected, therefore it is important to include geometric non-linearity in the model. (Aurik, 2017)

4.1.2.3 Equilibrium iteration

The structural non-linear analysis is done with the use of the Secant method, also known as the Quasi-Newton method. This method is used because the use of the Newton-Raphson results in divergence. The Secant method does not setup a new stiffness matrix for every iteration. The iteration method of the Secant-method is shown in **Figure 4.5**.

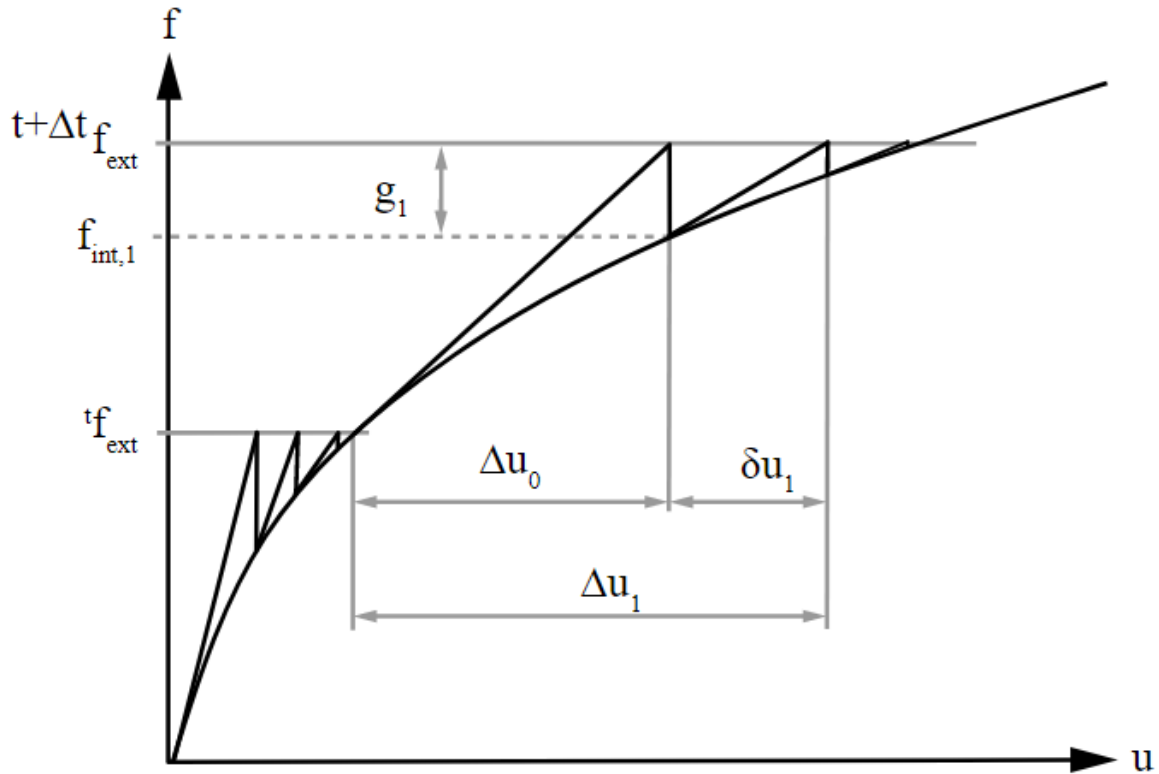


Figure 4.5: Iteration of Secant method (Quasi-Newton), taken from Diana user's manual;

For the dynamic non-linear analysis, the Newton-Raphson method is used. The convergence characteristic of this method is of a quadratic order, therefore only a few iterations are needed to reach final convergence. A new stiffness matrix is setup for every iteration, making this method relatively time consuming. The iteration method of the Newton-Raphson method is shown in **Figure 4.6**.

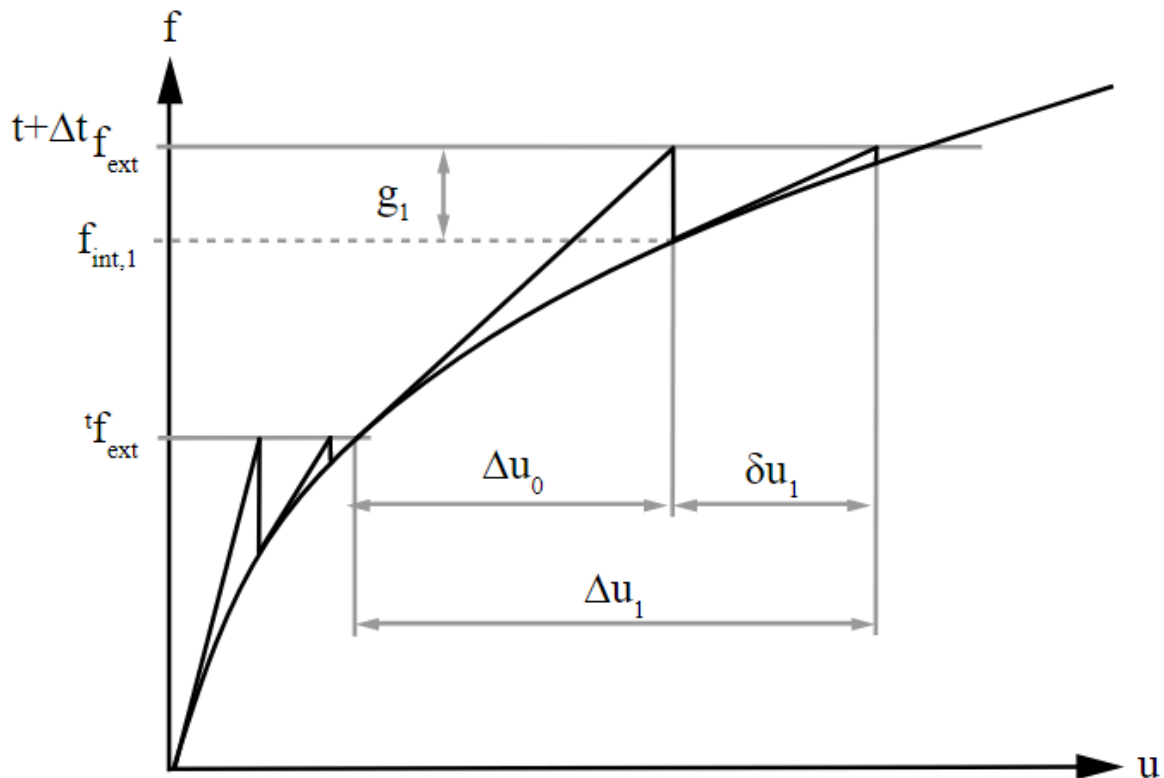


Figure 4.6: Iteration of Newton-Raphson method, taken from Diana user's manual;

For the non-linear static analysis, the loads are applied with a load step of 0.1 of the total load. For the dynamic non-linear analysis, the loads are applied with time steps of 0.02 seconds.

4.1.3 Mesh

For the generation of the mesh an equal element size is used for the entire structure. The size of the elements has an influence on the analyses. When the size of the elements is decreased the analyses will have a higher accuracy, however computational times will increase. It is therefore useful to optimize the mesh size in such a way that enough accuracy is achieved with a minimal amount of computational time.

The initial element size is put to 600mm, which is the thickness of the deck near the supports. Then an iterative procedure is followed where the mesh size is halved in every step until convergence of the results is obtained, this convergence should occur for the static analysis and the dynamic analysis. Convergence is obtained when the results of an analysis are within 1% difference from the results obtained in the previous step.

The convergence of the mesh for the static analysis is checked by comparing the results of the maximum vertical deflection of the structure in the structural non-linear analysis. In this analysis the deflection is calculated when the structure is loaded by its self-weight. The results are shown in **Table 4-2**. According to the results convergence is reached at a mesh size of 300mm for the static analysis of the model.

Table 4-2: Vertical deflection of structural non-linear analysis for different mesh sizes;

	Mesh 600mm [mm]	Mesh 300mm [mm]	Mesh 150mm [mm]	$\Delta_{600-300}[\%]$	$\Delta_{300-150}[\%]$
dY	52.93	53.88	53.35	1.79	0.98

The convergence of the mesh is also checked for the dynamic analysis. To do so the first five eigenvalues of the model are checked for the same mesh sizes as in the static analysis. The result of the analysis is shown in **Table 4-3**. According to the results convergence is reached at a mesh size of 600mm for the dynamic analysis of the model. For further calculations a mesh size of 300mm will be used since this is accurate enough for both the static and dynamic analysis.

Table 4-3: Eigenvalues of eigenvalue analysis for different mesh sizes;

Eigenvalue	Mesh 600mm [Hz]	Mesh 300mm [Hz]	Mesh 150mm [Hz]	$\Delta_{600-300}[\%]$	$\Delta_{300-150}[\%]$
E1	3.5402	3.5375	3.5351	0.076	0.068
E2	7.5549	7.5439	7.5312	0.15	0.17
E3	9.0761	9.0743	9.0712	0.020	0.034
E4	10.716	10.713	10.708	0.028	0.047
E5	15.180	15.124	15.098	0.37	0.17

4.1.4 Damping

For the damping of the model Rayleigh damping is used, as explained in **chapter 3.4**. In this chapter it was also stated that the structural damping coefficient is assumed to be 5%. Equation (3.2) can be re-written as:

$$\frac{1}{2} \begin{bmatrix} 1/\omega_i & \omega_i \\ 1/\omega_j & \omega_j \end{bmatrix} \begin{bmatrix} \alpha \\ \beta \end{bmatrix} = \begin{bmatrix} \xi_i \\ \xi_j \end{bmatrix} \quad (4.4)$$

The Rayleigh damping coefficients are calculated using the first two eigenmodes of the structure, the corresponding eigenvalues are: $\omega_i = 3.5375$ Hz and $\omega_j = 7.5439$ Hz. With the structural damping coefficient $\xi = 0.05$ the following Rayleigh damping coefficients are found: $\alpha = 0.2408 \text{ s}^{-1}$ and $\beta = 0.009 \text{ s}$. These values are implemented in Diana as the Rayleigh damping coefficients for the model.

4.1.5 Loads

The loads that have to be applied in the dynamic analysis of a pedestrian bridge are described in the Eurocodes. The relevant Eurocodes for the Circular Arch Bridge are given in **Eurocodes for Pedestrian Bridges**. From the Eurocodes follows that a load case needs to be defined for pedestrians, as well for joggers. During testing of the Circular Arch Bridge, a group of people will be dancing on the bridge, therefore an extra load case is added representing a dancing crowd. Every separate load case is described below.

4.1.5.1 Pedestrian load

According to the Eurocodes the load case TC3 has to be used as a pedestrian load for bridges in normal use. Because during the testing of a bridge a large group of people will be present on the bridge, it is chosen that an extra analysis is done with load case TC5. The parameters of the load cases are given below.

TC3

Load case TC3 represents the situation of dense traffic on the bridge where unrestricted walking is still possible but overtaking can be prohibited intermittently. The load case consists out of a uniformly distributed load $q_{fk} = 5 \text{ kN/m}^2$, as well as a harmonic distributed load $p(t)$. The harmonic distributed load is given by equation (4.5), all parameters are given in **Table 4-4**.

$$p(t) = P \cdot \cos(2\pi f_s t) \cdot n' \cdot \psi \quad (4.5)$$

Table 4-4: Parameters for pedestrian load model TC3;

$P_{vertical}$	280 N
$P_{Longitudinal}$	140 N
f_s	2 Hz
n	14.5
n'	0.317
S	29 m ²
ψ	1

The harmonic distributed load TC3 is plotted as a function of time in **Figure 4.7**.

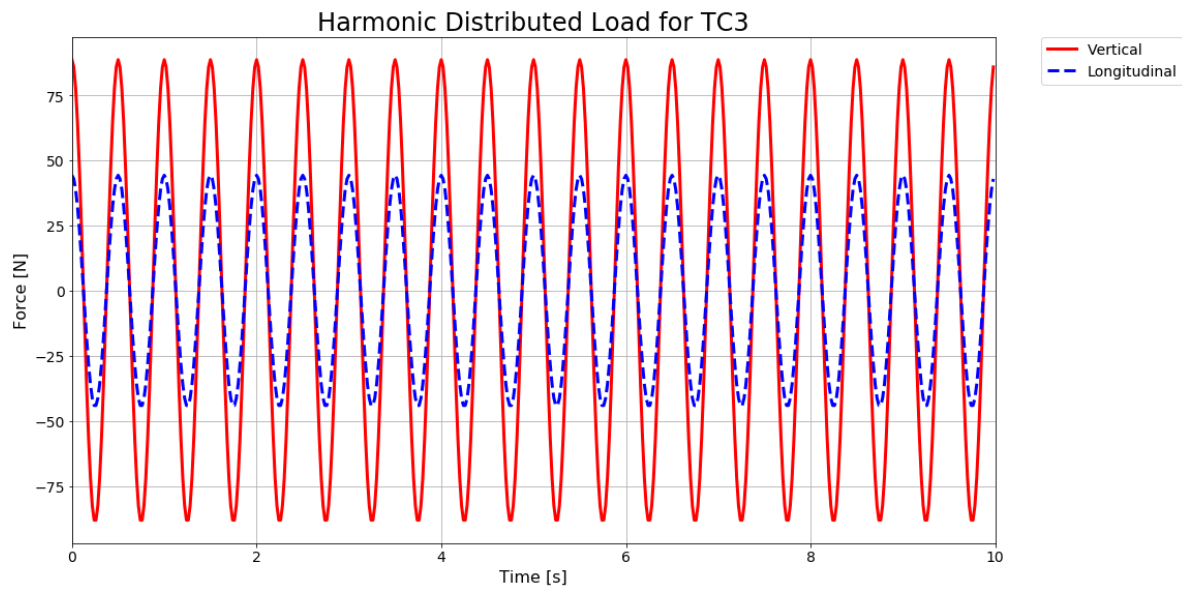


Figure 4.7: Harmonic distributed load TC3 as a function of time;

TC5

Load case TC5 represents the situation of exceptionally dense traffic on the bridge where crowding starts to form, and pedestrians can no longer freely choose their pace. The load case consists out of a uniformly distributed load $q_{fk} = 5 \text{ kN/m}^2$, as well as a harmonic distributed load $p(t)$. The harmonic distributed load is given by equation (4.5), all parameters are given in **Table 4-5**.

Table 4-5: Parameters for pedestrian load model TC5;

$P_{Vertical}$	280 N
$P_{Longitudinal}$	140 N
f_s	2 Hz
n	43.5
n'	0.421
S	29 m^2
ψ	1

The harmonic distributed load TC5 is plotted as a function of time in **Figure 4.8**.

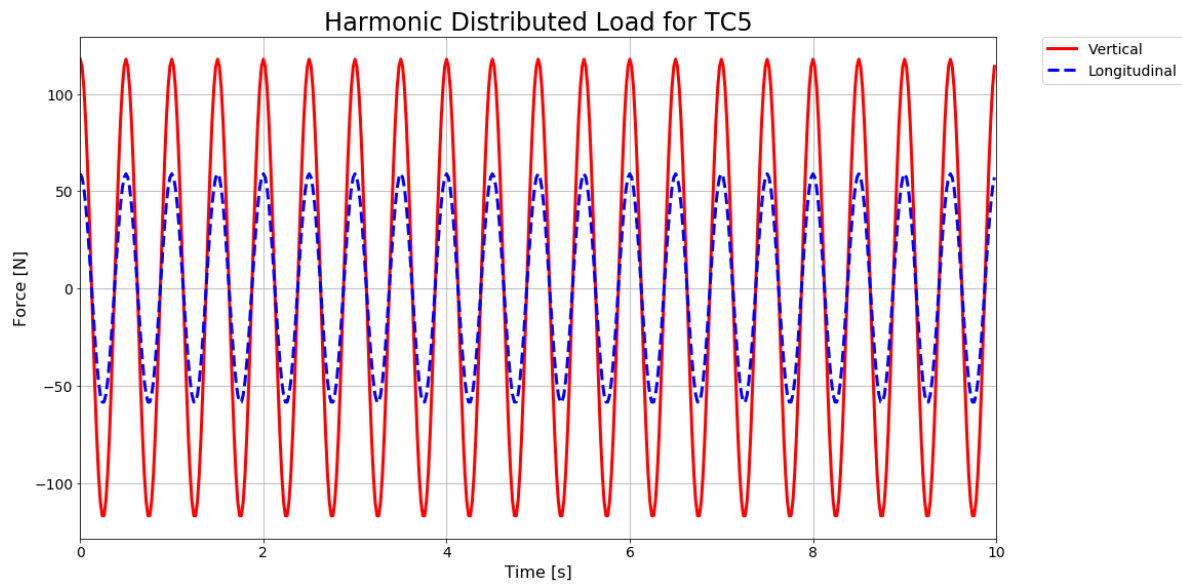


Figure 4.8: Harmonic distributed load TC5 as a function of time;

4.1.5.2 Jogger load

According to the Eurocodes the load case JC2 has to be used for jogger load for bridges in normal use. Load case JC2 represents a group of two joggers running over the bridge synchronised with a frequency of 3 Hz. The harmonic load is a single load at midspan representing the two joggers and is given in equation (4.6), all parameters are given in **Table 4-6**. In the analysis it is assumed that the load does not move position.

$$P(t, v) = P \cdot \cos(2\pi f t) \cdot n' \cdot \psi \quad (4.6)$$

Table 4-6: Parameters for jogger load model JC2;

$P_{Vertical}$	1250 N
f_s	3 Hz
n	2
n'	2
ψ	1

The harmonic load JC2 is plotted as a function of time in **Figure 4.9**.

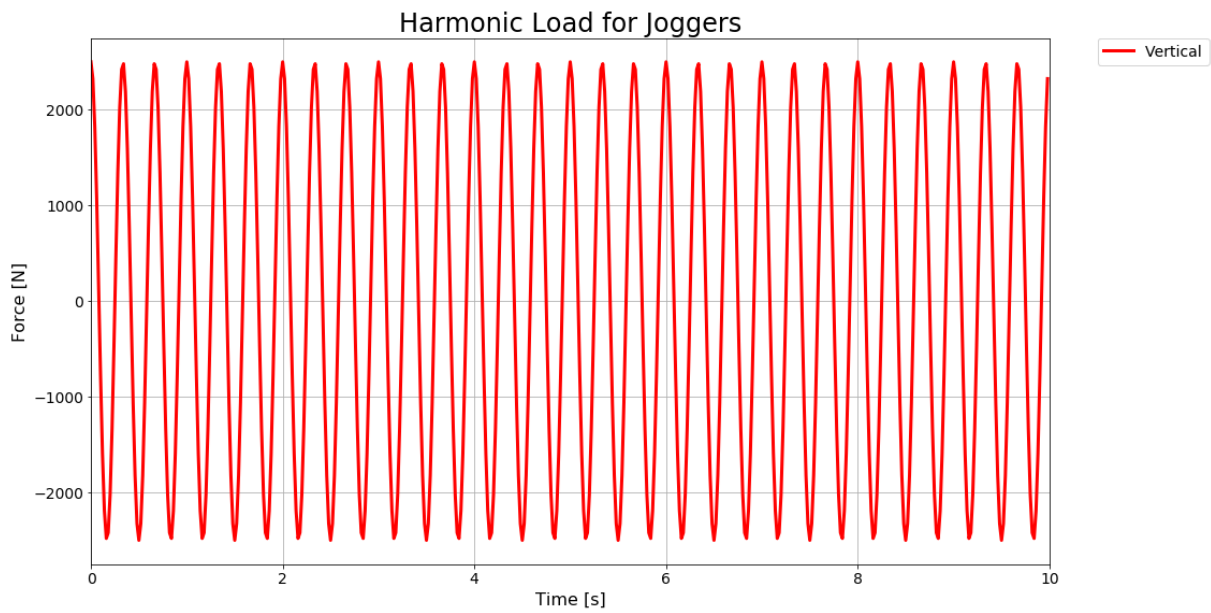


Figure 4.9: Harmonic load JC2 as a function of time;

4.1.5.3 Dancing crowd

During the dynamic testing of the Circular Arch Bridge, a group of 60 people will be dancing on the bridge, this represents a density of roughly 2 P/m^2 . Since the Eurocode does not provide a load model for a dancing crowd, a load model is obtained from literature. According to (da Silva, da S. Vellasco, de Andrade, de Lima, & Figueiredo, 2007) dynamic excitations induced by human activities can be represented by a combination of harmonic forces, in which the frequencies are multiple of the first frequencies. This time-dependent repeated force can be represented by the Fourier series, as shown in equation (4.7).

$$F(t) = P \left[1 + \sum_{i=1}^{\infty} (a_i \cos(2\pi f_s t + \Phi_i)) \right] \quad (4.7)$$

In which:

- P is the static load from one individual, 700 N for an average person;
- a_i is the dynamic load factor;
- i is the harmonic multiple (equal to 1, 2, 3, ..., n);
- f_s is the step frequency (walking, dancing, jumping or aerobics);
- t is the time;
- ϕ_i is the harmonic phase angle.

The parameters for the Fourier series representing a dancing crowd have been investigated in (Hong & Yoon, 2003) and are a result of in-situ measurements of a lively concert. It is measured that the frequency at a lively concert is 1.9 – 3.1 Hz. For the Fourier series of a dancing crowd, only three harmonics are considered. The dynamic load factors for the first three harmonics are given in **Table 4-7**.

Table 4-7: Average dynamic load factor for a lively concert, taken from (Hong & Yoon, 2003);

Density of participants (No. of person per unit area)	Average dynamic load factor		
	1 st harmonic	2 nd harmonic	3 rd harmonic
2	0.94	0.27	0.06
3	0.82	0.21	0.05
4	0.90	0.27	0.05
5	0.70	0.20	0.04
6	0.53	0.11	0.02

Since **Equation (4.7)** represents a single harmonic load representing one person, an assumption must be made to represent a dancing crowd with a distributed harmonic load. It is therefore chosen that an equivalent number of people can be calculated similar to equivalent number of pedestrians in the harmonic load cases. It is chosen to take the equation of the equivalent number of pedestrians for TC4 and TC5, because these represent dense crowds where synchronisation increases. Since the dancing crowd will dance on certain music, synchronisation of the crowd is also likely. The equivalent number of people is calculated with:

$$n' = \frac{1.85\sqrt{n}}{S} [\text{m}^{-2}] \quad (4.8)$$

The distributed harmonic load representing a dancing crowd of 58 people with a frequency of 2.1 Hz is shown in **Figure 4.10**.

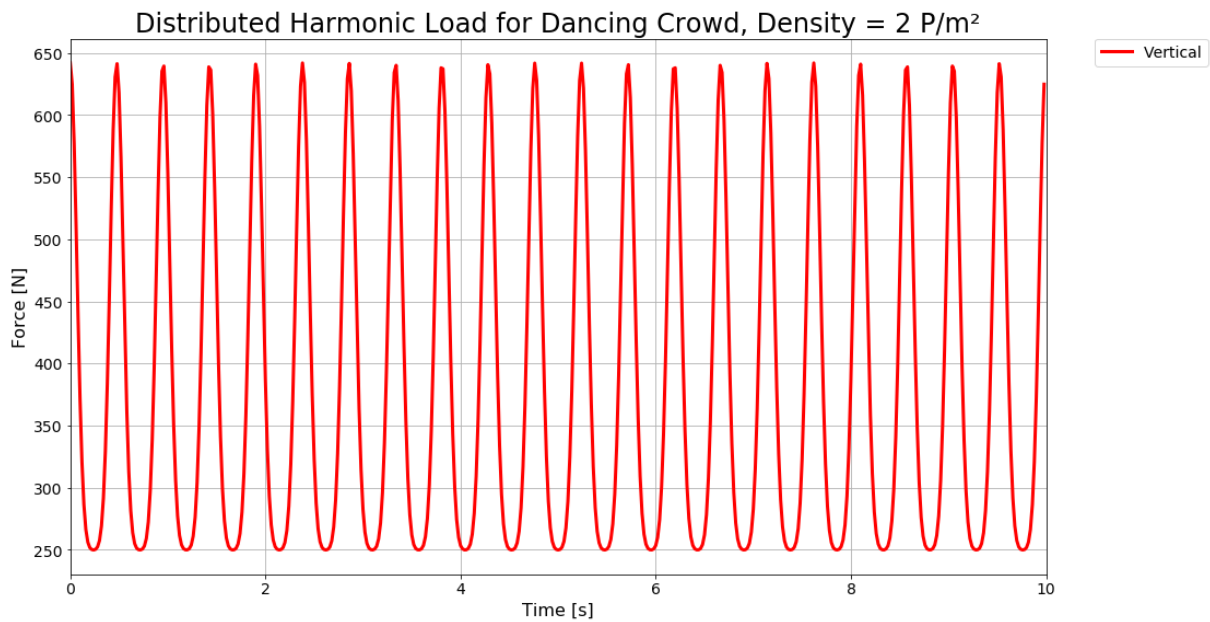


Figure 4.10: Distributed harmonic load representing a dancing crowd of 58 people at 2.1 Hz;

Similarly, to the load models of pedestrians, the distributed harmonic load for a dancing crowd is applied together with a distributed static load $q_{fk} = 5 \text{ kN/m}^2$.

4.2 Validation of the model

During previous studies on the Circular Arch Bridge an experiment has been performed on a scale model of a glass arch. This experiment was used to validate the results of a 2D finite element model. The results of this experiment are reported in (Aurik, 2017). To validate the 3D finite element model, the results have been compared to the 2D finite element model. The validation of the 3D model is done in two steps. First a 3D model is made which represents the exact setup of the experiment and thus the 2D model. The second step is to check whether a 3D model in which multiple stones are placed next to each other in transverse direction is also similar to the 2D model with the same width. Both steps are discussed in further detail below.

4.2.1 Validation of experiment model

In the experiment a scale model of the Circular Arch Bridge is tested. This scale model has a span of 1 meter and exists of only glass stones, with a constant thickness of the deck. In the experiment the arch is loaded with a load of 20 kN in the centre of the bridge for 30 minutes. The deflection of the bridge is measured over time. With the use of photo-elastic stress measurements an estimation is made of the principal stresses within the structure. Pictures of the experiment setup are shown below.

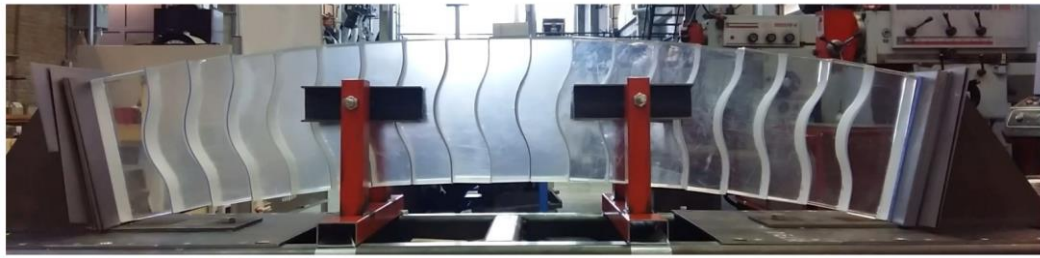


Figure 4.11: Scale model of the Circular Arch Bridge, taken from (Aurik, 2017);

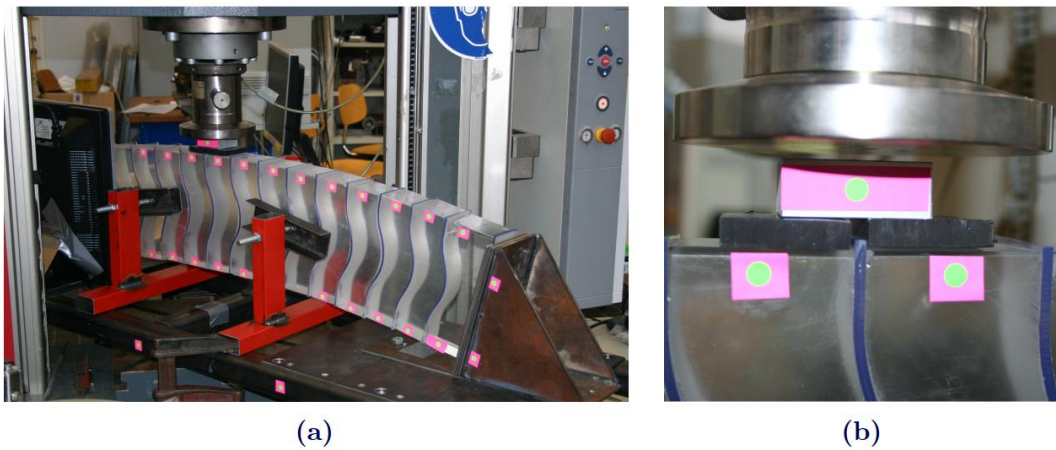


Figure 4.12: (a) Experiment of scale model of the Circular Arch Bridge, (b) Introduction of the load on the structure, taken from (Aurik, 2017);

This experiment was used in (Aurik, 2017) to validate the 2D finite element model of the Circular Arch Bridge. The 2D finite element model used in this study is shown in **Figure 4.13**.

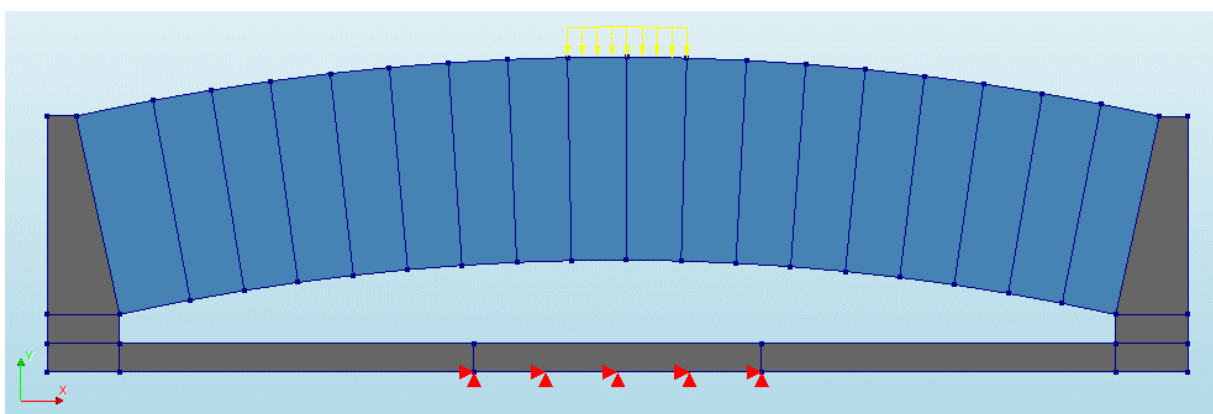


Figure 4.13: 2D finite element model of the experiment, in blue the glass stones and in grey the steel supports;

In order to perform an analysis on this structure a thickness has to be given to the structure, representing the thickness of the structure in the z-direction. The thickness that was given to the glass stones is 65 mm, a thickness of 83 mm was given to the steel supports.

The 3D model of the experiment has been constructed in the same way as the model of the Circular Arch Bridge. In the 3D model of the experiment the size in z-direction is similar to the thicknesses that were given in the 2D model. A 3D view of the model is given in **Figure 4.14**.

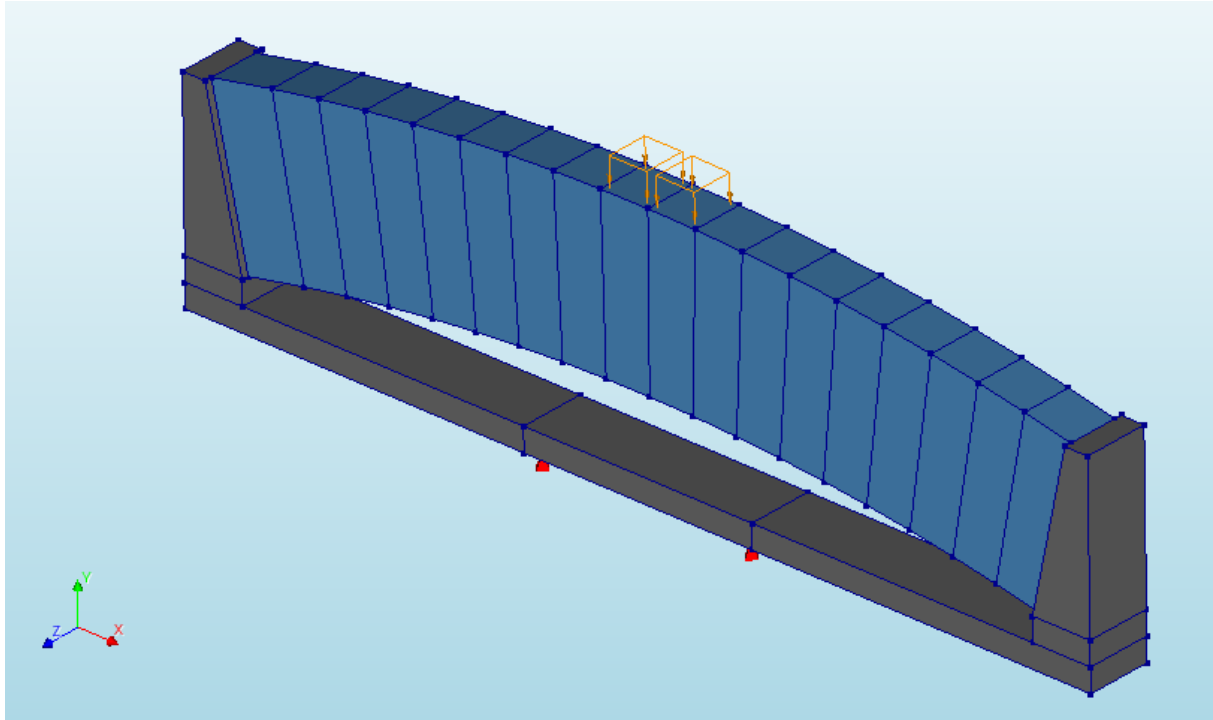


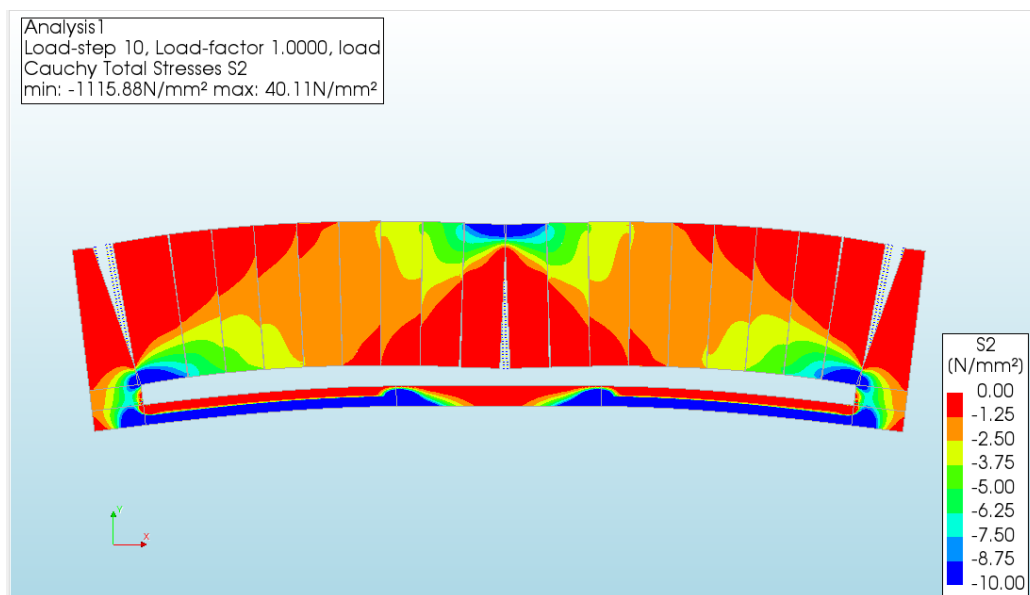
Figure 4.14: 3D finite element model of the experiment, in blue the glass stones and in grey the steel supports;

In the finite element models a structural non-linear analysis is made in which a load of 20 kN is applied onto the structure. The load is applied in 10 steps with a step size of 0.1. The results obtained from the analyses are the vertical deflection at mid-span and the maximal principle stress in axial direction at the location of the supports. These results are compared to the results of the experiment after a load of 20 kN has been applied for 30 minutes. The results are shown in **Table 4-8**.

Table 4-8: Results of experiment compared to 2D and 3D finite element model;

	Experiment	2D FE Model	3D FE Model
Deflection at midspan [mm]	15	14.5	14.4
Principle stress in glass at the support [N/mm²]	-20	-24.2	-22.8

The results of the experiment compared to the result of the finite element models, show that the finite element model is a good representation of the reality. The results of the deflection in the finite element models are within 4% of the deflection in the experiment. The results of the principle stress in the finite element models are within 20% of the experiment. However, the principle stress from the experiment is an estimation and not an accurate measurement, a difference of 20% is thus accepted. It can therefore be concluded that both finite element models are a representation of the reality, validating both the models.

**Figure 4.15:** Principle stress in axial direction of the 2D model, colour boundaries are set between -10 and 0 N/mm²;

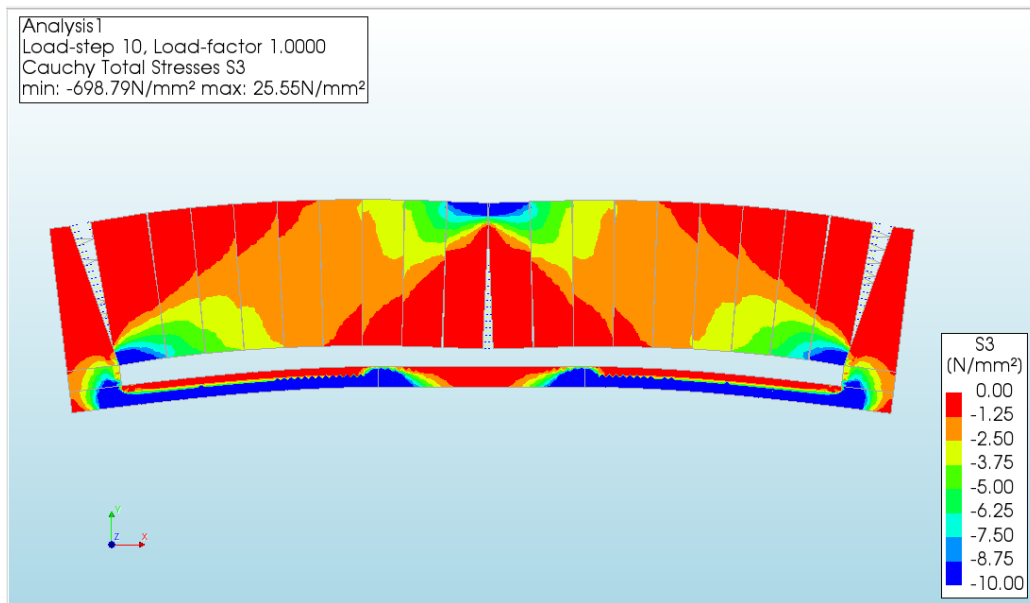


Figure 4.16: Principle stress in axial direction of the 3D model, colour boundaries are set between -10 and 0 N/mm²;

4.2.2 Validation of model with stretcher bond

A big difference between the model of the experiment and the design of the Circular Arch Bridge, is that multiple stones are placed next to each other in transverse direction in the Circular Arch Bridge. Also, the stones of the Circular Arch Bridge are placed in a stretcher bond, see **Figure 4.17**: Top view of the Circular Arch Bridge 3D model, showing the stretcher bond;. The arrangement of the stones is also used in the 3D finite element model of the Circular Arch Bridge. Because this changes the model compared to the 3D model of the previous validation, another validation is needed to ensure the integrity of the model.

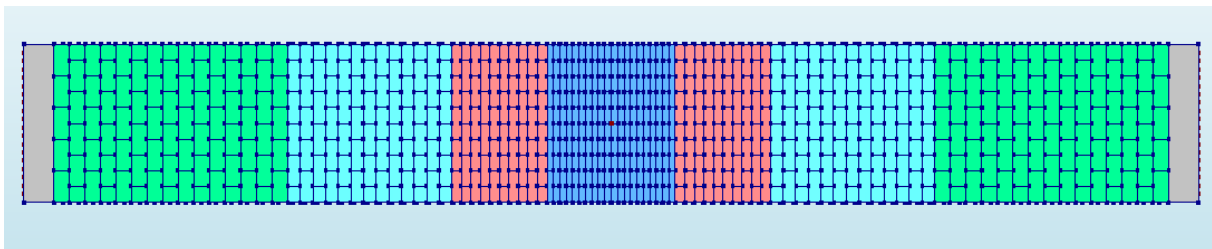


Figure 4.17: Top view of the Circular Arch Bridge 3D model, showing the stretcher bond;

For the validation the same model is used as in the previous validation step, but a change has been made to the width of the model. In the 3D model the same width of the stones (400mm) has been used as in the design of the Circular Arch Bridge. Five stones have been placed next to each other, resulting in a total width of 2m. Also, the stretcher bond is introduced. A 3D view of the model is shown in **Figure 4.18**.

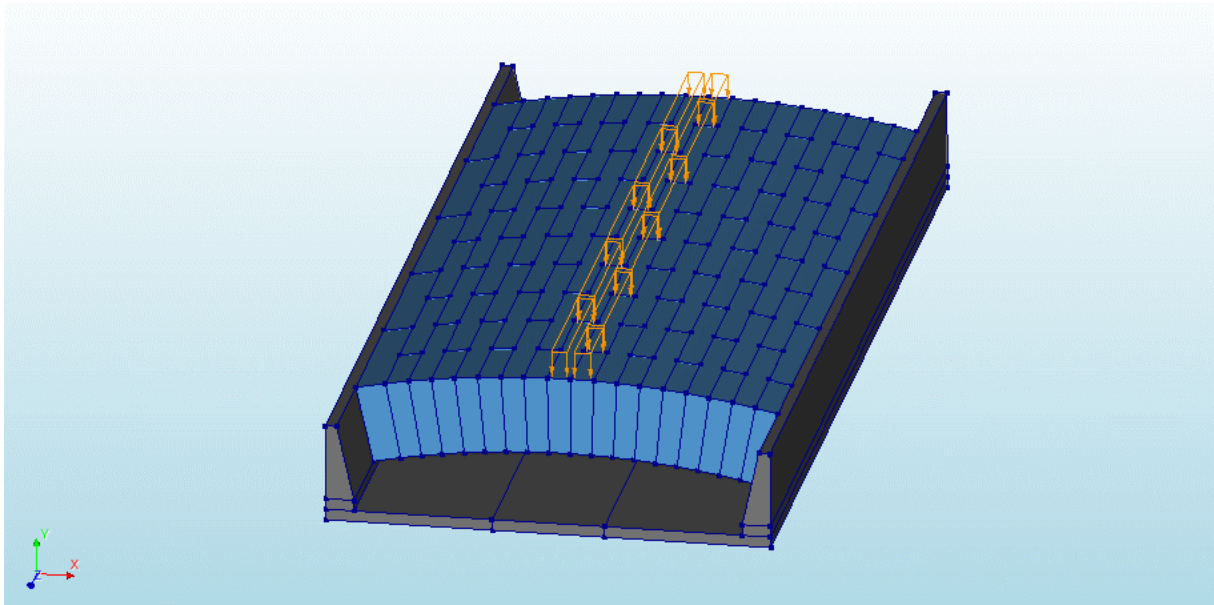


Figure 4.18: 3D view of the 2-meter-wide finite element model with stretcher bond;

To validate the model a comparison is made between the results of a similar analysis of the 2D model. To do so, the width of the 2D model is changed to 2 m and the load in the 2D model is multiplied with a factor of 30.77. The width of the support is multiplied with the same factor and becomes 2.554 m. This factor is equal to the ratio between the width of the model of the first step and the second step, this is introduced so that only the width of the model changes and the other parameters stay constant. The 3D model is still loaded with a distributed load of 2.47 kN/m^2 on the two rows in the middle of the span. To simulate the same load in the 2D model, the model is loaded with a distributed load of 4.95 kN/m . To get an insight on the influence of the stretcher bond, another 3D model is made, equal to the other model but without a stretcher bond. This model is shown in **Figure 4.19**.

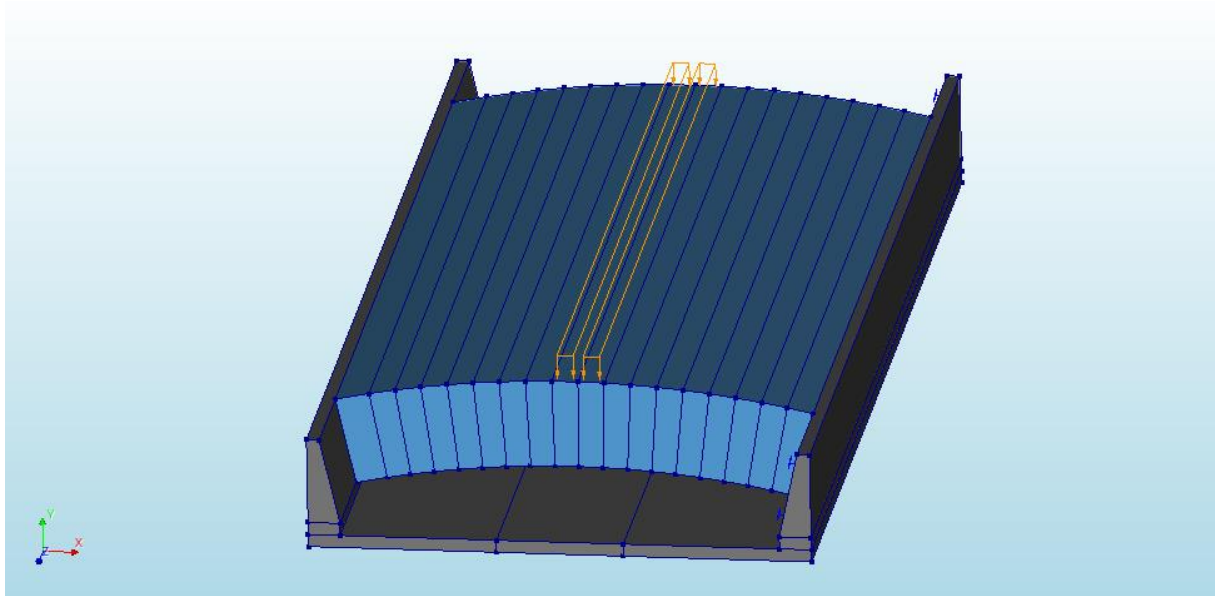


Figure 4.19: 3D view of the 2-meter-wide finite element model without stretcher bond;

For all models a structural non-linear analysis is performed in which the load is applied in ten steps of 0.1. The vertical displacement at midspan and the principle stress in axial direction in the glass blocks at the supports are calculated and compared. The results of the analyses are reported in **Table 4-9**.

Table 4-9: Comparison of the results of the 2D and 3D finite element model;

	2D FE Model	3D FE Model	3D FE Model with stretcher bond
Deflection at midspan [mm]	14.5	13.5	13.8
Principle stress in glass at the support [N/mm²]	-24.4	-21.9	-21.5

From the results it can be concluded that the 2D model shows the same deflection as the model of the experiment, while there is a 0.8% difference in the principle stress. It is to be expected that the results are the same since the ratio in between the width of the model and the applied force is the same. However, the 3D model shows an 6.3% difference in the deflection and 4.1% difference in the principle stress. For the 3D model with stretcher bond there is a 4.2 % difference in the deflection and a 6 % difference in the principle stress. The difference in deflection is quite large but is mainly caused by the lateral deflection of the steel support that was used in the experiment. The deviation of the stress within the structure is within an acceptable range. It can be concluded that the structure itself is validated, but special attention is required in modelling the supports of the Circular Arch Bridge. The 3D model of the Circular Arch Bridge has thereby been validated.

Finally, it can also be concluded that there is only a slight difference in between the 3D model with stretcher bond and the 3D model without stretcher bond, this would suggest that there are almost no differences between the models, and it would be more convenient to continue with a 3D model without a stretcher bond. However, when the shear forces in the interfaces in between that are placed next to each other in lateral direction are investigated there is a difference in between the models. As can be seen in **Figure 4.20** and **Figure 4.21** there is no shear force in local x- and y-direction in these interfaces. Where in case of a solid stone over the full width there will be internal shear forces at these positions. This means that there is a structural difference between the 3D model with and without the stretcher bond. It is therefore necessary to continue the research with a finite element model that includes a stretcher bond.

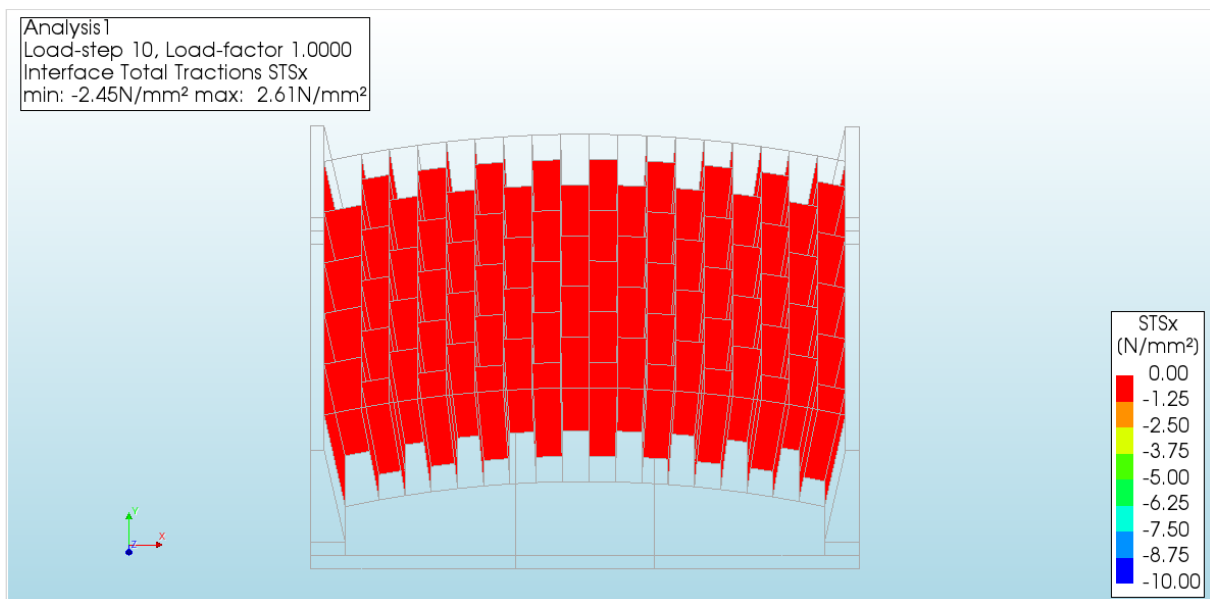


Figure 4.20: Interface shear force in local x-direction;

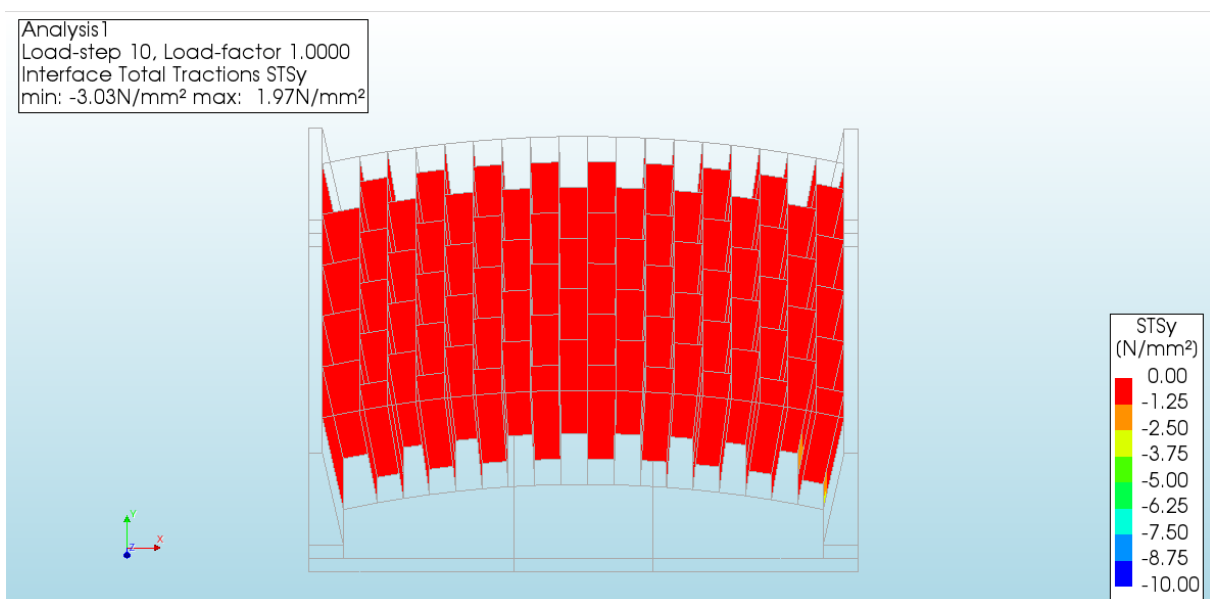


Figure 4.21: Interface shear force in local y-direction

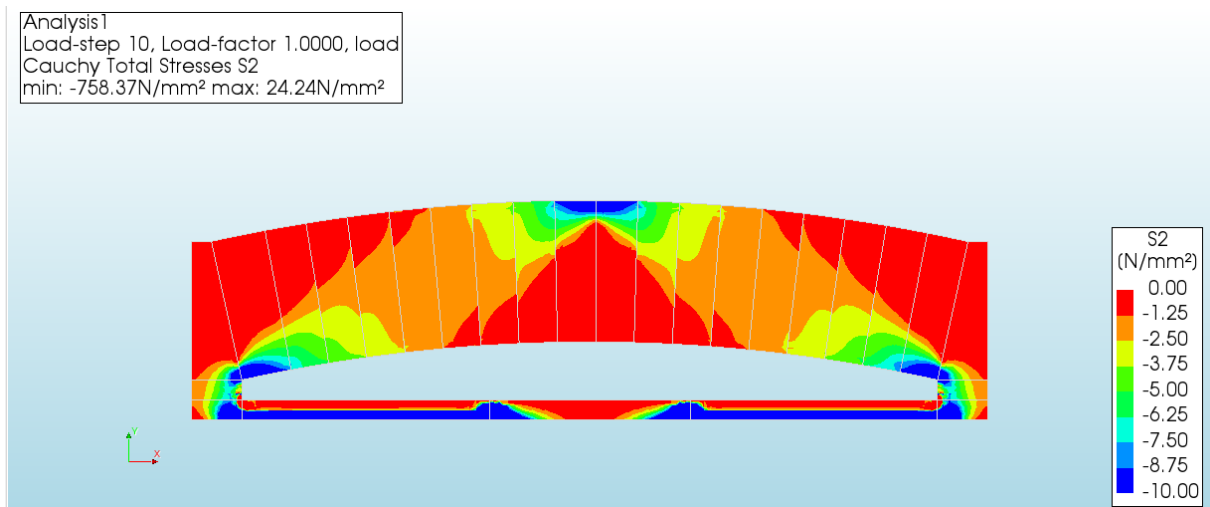


Figure 4.22: Principle stress in axial direction of the 2D model, colour boundaries are set between -10 and 0 N/mm²;

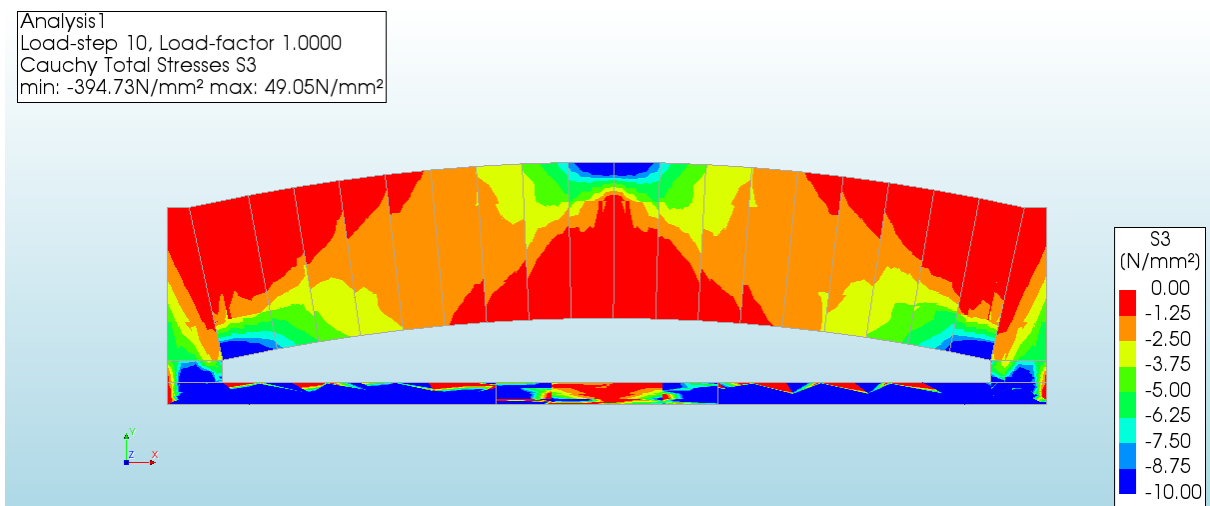


Figure 4.23: Principle stress in axial direction of the 3D model with stretcher bond, colour boundaries are set between -10 and 0 N/mm²;

5. Dynamic Assessment of the Circular Arch Bridge

In this chapter the dynamic assessment of the Circular Arch Bridge is made. This is done according to the procedure as discussed in **Chapter 3. Dynamic Assessment of a Pedestrian Bridge**. The model that has been used to perform the dynamic assessment has been described in **Chapter 4. Finite Element Model**. The dynamic assessment will give a prediction of the dynamic behaviour of the Circular Arch Bridge, which can be used to check if the design meets the dynamic requirements for pedestrian bridges as given in the Eurocodes.

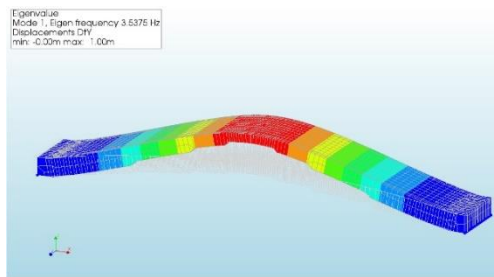
5.1 Evaluation of the Natural Frequencies

An analysis of the natural frequencies of the Circular Arch Bridge is made with the finite element model. In this analysis the first ten natural frequencies are calculated. The natural frequencies of the Circular Arch Bridge are reported in **Table 5-1**.

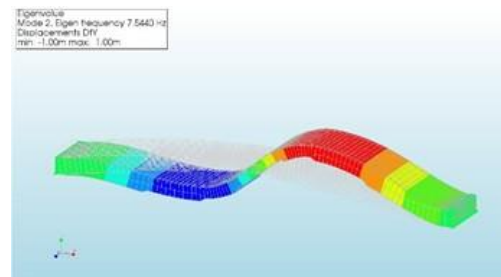
Table 5-1: Results of the eigenvalue analysis;

Eigenvalue	Mode type	Eigenfrequency [Hz]	Relative error
1	Bending vertical	3.5375	0.91 E-06
2	Bending vertical	7.5440	0.22 E-06
3	Bending vertical	9.0743	0.37 E-06
4	Bending lateral	10.713	0.66 E-09
5	Bending vertical	15.124	0.19 E-07
6	Torsional	19.376	0.18 E-09
7	Bending vertical	23.942	0.77 E-08
8	Torsional	25.118	0.64 E-10
9	Torsional	28.100	0.52 E-10
10	Bending vertical	34.579	0.24 E-07

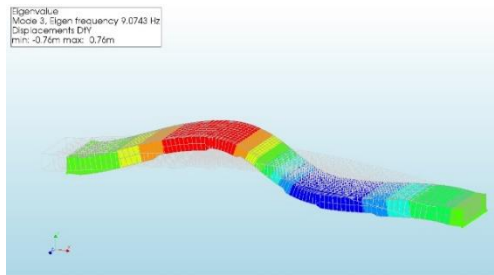
The shapes of the first ten eigenmodes are shown in **Figure 5.1**.



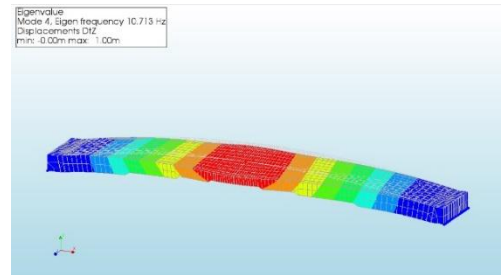
1. Mode Bv1 3.5375 Hz



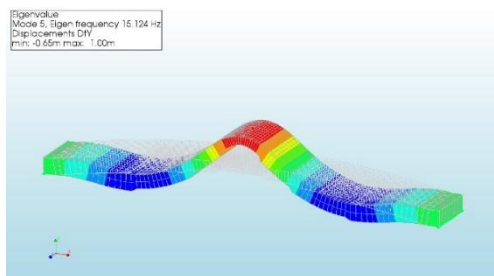
2. Mode Bv2 7.5440 Hz



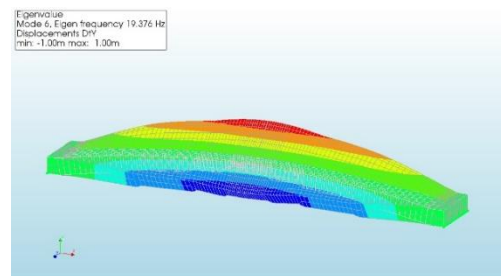
3. Bv3 9.0743 Hz



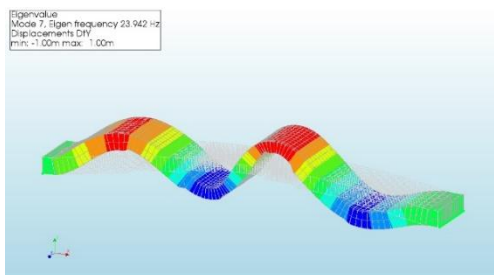
4. Bl1 10.713 Hz



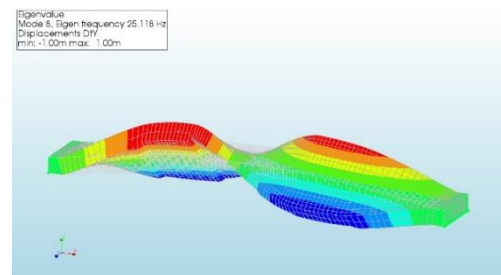
5. Bv4 15.124 Hz



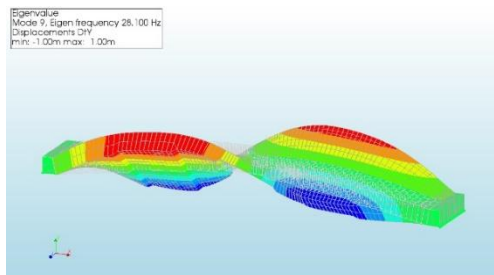
6. T1 19.376 Hz



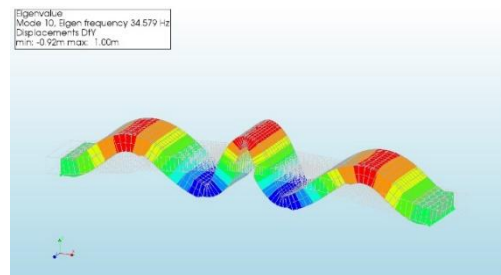
7. Bv5 23.942 Hz



8. T2 25.118 Hz



9. T3 28.100 Hz



10. Bv6 34.579 Hz

Figure 5.1: Shapes of the first ten eigenmodes;

5.2 Check for Critical Range of Natural Frequencies

With the natural frequencies being calculated, a check can be done to see whether the natural frequencies lie within the critical ranges as given in **chapter 3.2**. It can be concluded that there are no eigenfrequencies that lie in the critical ranges of the first harmonics. However, the first eigenvalue of the Circular Arch Bridge lies within the critical range of the second harmonic for vertical and longitudinal vibrations. It is therefore necessary to continue the dynamic assessment. Within this assessment the second harmonic has to be considered for load cases TC3 and TC5. Because resonance can occur when the frequency of the harmonic load coincides with the eigenfrequency, a frequency of 3.5375 Hz is chosen for the second harmonic.

5.3 Determination of Maximum Acceleration

In order to conclude whether the Circular Arch Bridge meets the dynamic requirements for pedestrian bridges from the Eurocodes, the maximum acceleration is calculated for each load case given in **chapter 4.1.5**. These accelerations are compared to the acceleration limits of the comfort classes, given in **Table 3-2**.

5.3.1 TC3

The first load case that the Circular Arch Bridge is exposed to, is Traffic Class 3. For this load case the self-weight and a uniformly distributed load of 5 kN/m² are present constantly over time. A distributed harmonic load representing Traffic Class 3 is applied to the structure for a period of 8 seconds. The vertical accelerations are obtained from the finite element model and is shown in **Figure 5.2**.

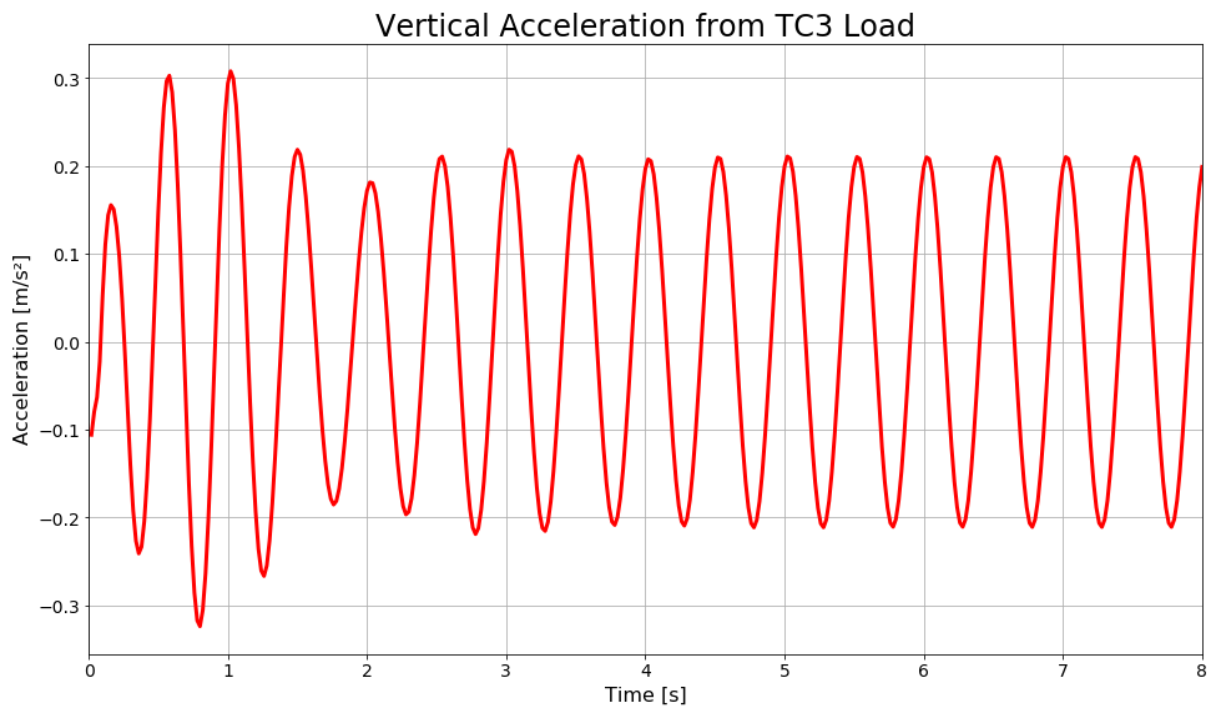


Figure 5.2: Vertical acceleration from TC3 load;

The maximum observed vertical acceleration due to a TC3 load is 0.32 m/s^2 .

The second harmonic of TC3 is defined by the same equation as the first harmonic. **Table 3-4** provides the parameters that have to be chosen for the second harmonic. With a frequency of 3.5375 Hz , the reduction coefficient ψ becomes 0.25 . All other parameters remain the same, resulting in a distributed harmonic load as represented in **Figure 5.3**.

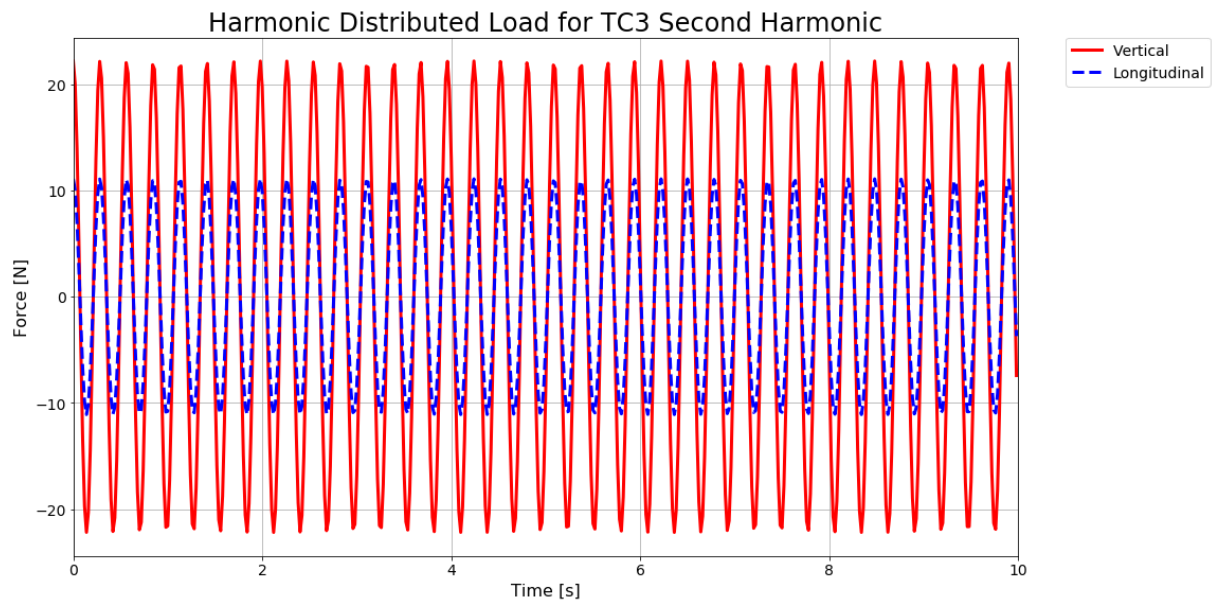


Figure 5.3: Harmonic distributed load for the second harmonic of TC3, at a frequency of 3.5375 Hz;

The acceleration obtained with the finite element model from the second harmonic of TC3 is shown in **Figure 5.4**.

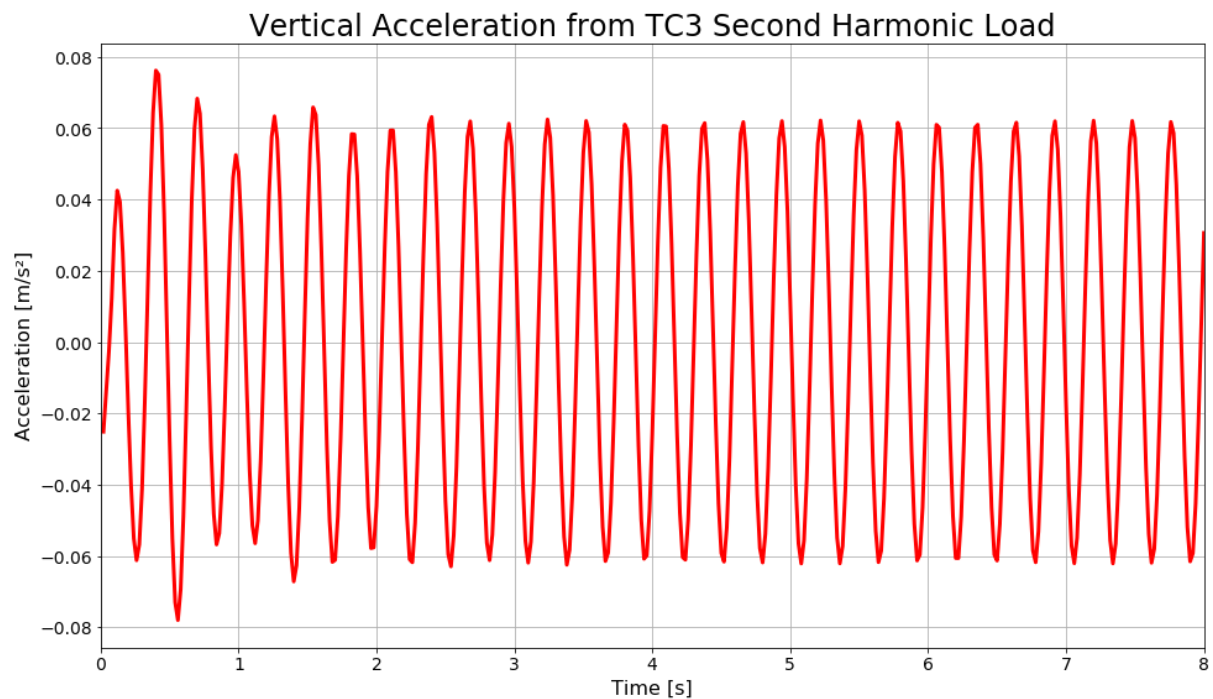


Figure 5.4: Vertical acceleration from the second harmonic of TC3 load;

The maximum observed vertical acceleration due to the second harmonic of a TC3 load is 0.078 m/s^2 .

Since the maximum acceleration due to a load of the first and second harmonic of a TC3 load lie below 0.5 m/s^2 , it can be concluded that the Circular Arch Bridge is within Comfort Class 1 for this load case. Meaning it provides a maximum level of comfort.

5.3.2 TC5

The second load case that the Circular Arch Bridge is exposed to, is Traffic Class 5. For this load case the self-weight and a uniformly distributed load of 5 kN/m^2 are present constantly over time. A distributed harmonic load representing Traffic Class 5 is applied to the structure for a period of 8 seconds. The vertical accelerations are obtained from the finite element model and is shown in **Figure 5.5**.

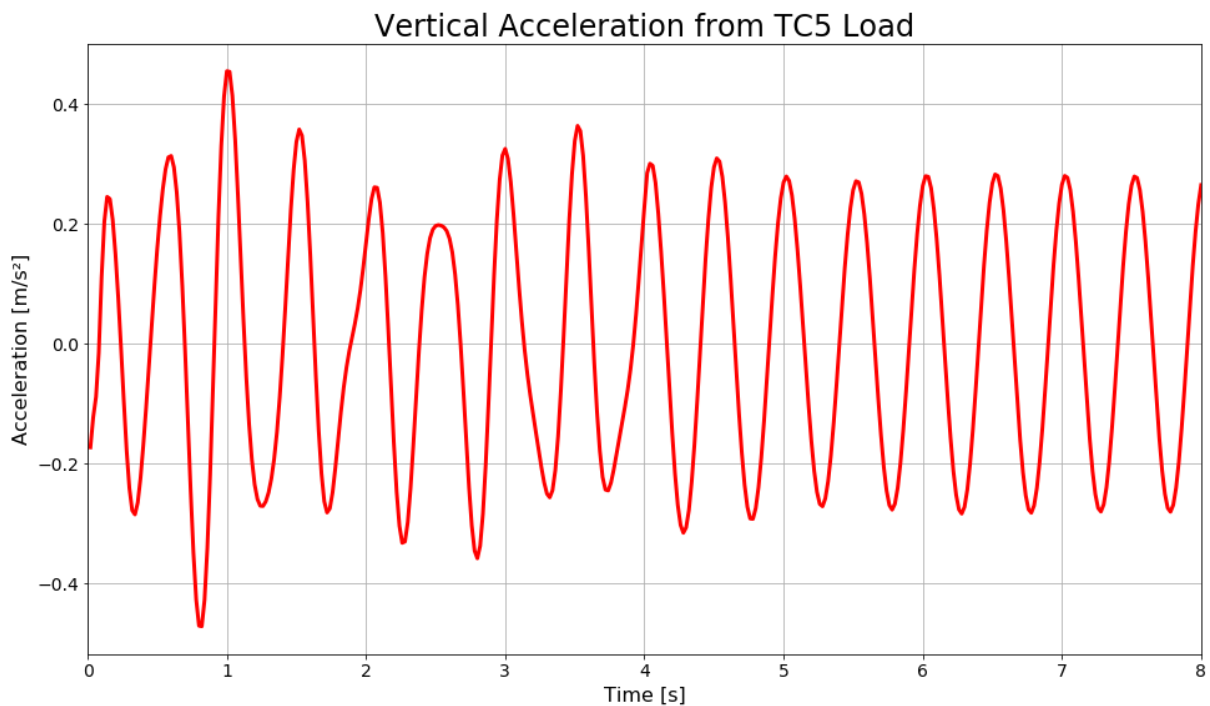


Figure 5.5: Vertical acceleration from TC5 load;

The maximum observed vertical acceleration due to a TC5 load is 0.47 m/s^2 .

The second harmonic of TC5 is defined by the same equation as the first harmonic. **Table 3-4** provides the parameters that have to be chosen for the second harmonic. With a frequency of 3.5375 Hz , the reduction coefficient ψ becomes 0.25 . All other parameters remain the same, resulting in a distributed harmonic load as represented in **Figure 5.6**.

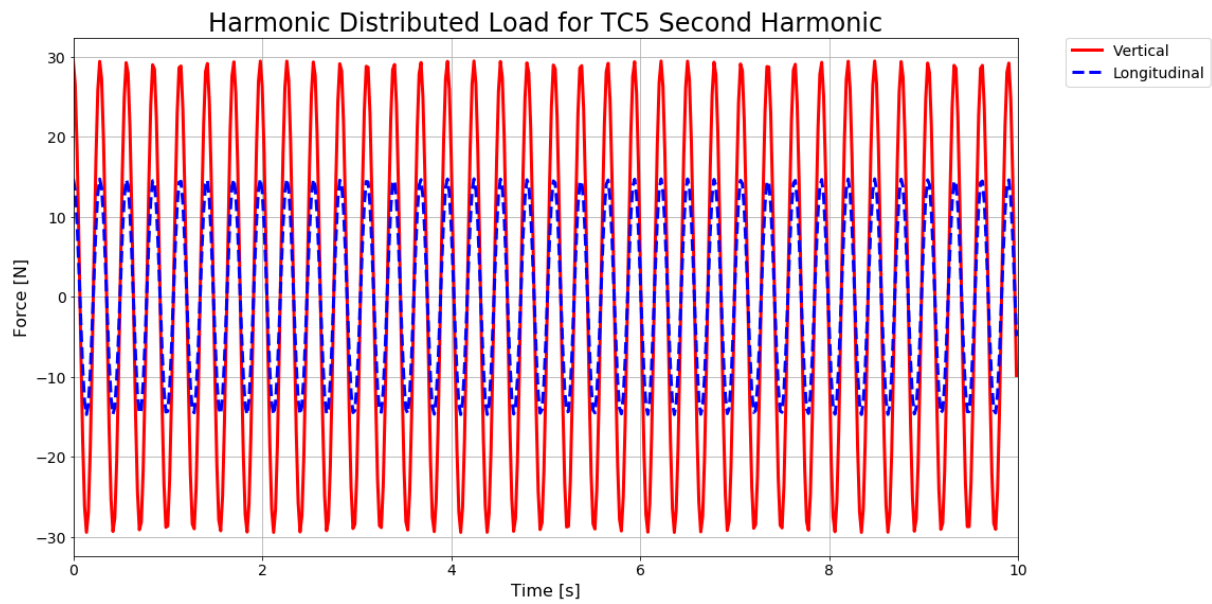


Figure 5.6: Harmonic distributed load for the second harmonic of TC5, at a frequency of 3.5375 Hz;

The acceleration obtained with the finite element model from the second harmonic of TC5 is shown in **Figure 5.7**.

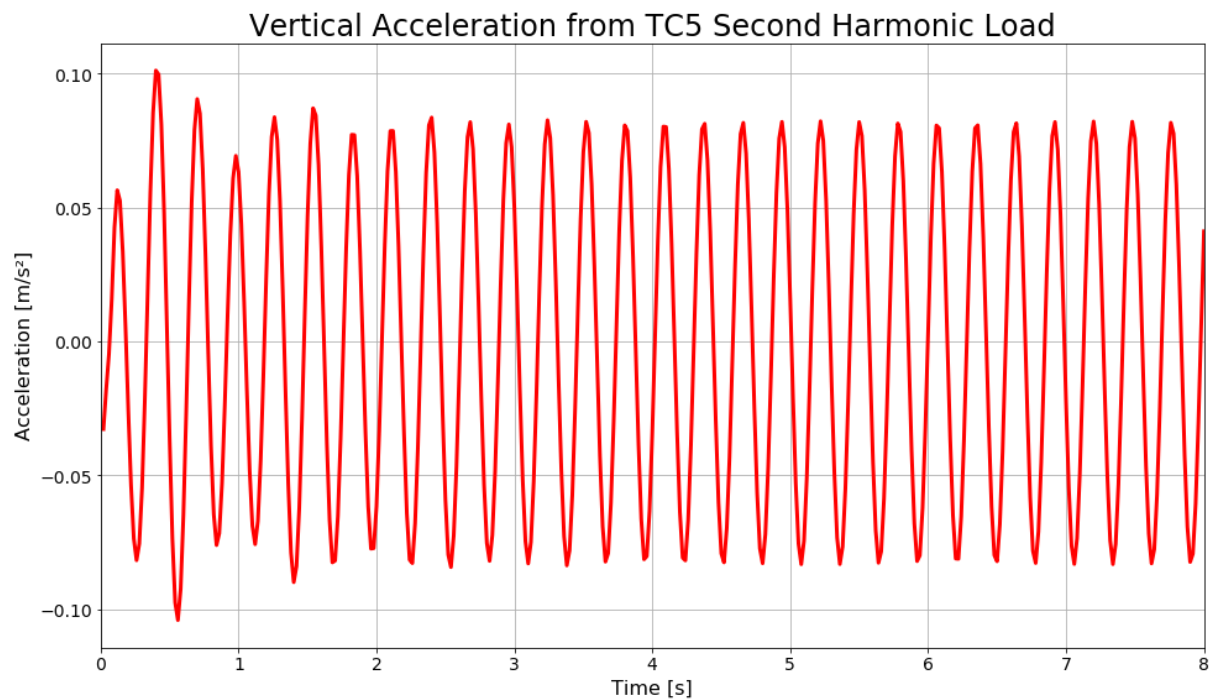


Figure 5.7: Vertical acceleration from the second harmonic of TC5 load;

The maximum observed vertical acceleration due to the second harmonic of a TC5 load is 0.10 m/s^2 .

Since the maximum acceleration due to a load of the first and second harmonic of a TC5 load lie below 0.5 m/s^2 , it can be concluded that the Circular Arch Bridge is within Comfort Class 1 for this load case. Meaning it provides a maximum level of comfort.

5.3.3 Joggers

The next load case that the Circular Arch Bridge is exposed to, is the joggers load case. For this load case a harmonic point load is put onto the structure at midspan. This load represents two synchronised joggers running on the bridge. The vertical accelerations are obtained from the finite element model and is shown in **Figure 5.8**.

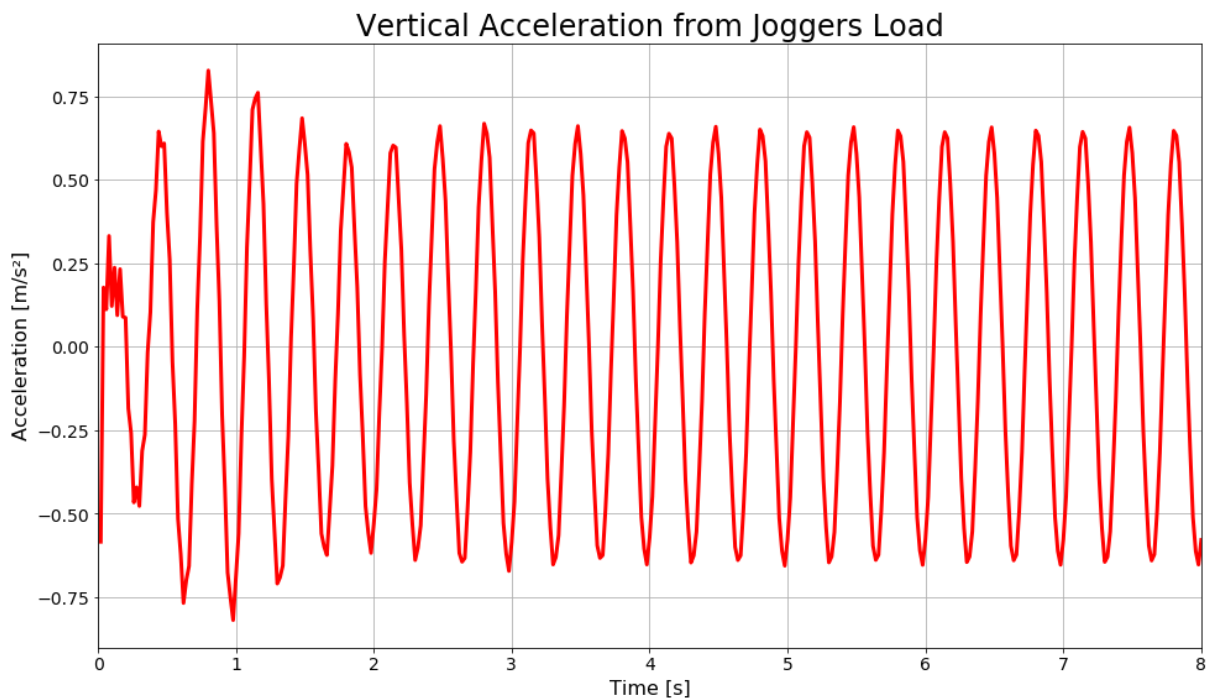


Figure 5.8: Vertical acceleration from Jogger load;

The maximum observed vertical acceleration due to the Joggers load is 0.83 m/s^2 . This maximum vertical acceleration is between 0.5 and 1.0 m/s^2 , meaning that for the jogger load case the Circular Arch Bridge is in comfort class 2. And is thus providing a medium comfort level.

5.3.4 Dancing Group

The final load case that the Circular Arch Bridge is exposed to, is a dancing group. For this load case the self-weight and a uniformly distributed load of 5 kN/m^2 are present constantly over time. A distributed harmonic load representing a dancing group is applied to the structure

for a period of 8 seconds. The vertical accelerations are obtained from the finite element model and is shown in **Figure 5.9**.

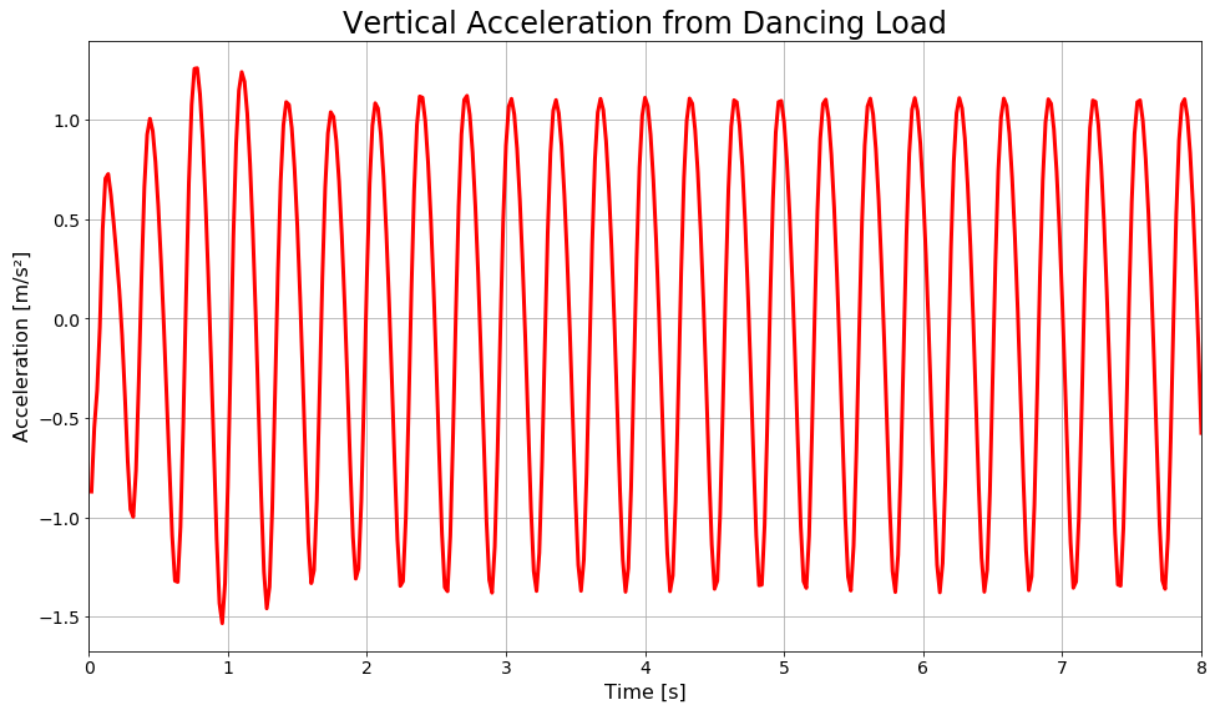


Figure 5.9: Vertical acceleration from Dancing Group load;

The maximum observed vertical acceleration due to a Dancing Group load is 1.53 m/s^2 . This maximum vertical acceleration is between 1.0 and 2.5 m/s^2 , meaning that for the dancing group load case the Circular Arch Bridge is in comfort class 3. And is thus providing a minimum comfort level.

5.4 Check for Lateral Lock-in

Verification of lateral lock-in occurring in the Circular Arch Bridge is done by checking if the occurring lateral acceleration is smaller than the triggering acceleration for lateral lock-in, given in equation (3.6). This is only done for the load cases where lateral lock-in is suspected to happen, which are the pedestrian load cases TC3 and TC5.

5.4.1 TC3 Lateral

The lateral distributed harmonic load can be modelled similar to the harmonic distributed load for the other traffic classes, but with different parameters as given in **Table 3-4**. Since lateral forces are of higher influence at lower frequencies, a step frequency of 1 Hz is chosen for the

lateral load. At this frequency only the lateral load is influencing the vibrations of the bridge, the influence of vertical and longitudinal forces is zero. To model the load **equation (4.5)** is used with the parameters as given in **Table 5-2**.

Table 5-2: Parameters for lateral pedestrian load model TC3;

$P_{Lateral}$	35 N
f_s	1 Hz
n	14.5
n'	0.317
S	29 m ²
ψ	1

This results in a distributed harmonic load as shown in the figure below.

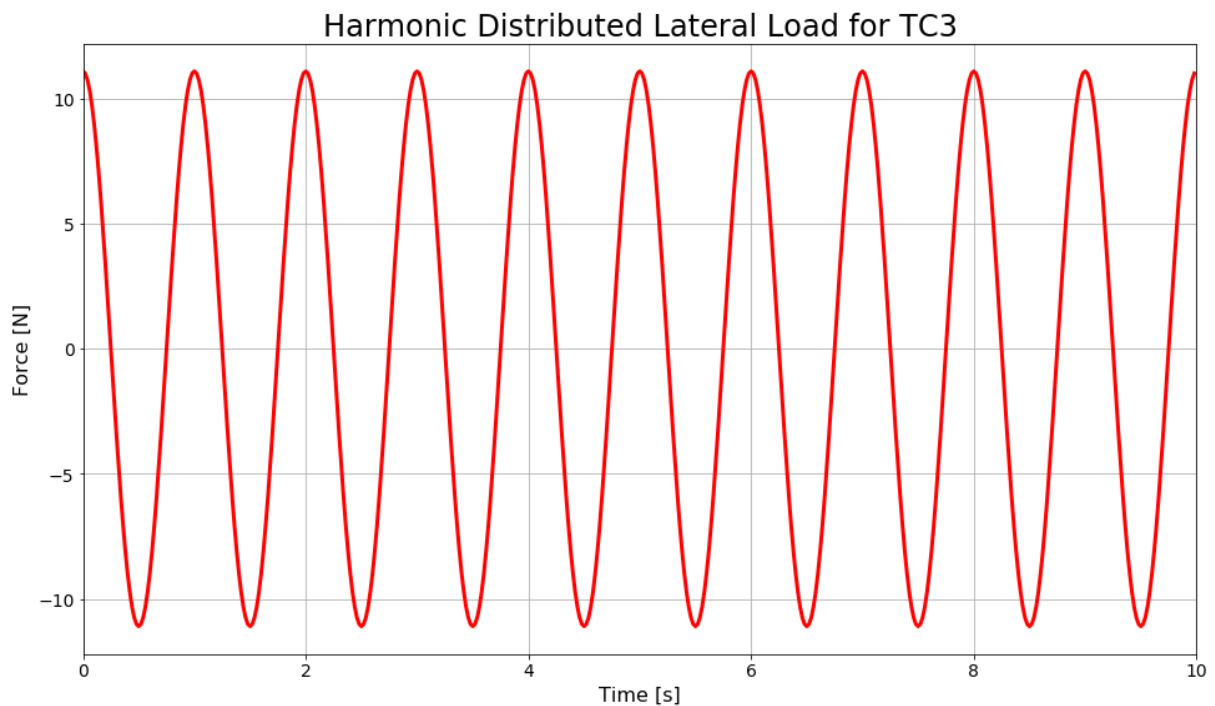


Figure 5.10: Harmonic distributed lateral load for TC3;

Similar to the other analyses for pedestrian loading, the Circular Arch Bridge is subjected to this load for 8 seconds, while the self-weight and a static vertical distributed force of 5 kN/m² are also present. The finite element model is used to calculate the lateral accelerations within the structure, the result is reported in **Figure 5.11**.

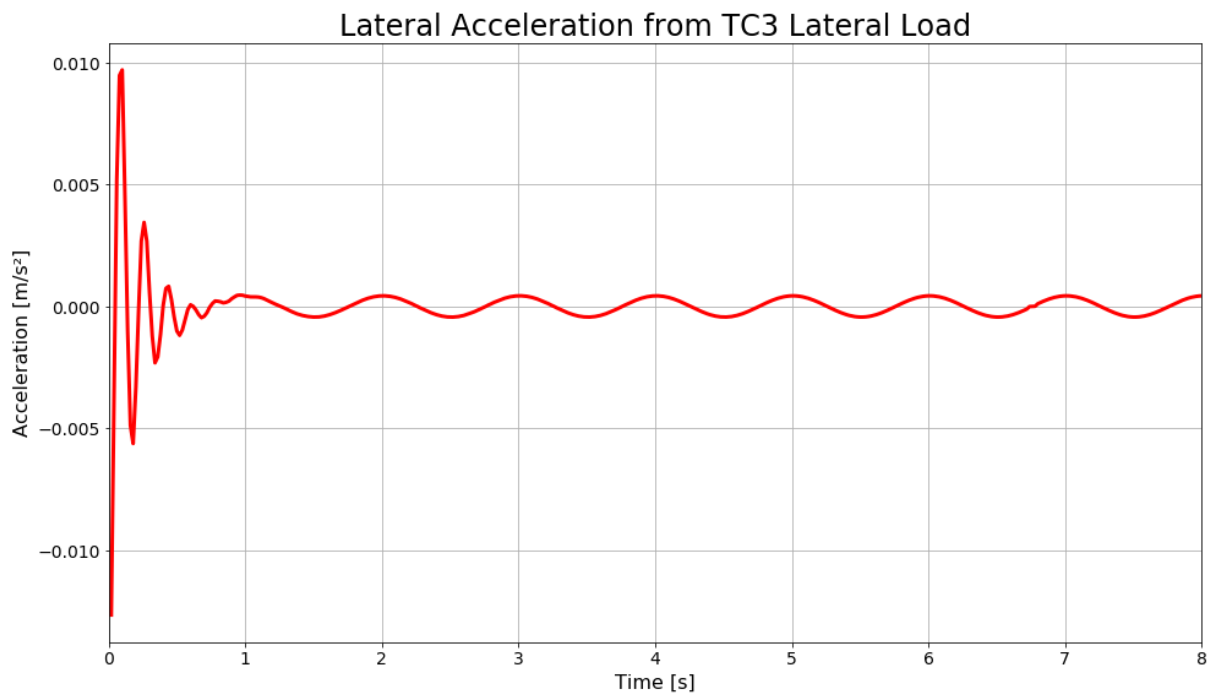


Figure 5.11: Lateral acceleration from TC3 load at 1 Hz;

The maximum obtained lateral acceleration is 0.013 m/s^2 . This means that the triggering acceleration of 0.1 m/s^2 is not reached, meaning that lateral lock-in will not occur for traffic class 3. Since the maximum lateral acceleration lies below 0.1 m/s^2 the Circular Arch Bridge is in comfort class 1 for this load case, meaning it provides maximum comfort.

5.4.2 TC5 Lateral

The lateral distributed harmonic load for TC5 is computed similarly to that of TC3, with the parameters given in the table below.

Table 5-3: Parameters for lateral pedestrian load model TC5;

P_{Vertical}	35 N
f_s	1 Hz
n	43.5
n'	0.421
S	29 m^2
ψ	1

This results in a harmonic distributed lateral load as shown in **Figure 5.12**.

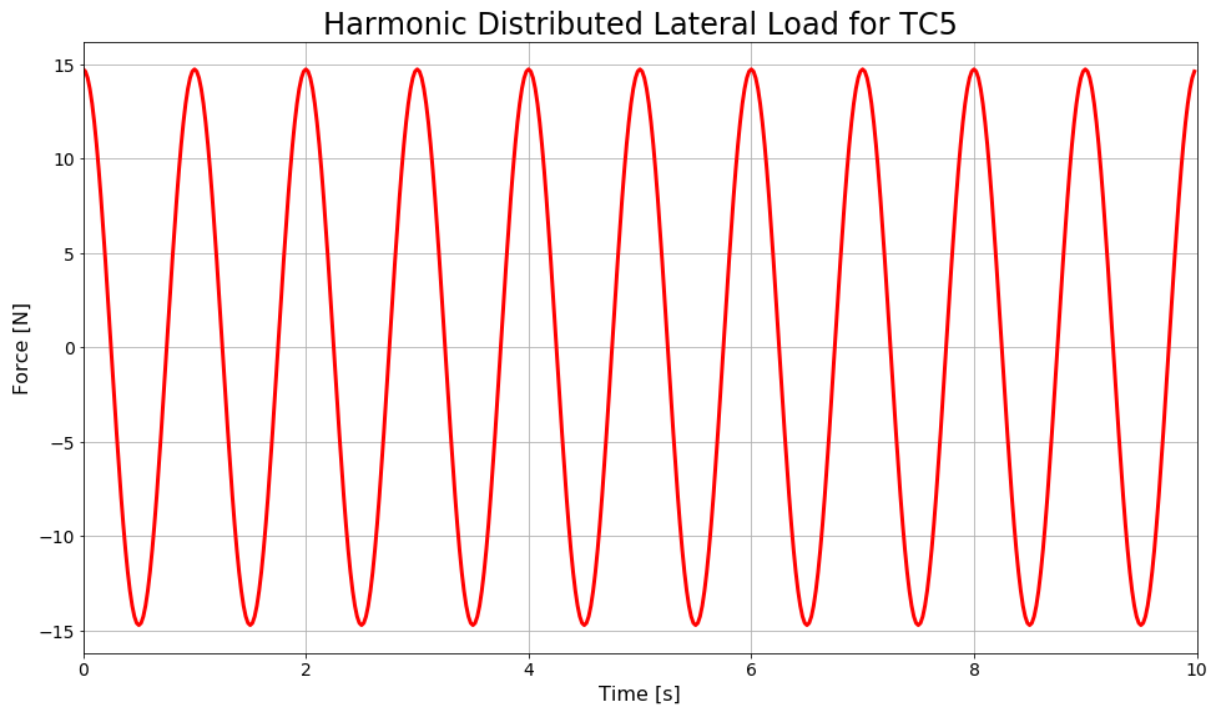


Figure 5.12: Harmonic distributed lateral load for TC5;

Similar to the other analyses for pedestrian loading, the Circular Arch Bridge is subjected to this load for 8 seconds, while the self-weight and a static vertical distributed force of 5 kN/m² are also present. The finite element model is used to calculate the lateral accelerations within the structure, the result is reported in the figure below.

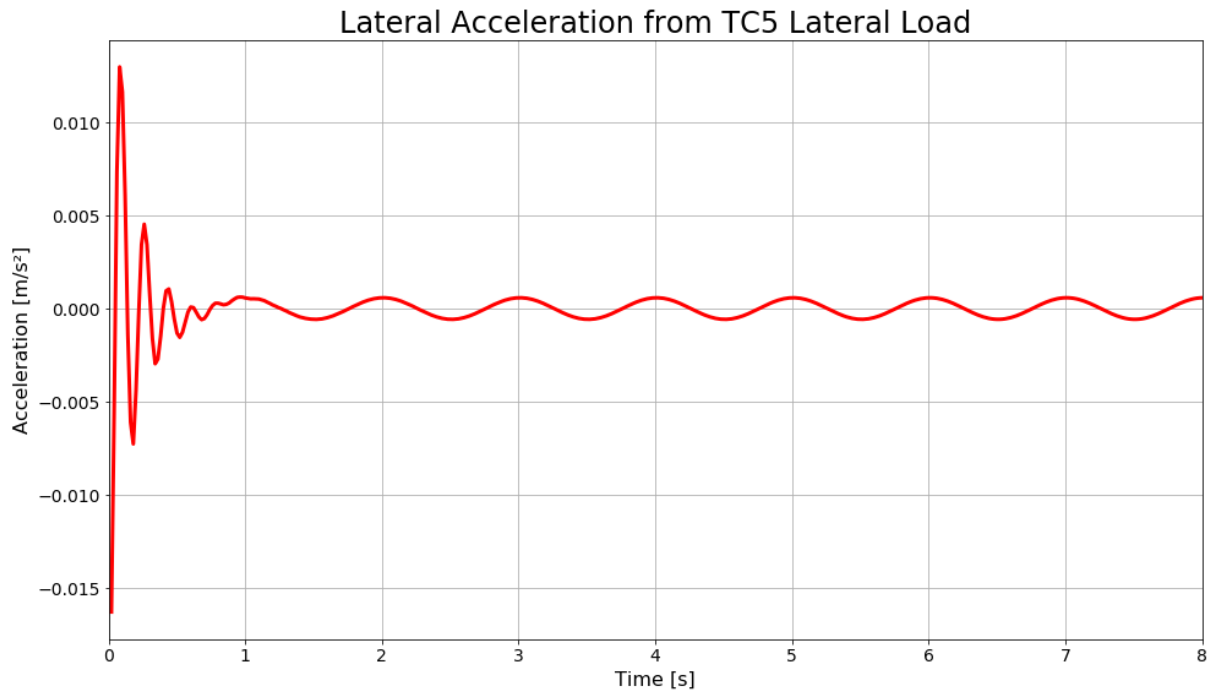


Figure 5.13: Lateral acceleration from TC5 load at 1 Hz;

The maximum obtained lateral acceleration is 0.016 m/s^2 . This means that the triggering acceleration of 0.1 m/s^2 is not reached, meaning that lateral lock-in will not occur for traffic class 5. Since the maximum lateral acceleration lies below 0.1 m/s^2 the Circular Arch Bridge is in comfort class 1 for this load case, meaning it provides maximum comfort.

5.5 Conclusion

A dynamic assessment has been made for the Circular Arch Bridge, according to the Eurocodes and the additional guidelines mentioned in the Eurocodes for design of pedestrian bridges: (Heinemeyer, et al., 2009). In this dynamic assessment it came forward that the first natural frequency of the Circular Arch Bridge lies within the critical range of frequencies, it was therefore necessary to do a full assessment of the bridge regarding the dynamic properties. The dynamic assessment has been made for all load cases that the Circular Arch Bridge might be subjected to during its lifetime. An overview of the results of the dynamic assessment is given in **Table 5-4**.

Table 5-4: Results of the dynamic assessment of the Circular Arch Bridge;

Load Case	Maximum acceleration [m/s²]	Comfort Class	Comfort Level
TC3	0.32	CC1	Maximum
TC3 Second Harmonic	0.078	CC1	Maximum
TC5	0.47	CC1	Maximum
TC5 Second Harmonic	0.10	CC1	Maximum
Joggers	0.83	CC2	Medium
Dancing Group	1.53	CC3	Minimum
TC3 Lateral	0.013	CC1	Maximum
TC5 Lateral	0.016	CC1	Maximum

From the dynamic assessment of the Circular Arch Bridge follows that for pedestrian load cases a maximum comfort level is provided by the bridge. For the load case where joggers use the bridge, it provides a medium comfort level. In the case where a dense group of people in dancing on the bridge, it provides a minimum comfort level. The bridge is not susceptible for lateral vibrations, it provides a maximum comfort level and lateral lock-in will not occur within the bridge.

When a total comfort class has to be given to the Circular Arch Bridge, this would be a medium comfort class CC2 for everyday use of the bridge. This class is given based on the results of the load cases that have to be tested according to the Eurocodes. The bridge does show a minimum level of comfort for the load case of a dancing group, however this is a special load case that has been added to the analysis. The dancing group will only be present once during the testing of the bridge, meaning that this is once during the lifetime of the bridge. In case of this studies, it is important to understand how the bridge will react in this exceptional load case, but it does not affect the comfort level of the bridge according to the guidelines from Eurocode.

6. Sensitivity of the Finite Element Model

In order to get a better understanding of the relationship between the input and the output of the finite element model, a sensitivity analysis of the model is performed. In the sensitivity analysis the effect of changing certain input parameters on the dynamic properties of the model is analysed. The result of the analysis is an overview of the sensitivity of each selected input parameter. This overview can be used to see what certain choices in the design process have on the dynamic properties of the Circular Arch Bridge, but it can also be used to make changes to the design of the bridge when a change in the dynamic properties is desired. On top of that it gives an insight on the effect that deviation of parameters has on the dynamic properties of the bridge.

Besides a sensitivity analysis there are two design choices of which the effect on the dynamic properties of the Circular Arch Bridge are interesting to investigate. During the design it was chosen to apply a single type of interlayer in between the stones, due to this there are large stiffness variations in between the stones and the interlayer. The effect this has on the dynamic properties of the Circular Arch Bridge is addressed in this chapter.

The other design choice is the dry-stacked assembly of the bridge. The final part of this chapter will look into the effect of the dry-stacked assembly on the dynamic properties of the Circular Arch Bridge.

6.1 Sensitivity Analysis

The sensitivity analysis is performed by changing one single input parameter within the model at a time. After that the eigenvalue analysis is performed and the first ten eigenmodes of the model are obtained. An overview of the initial values of the eigenvalue analysis is given in **Table 6-1**.

Table 6-1: Results of the initial eigenvalue analysis;

Eigenvalue	Mode Type	Eigenfrequency [Hz]
1	Bending vertical	3.5375
2	Bending vertical	7.5440
3	Bending vertical	9.0743
4	Bending lateral	10.713
5	Bending vertical	15.124
6	Torsional	19.376
7	Bending vertical	23.942
8	Torsional	25.118
9	Torsional	28.100
10	Bending vertical	34.579

In the sensitivity analysis every input parameter is subjected to a 5%, 10% and 15% change of the initial value, in both negative and positive direction. **Table 6-2** shows the input parameters which are used in the sensitivity analysis.

Table 6-2: Input parameters of the sensitivity analysis, including their initial values;

Parameter	Description	Initial value	Unit
k_spring	Stiffness of horizontal spring support	48.000	kN/m
E_interface	Modulus of elasticity of the interface	30	GPa
E_glass	Modulus of elasticity of glass stones	70	GPa
E_ceramic	Modulus of elasticity of ceramic stones	5	GPa
E_circument	Modulus of elasticity of circument stones	70	GPa
E_geopolymer	Modulus of elasticity of geopolymer stones	5	GPa
D_glass	Density of glass stones	2500	kg/m ³
D_ceramic	Density of ceramic stones	2000	kg/m ³
D_circument	Density of circument stones	2500	kg/m ³
D_geopolymer	Density of geopolymer stones	2000	kg/m ³

For each change in the input parameters an eigenvalue analysis is performed. With the results of the eigenvalue analysis the sensitivity coefficient can be calculated. The sensitivity coefficient can be defined as the rate of change of a particular response of the model with respect to a change in a structural parameter. Within this sensitivity analysis the sensitivity coefficient is defined as the percentage change in mode frequency per 100% change in updating parameter. This is done with the use of equation (6.1). (Gentile & Gallino, 2007)

$$S_i = \left(\frac{X_i}{f_i} \right) \cdot \left(\frac{df_i}{dX_i} \right) \cdot 100\% \quad (6.1)$$

In which:

- i is the number of the eigenmode;
- S is the sensitivity;
- X is the selected input parameter;
- f is the eigenfrequency.

6.1.1 5% input parameter variation

In the first sensitivity analysis a variation of $\pm 5\%$ of the input parameters is applied. The sensitivity of the first ten eigenmodes are calculated and an overview is given in **Figure 6.1**. A larger view of the figure is shown in **Annex B - Sensitivity Analysis**.

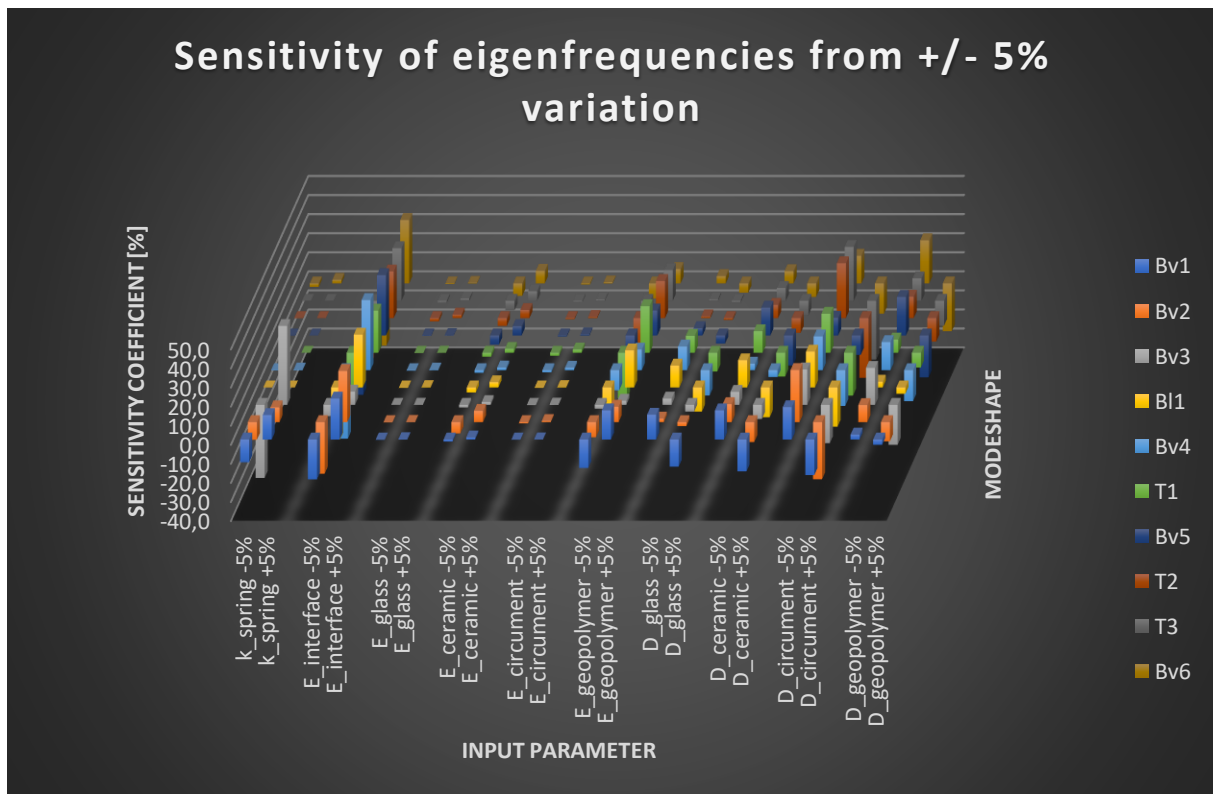


Figure 6.1: Sensitivity of eigenfrequencies from $\pm 5\%$ variation. A positive sensitivity means a higher eigenfrequency;

The values corresponding to the sensitivity analysis are given in **Table 6-3**.

Table 6-3: Sensitivity coefficient [%] at an input parameter variation of +/- 5%;

	Bv1	Bv2	Bv3	Bl1	Bv4	T1	Bv5	T2	T3	Bv6
k_spring -5%	-11,9	-9,3	-38,3	0,0	-0,1	0,0	-0,1	-0,1	0,0	-1,8
k_spring +5%	12,8	7,8	41,3	0,0	0,3	0,0	0,0	0,0	0,0	1,9
E_interface -5%	-20,9	-27,0	-5,9	-27,2	-36,0	-21,7	-31,1	-24,1	-26,9	-32,6
E_interface +5%	21,4	26,8	6,9	27,7	36,7	22,1	31,6	24,5	27,6	33,2
E_glass -5%	-0,2	-0,1	0,0	-0,2	-0,3	-0,1	-0,2	-1,7	-1,2	-0,3
E_glass +5%	0,2	0,1	0,0	0,2	0,3	0,1	0,2	1,8	1,2	0,3
E_ceramic -5%	-1,1	-5,9	-1,4	-2,7	-1,4	-2,1	-4,8	-4,1	-4,9	-6,6
E_ceramic +5%	1,1	5,9	1,5	2,7	1,4	2,1	4,9	4,3	5,0	6,6
E_circument -5%	-0,1	-0,6	-0,1	-0,2	-1,1	-1,6	-0,6	-0,5	-0,7	-0,5
E_circument +5%	0,1	0,6	0,1	0,2	1,2	1,7	0,5	0,6	0,7	0,5
E_geopolymer -5%	-14,9	-7,9	-2,0	-19,2	-10,6	-24,0	-12,9	-19,0	-15,7	-7,9
E_geopolymer +5%	15,3	8,1	2,1	19,4	10,8	24,4	13,1	19,5	16,1	7,6
D_glass -5%	13,0	1,8	3,2	11,5	12,4	8,9	3,8	0,9	0,8	3,8
D_glass +5%	-14,2	-2,1	-3,6	-12,6	-13,3	-9,8	-4,2	-0,9	-1,0	-4,8
D_ceramic -5%	15,2	9,4	6,8	14,3	3,4	11,3	14,6	6,9	6,7	6,5
D_ceramic +5%	-16,7	-10,4	-7,4	-15,6	-3,6	-12,4	-15,7	-7,6	-7,5	-7,1
D_circument -5%	16,9	27,3	18,5	18,8	17,7	20,5	9,2	28,8	28,2	14,5
D_circument +5%	-18,6	-29,9	-20,1	-20,6	-18,8	-22,5	-10,2	-31,3	-30,9	-15,8
D_geopolymer -5%	2,6	8,9	19,4	3,0	14,7	6,9	20,2	11,2	11,8	22,6
D_geopolymer +5%	-2,8	-10,0	-21,0	-3,3	-16,2	-7,7	-22,0	-12,3	-13,1	-25,0

6.1.2 10% input parameter variation

In the second sensitivity analysis a variation of $\pm 10\%$ of the input parameters is applied. The sensitivity of the first ten eigenmodes are calculated and an overview is given in **Figure 6.2**. A larger view of the figure is shown in **Annex B - Sensitivity Analysis**.

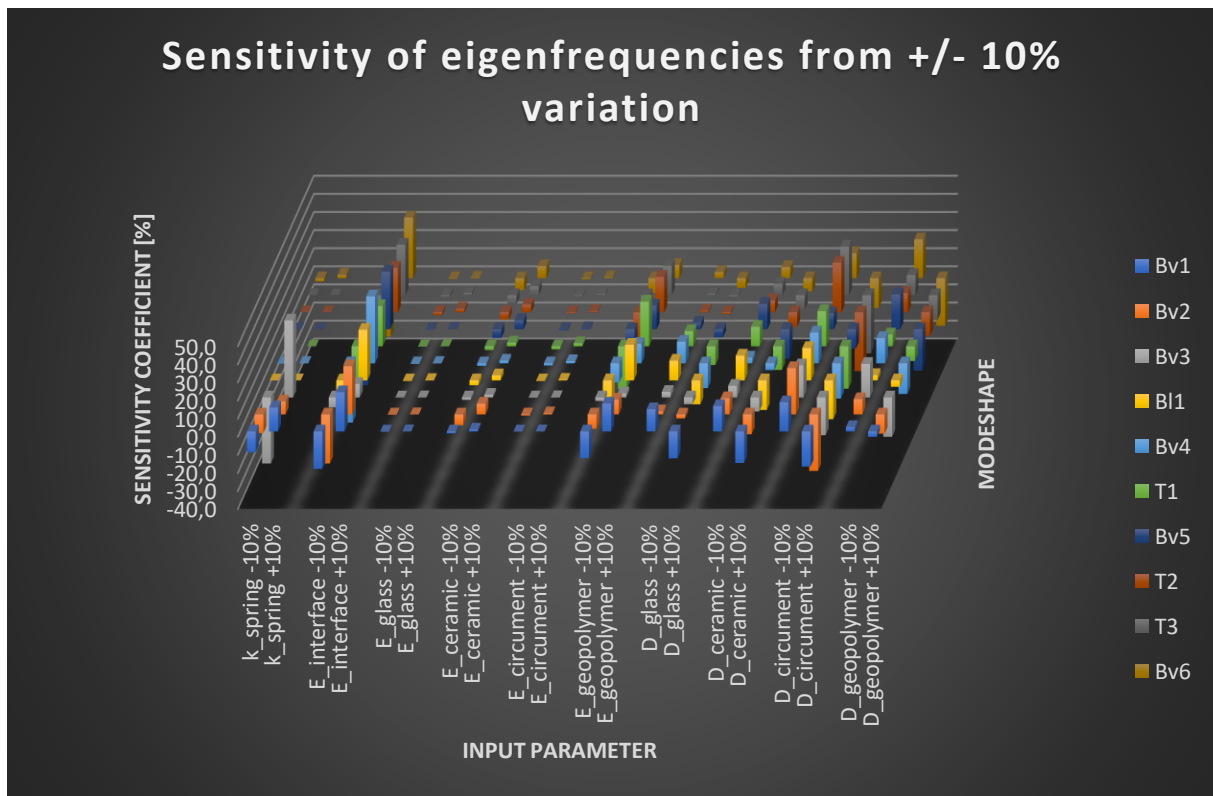


Figure 6.2: Sensitivity of eigenfrequencies from $\pm 10\%$ variation. A positive sensitivity means a higher eigenfrequency;

The values corresponding to the sensitivity analysis are given in **Table 6-4**.

Table 6-4: Sensitivity coefficient [%] at an input parameter variation of +/- 10%;

	Bv1	Bv2	Bv3	Bl1	Bv4	T1	Bv5	T2	T3	Bv6
k_spring -10%	-11,5	-10,3	-36,4	0,0	-0,1	0,0	0,0	0,0	0,0	-1,8
k_spring +10%	13,2	7,2	42,5	0,0	0,2	0,0	0,0	0,0	0,0	1,9
E_interface -10%	-20,6	-27,1	-5,5	-27,0	-32,7	-21,5	-30,9	-24,0	-26,6	-32,2
E_interface +10%	21,7	26,6	7,4	27,9	37,0	22,2	31,8	24,6	27,9	33,5
E_glass -10%	-0,2	-0,1	0,0	-0,3	-0,2	-0,1	-0,2	-1,7	-1,1	-0,3
E_glass +10%	0,2	0,1	0,0	0,2	0,3	0,1	0,2	1,8	1,2	0,3
E_ceramic -10%	-1,1	-5,9	-1,4	-2,7	-1,4	-2,0	-4,7	-4,0	-4,9	-6,5
E_ceramic +10%	1,1	5,9	1,5	2,8	1,5	2,1	4,9	4,2	5,0	6,6
E_circument -10%	-0,1	-0,6	-0,1	-0,3	-1,2	-1,6	-0,6	-0,5	-0,7	-0,5
E_circument +10%	0,1	0,6	0,1	0,3	1,2	1,7	0,6	0,6	0,7	0,5
E_geopolymer -10%	-14,7	-7,8	-2,0	-18,9	-10,5	-23,8	-12,8	-18,8	-15,4	-8,1
E_geopolymer +10%	15,5	8,1	2,2	19,7	10,7	24,6	13,1	19,6	16,4	7,4
D_glass -10%	12,3	1,8	3,1	10,9	11,9	8,4	3,6	0,9	0,8	3,4
D_glass +10%	-14,9	-2,2	-3,7	-13,2	-13,7	-10,3	-4,4	-1,0	-1,0	-5,4
D_ceramic -10%	14,0	8,9	6,4	13,7	3,2	10,7	14,0	6,6	6,4	6,1
D_ceramic +10%	-17,4	-10,9	-7,8	-16,4	-3,7	-13,0	-16,3	-8,0	-7,9	-7,4
D_circument -10%	16,1	25,6	17,7	17,9	17,0	19,4	8,8	27,4	26,9	13,8
D_circument +10%	-19,4	-31,2	-20,9	-21,5	-19,5	-23,4	-10,7	-32,6	-32,1	-16,5
D_geopolymer -10%	2,4	8,4	18,5	2,9	13,9	6,5	19,3	10,6	11,1	21,4
D_geopolymer +10%	-3,0	-10,6	-21,8	-3,5	-16,9	-8,1	-22,8	-12,9	-13,7	-26,3

6.1.3 15% input parameter variation

In the third sensitivity analysis a variation of $\pm 15\%$ of the input parameters is applied. The sensitivity of the first ten eigenmodes are calculated and an overview is given in **Figure 6.3**. A larger view of the figure is shown in **Annex B - Sensitivity Analysis**.

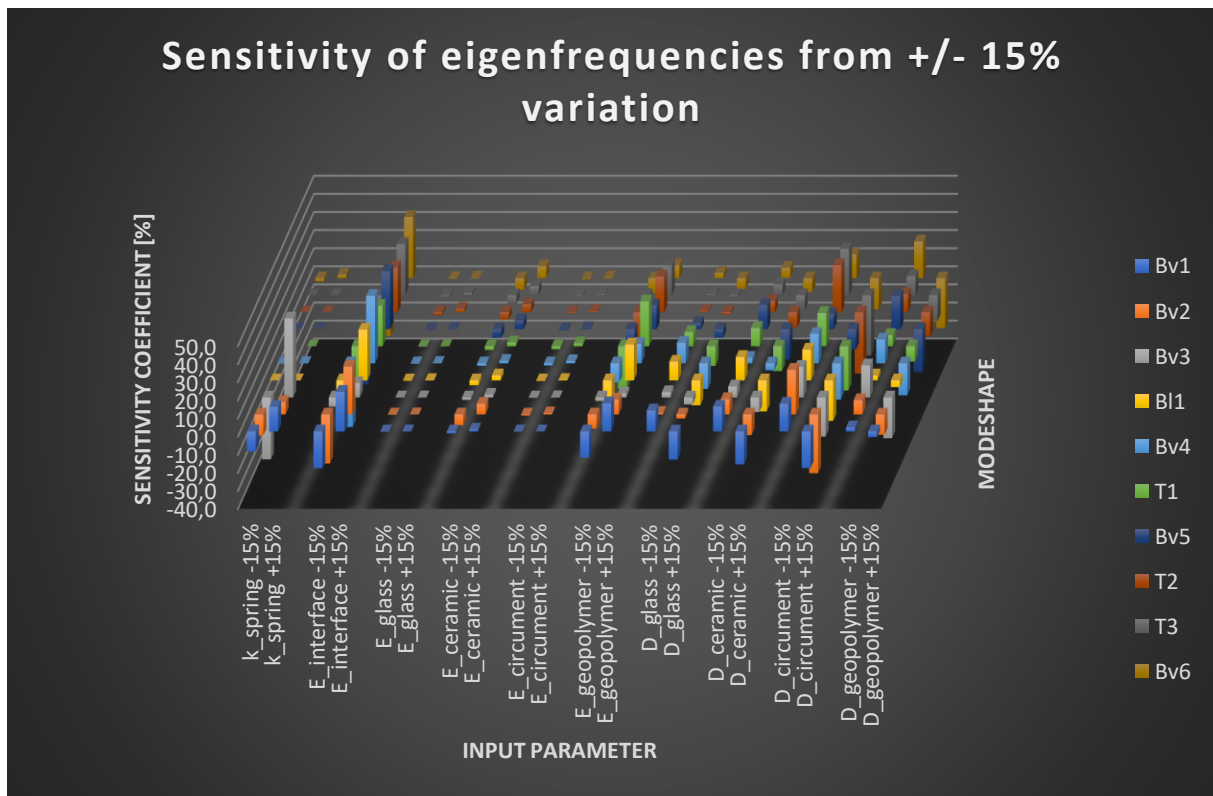


Figure 6.3: Sensitivity of eigenfrequencies from $\pm 15\%$ variation. A positive sensitivity means a higher eigenfrequency;

The values corresponding to the sensitivity analysis are given in **Table 6-5**.

Table 6-5: Sensitivity coefficient [%] at an input parameter variation of +/- 15%;

	Bv1	Bv2	Bv3	Bl1	Bv4	T1	Bv5	T2	T3	Bv6
k_spring -15%	-11,0	-11,6	-34,2	0,0	-0,1	0,0	0,0	0,0	0,0	-1,8
k_spring +15%	13,6	6,8	43,6	0,0	0,2	0,0	0,0	0,0	0,0	1,9
E_interface -15%	-20,3	-27,1	-5,1	-26,8	-35,1	-21,3	-30,6	-23,8	-26,2	-31,8
E_interface +15%	21,9	26,4	7,9	28,1	37,3	22,4	32,0	24,7	28,2	33,8
E_glass -15%	-0,2	-0,1	0,0	-0,2	-0,2	-0,1	-0,2	-1,6	-1,1	-0,3
E_glass +15%	0,2	0,1	0,0	0,2	0,3	0,1	0,2	1,9	1,3	0,3
E_ceramic -15%	-1,1	-5,9	-1,3	-2,7	-1,4	-2,1	-4,7	-4,0	-4,8	-6,5
E_ceramic +15%	1,1	5,9	1,5	2,8	1,4	2,1	5,0	4,3	5,0	6,7
E_circument -15%	-0,1	-0,6	-0,1	-0,3	-1,2	-1,6	-0,6	-0,5	-0,7	-0,5
E_circument +15%	0,1	0,6	0,1	0,3	1,2	1,7	0,6	0,6	0,7	0,5
E_geopolymer -15%	-14,5	-7,8	-1,9	-18,7	-10,5	-23,5	-12,7	-18,6	-15,2	-8,2
E_geopolymer +15%	15,6	8,2	2,2	19,8	10,7	24,8	13,2	19,7	16,6	7,2
D_glass -15%	11,6	0,9	2,9	10,3	11,4	7,9	3,4	0,8	0,8	3,0
D_glass +15%	-15,5	-2,3	-3,9	-13,8	-14,1	-10,8	-4,6	-1,1	-1,0	-5,9
D_ceramic -15%	13,7	8,4	6,1	12,9	3,1	10,2	13,4	6,2	6,0	5,8
D_ceramic +15%	-18,1	-11,4	-8,1	-17,1	-3,9	-13,7	-16,8	-8,4	-8,2	-7,7
D_circument -15%	15,3	24,7	16,9	17,0	16,3	18,4	8,3	26,1	25,6	13,1
D_circument +15%	-20,2	-32,5	-21,6	-22,4	-20,0	-24,4	-11,2	-33,8	-33,4	-17,2
D_geopolymer -15%	2,3	7,9	17,7	2,7	13,1	6,2	18,4	10,0	10,5	20,3
D_geopolymer +15%	-3,1	-11,2	-22,5	-3,7	-17,7	-8,4	-23,7	-13,5	-14,3	-27,6

6.1.4 Conclusion

The three performed sensitivity analyses can be used to draw several conclusions about the dynamic behaviour of the Circular Arch Bridge. Since the first eigenmode is in the critical range of natural frequencies for pedestrian bridges, the sensitivity of this eigenmode is the most important. This is due to the fact that a change in this frequency can have a significant effect on the dynamic behaviour of the Circular Arch Bridge. For the second eigenmode only very large changes will have an effect on the dynamic behaviour of the bridge, therefore this mode is also considered to be important. For the higher eigenmodes it is not expected that they will influence the dynamic behaviour of the bridge. The conclusions drawn below are therefore based on the first two eigenmodes, however the sensitivity of higher eigenmodes still provides important information, which can be valuable during experiments on the bridge.

A table with the results of all sensitivity analyses is used to draw the conclusions. This table is shown in **Annex B - Sensitivity Analysis**.

The most sensitive input parameter of the model is the modulus of elasticity of the interface. This input parameter has the largest effect on the first two eigenmodes and can therefore affect the dynamic behaviour of the bridge the most. Since the eigenfrequencies are defined with:

$\omega = \sqrt{\frac{k}{m}}$, in which k is the stiffness and m is the mass, it is a logical conclusion that the modulus of elasticity of the interfaces is so sensitive. The interfaces are present everywhere throughout the structure, meaning that it has a large influence on the stiffness of the structure and therefore on the eigenfrequencies of the model. There is a positive correlation between the variation and the sensitivity, meaning that a reduction of the input parameter will lead to a reduction in eigenfrequency and vice versa. It would be expected that the magnitude of the sensitivity is equal for every variation size, however slight differences can be obtained. However, the differences in the sensitivity of the different variations are low and will therefore not lead to large deviations.

The second most sensitive input parameter is the density of the circumferential stones. The sensitivity of this input parameter has a negative correlation with the eigenfrequencies, meaning a lower density will lead to higher eigenfrequencies. This can be simply lead back to the relation of the eigenfrequencies to the mass and stiffness of the structure, since the mass is in the denominator a smaller eigenfrequency is obtained when the mass of the structure rises. Again, for this input parameter there is a small deviation in between the sensitivity of the different variations, however the differences are still very small, so it does not lead to large deviations.

The next most sensitive input parameters are the density of the ceramic stones, the modulus of elasticity of the geopolymer concrete stones and the density of the glass stones. All these input parameters have roughly the same sensitivity and no big differences of the sensitivity is observed in the different variation steps. Also, for these input parameters a positive correlation is found for the modulus of elasticity and a negative correlation is found for the density. It can be noted that when the modulus of elasticity of the different materials of the stones are regarded, only the modulus of elasticity of the geopolymer concrete is sensitive. The modulus of elasticity of the other materials of the stone are not nearly as sensitive. This can be lead back to two factors. The first factor is caused by the varying thickness of the deck of the bridge. The geopolymer concrete stones have the largest thickness, thus the largest volume of all materials, and therefore have the largest contribution in the stiffness of the structure. Since it has the largest contribution to the stiffness of the structure, it will also have the most influence on the eigenfrequencies when the stiffness of the material is changed. This is supported by the fact that the sensitivity of the modulus of elasticity of the circumferential stones is lower, and the

sensitivity of the modulus of elasticity of glass is lower than of circumvent. When considering the geometry of the structure the circumvent stones have a smaller thickness than the geopolymer concrete stones, and the glass stones have a smaller thickness than the circumvent stones. The second factor that causes the modulus of elasticity to be very sensitive is that position of the material within the structure. The geopolymer concrete stones are at a location where there where larger changes in the curvature occur in the eigenmodes than for instance for the glass stones. For instance, when regarding the eigenmode T2 there is a large curvature change in the geopolymer concrete stones, while in eigenmode Bv3 there is almost no curvature change for the geopolymer concrete stones. It can be seen in the sensitivity of the modulus of elasticity of geopolymer concrete that there is a high sensitivity for the eigenfrequency of mode T2 and a low sensitivity for the eigenfrequency of mode Bv3. This also explains why the sensitivity of the modulus of elasticity of ceramic is higher than that of circumvent, while the thickness of the circumvent stones is higher so it influences the stiffness of the structure more. The ceramic stones are also at positions where there are large changes in the curvature in the eigenmodes, which causes the modulus of elasticity of ceramic stones to be more sensitive than that of circumvent and glass.

After that the stiffness of the support spring is the most sensitive input parameter. This input parameter has a positive correlation with the sensitivity. A very high sensitivity is observed for the third eigenmode, which is caused by a large translation of the support in this eigenmode. However, the eigenfrequency belonging to this eigenmode is not likely to get into the critical range of natural frequencies of pedestrian bridges. This is due to the fact that the stiffness of the support spring is in that case so low, that the horizontal displacement will result in a failure mechanism. In that case the design of the bridge is not stable anymore. Another remarkable feature of this input parameter is that it only affects the vertical bending modes and not the lateral bending and the torsional modes. All other input parameters affect all the eigenmodes.

The lowest significant input parameters are the density of the geopolymer concrete stones and the modulus of elasticity of the ceramic stones. The sensitivity of these parameters is a lot lower than the earlier mentioned parameters, but they are still significant.

The modulus of elasticity of the glass stones and the modulus of elasticity of the circumvent stones do not significantly contribute to the magnitude of the eigenfrequencies. It can be concluded that these input parameters are not sensitive.

The results of the sensitivity analysis can be valuable information for performing experiments, like a hammer test on the bridge. For instance, when there is an eigenfrequency that is only sensitive for a single input parameter, the corresponding mode shape can then be used for tuning of the model and should be investigated during experiments. When regarding the sensitivity analysis of the Circular Arch Bridge there are no mode shapes that stand out, because all the corresponding eigenfrequencies are sensitive for a large amount of input parameters. However, it is advised to at least investigate mode shapes Bv3 and Bv4 during experiments. Mode shape Bv3 is the third eigenmode with an eigenfrequency of 9.0743 Hz. This mode shape is interesting to investigate since it is very sensitive to the stiffness of the supports and significantly lower for the other input parameters. For the fifth mode shape Bv4, with an eigenfrequency of 15.124 Hz, it is observed that the sensitivity is very high for the modulus of elasticity of the interface and significantly lower for the other input parameters. Since there are no outstanding mode shapes that should be investigated, it is advised that the eigenvalue analysis is extended to a larger amount of eigenfrequencies and make a sensitivity analysis of this eigenvalue analysis. This could result into mode shapes that are sensitive to a little amount of input parameters, which can help further research on the Circular Arch Bridge.

6.2 Effect of large stiffness differences between the interlayer and stones

To understand the effect of the large stiffness differences in between the stones of the Circular Arch Bridge and the interlayers in between the stones, a comparison is made where the difference in stiffness is minimised. The stiffnesses of the different materials is shown in **Table 6-6**.

Table 6-6: Stiffness of the different materials;

Material	Stiffness	Unit
Interlayer	30	GPa
Geopolymer Concrete	5	GPa
Circument	70	GPa
Ceramic	5	GPa
Glass	70	GPa

To minimise the large differences in the stiffness between the interlayer and the different materials, it is chosen to introduce different types of interlayers. A different type of interlayer is used for each different material, where the interlayer has a stiffness equal to the material of the stone. At the interfaces of different materials, an interlayer is used with a stiffness that is in middle of the stiffnesses of the two materials. The location of the different types of interlayers is shown in **Figure 6.4**. The stiffness of each type of interlayer is presented in **Table 6-7**.

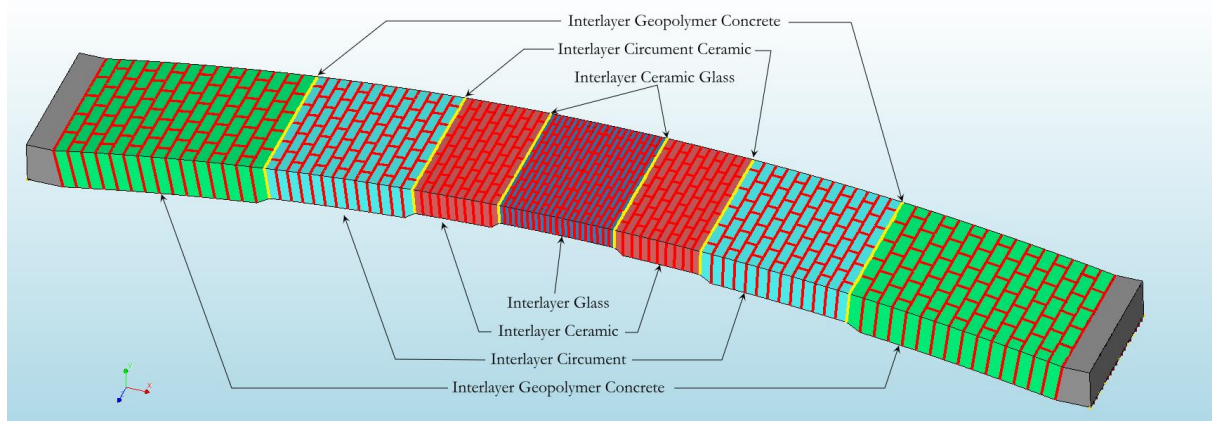


Figure 6.4: Location of the different interlayer types for minimised stiffness differences;

Table 6-7: Stiffness of different interlayer types;

Interlayer	Stiffness	Unit
Geopolymer Concrete	5	GPa
Geopolymer Concrete - Circument	37.5	GPa
Circument	70	GPa
Circument – Ceramic	37.5	GPa
Ceramic	5	GPa
Ceramic - Glass	37.5	GPa
Glass	70	GPa

An eigenvalue analysis of the model with the interlayers as given above is performed. An overview of the first ten eigenmodes and corresponding eigenfrequencies is presented in **Table 6-8**.

Table 6-8: Comparison of the eigenvalue analysis;

Eigenvalue	Mode Type	Eigenfrequency of original model [Hz]	Eigenfrequency of model with minimal stiffness differences [Hz]
1	Bending vertical	3.5375	2.4939
2	Bending vertical	7.5440	4.8880
3	Bending vertical	9.0743	8.5883
4	Bending lateral	10.713	6.5685
5	Bending vertical	15.124	11.874
6	Torsional	19.376	13.394
7	Bending vertical	23.942	15.116
8	Torsional	25.118	17.130
9	Torsional	28.100	19.805
10	Bending vertical	34.579	26.416

From the results of the eigenvalue analysis, it can be concluded that minimising the stiffness differences between the interlayer and the stones of the bridge has a large negative effect on the dynamic properties of the Circular Arch Bridge. The frequency of the first eigenmode

decreased from 3.5375 Hz to 2.4939 Hz. In the initial model this eigenfrequency was in the critical range of the second harmonic of vertical and longitudinal vibrations. It was proven that no problems with the dynamic behaviour of the bridge were to be expected. In the model with the minimised differences in stiffness the eigenfrequency is very close to the critical range of the first harmonic of vertical and longitudinal vibrations.

The effect of the big stiffness differences within the Circular Arch Bridge is also investigated by running a dynamic analysis. It is chosen to perform the analysis of the vertical acceleration caused by a TC5 pedestrian load, which was discussed in section 5.3.2 TC5. The results of the determination of the vertical acceleration of the model with a tensile capacity is given in Figure 6.5.

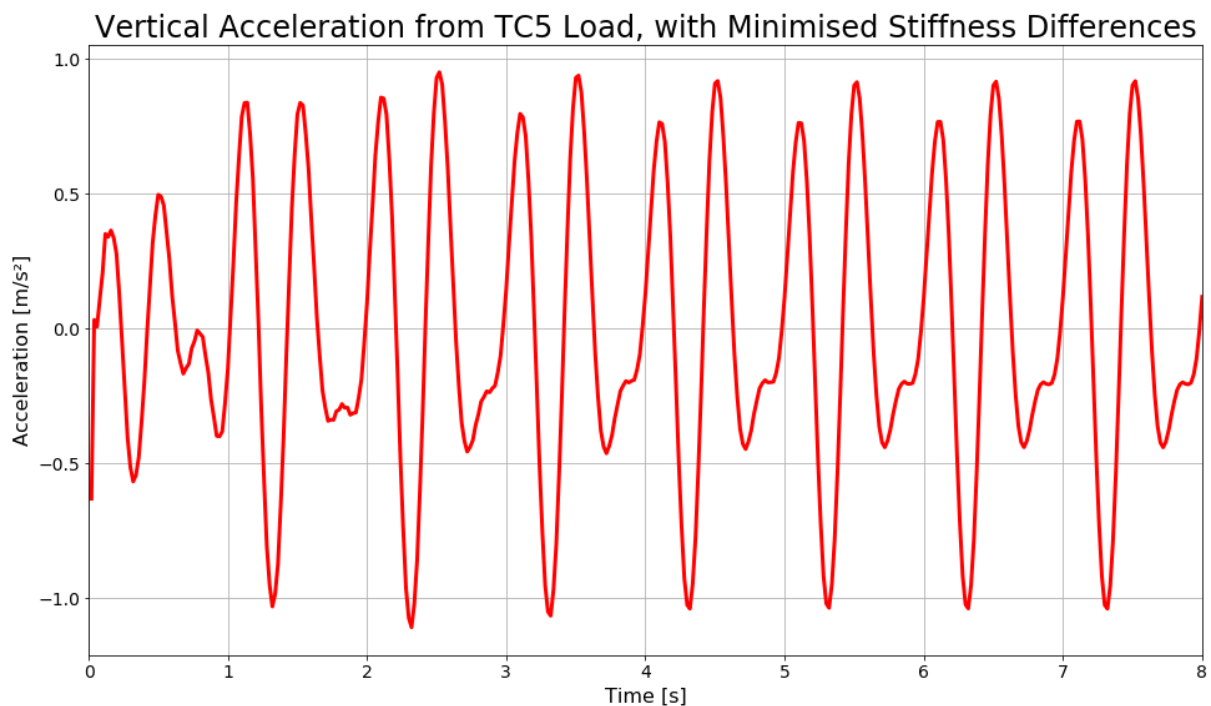


Figure 6.5: Vertical acceleration from TC5 load, with minimised stiffness differences;

The maximum observed vertical acceleration due to a TC5 load is 1.11 m/s². In the initial model the maximum observed vertical acceleration due to a TC5 load was 0.47 m/s². It is thus observed that the addition of a tensile capacity to the interlayer has significantly increased the accelerations within the Circular Arch Bridge. It can also be observed that the vertical accelerations show a very different pattern compared to the initial dynamic analysis of TC5.

The example of the dynamic analysis of TC5 shows that the dynamic behaviour of the Circular Arch Bridge will be worse than what was proven earlier. It can thus be concluded that the large stiffness differences in the Circular Arch Bridge have a negative effect on the dynamic behaviour. It is advised to use the interlayer of the initial model, since it has been proven that there are no problems with the dynamic properties of the Circular Arch Bridge.

6.3 Effect of dry-stacked assembly

Within the current design the stones of the Circular Arch Bridge have a dry-stacked assembly, meaning that there is no tensile capacity in between the stones. To investigate what effect this has on the dynamic properties of the Circular Arch Bridge, an analysis is performed in which a tensile capacity of the interlayer is introduced.

To give a realistic representation of the tensile capacity of the interlayer, an interlayer is selected that has been used in the Crystal Houses project. In this project a masonry glass façade was constructed, in which an adhesive was used to connect the glass stones. The used adhesive is *Delo Photobond 4468* (Oikonomopoulou, Bristogianni, Veer, & Nijse, 2018). The tensile strength of this adhesive is given by the manufacturer as $f_t = 14 \text{ MPa}$ (DELO, 2022).

The effect of the dry-stacked assembly of the Circular Arch Bridge is investigated by assigning the above-mentioned tensile capacity to the interlayer within the model and running a dynamic analysis. It is chosen to perform the analysis of the vertical acceleration caused by a TC5 pedestrian load, which was discussed in section 5.3.2 TC5. The results of the determination of the vertical acceleration of the model with a tensile capacity is given in **Figure 6.6**.

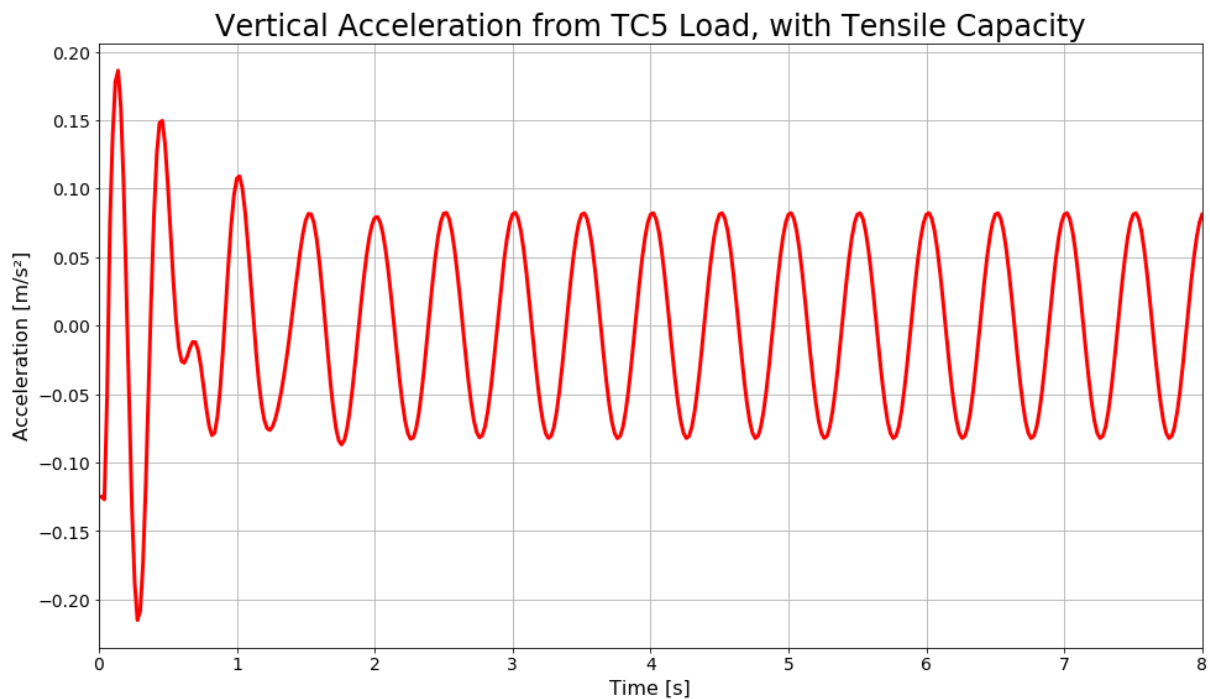


Figure 6.6: Vertical acceleration from TC5 load, with tensile capacity of interlayer;

The maximum observed vertical acceleration due to a TC5 load is 0.22 m/s^2 . In the initial model the maximum observed vertical acceleration due to a TC5 load was 0.47 m/s^2 . It is thus observed that the addition of a tensile capacity to the interlayer has significantly reduced the accelerations within the Circular Arch Bridge. It can therefore be concluded that the effect of the dry-stacked assembly of the Circular Arch Bridge is seriously disadvantageous for the dynamic behaviour of the bridge.

It should be noted that the conclusion drawn above is purely based on the effect of the dry-stacked assembly of the bridge. When the bridge is to be assembled with the use of an adhesive interlayer, it should be carefully considered what type of adhesive interlayer must be used. This adhesive interlayer will not only differ in tensile capacity from the interlayer used within the Circular Arch Bridge. It will also have different values for, for example the stiffness of the material. Using an adhesive interlayer could also mean that different types of interlayers have to be used for the different materials. As was concluded within the sensitivity analysis, both these changes can have significant effects on the dynamic behaviour of the bridge. If an adhesive interlayer must be used, it is advised to perform a full dynamic assessment of the Circular Arch Bridge to prevent unexpected dynamic problems from occurring.

6.4 Structural Damping

As mentioned in chapter 3.4.2, the structural damping used in the dynamic assessment of the Circular Arch Bridge is assumed to be 5%. However, this value has to be verified after construction of the bridge is finished. However, the structural damping does affect the results from the dynamic assessment. For the main load cases it is therefore investigated what the results of the dynamic assessment are for different values of structural damping. The results are shown in **Table 6-9**.

Table 6-9: Maximum vertical acceleration at different levels of structural damping;

Structural damping [%]	Maximum vertical acceleration [m/s ²]			
	TC3	TC5	Joggers	Dancing Group
0	0.62	0.84	1.83	2.11
1	0.50	0.71	1.13	1.91
2	0.43	0.63	1.01	1.81
3	0.39	0.54	0.92	1.73
4	0.35	0.51	0.84	1.64
5	0.32	0.47	0.83	1.53

The results in **Table 6-9** can be used in further studies of the Circular Arch Bridge for an overview of how the structural damping affects the dynamic properties of the Circular Arch Bridge. In this research the results are used to give a recommendation of what the minimum level of structural damping is advised in further research of the Circular Arch Bridge. The advice on the minimum level of structural damping is based on remaining the same comfort level for the most common load case. The most common load cases of the Circular Arch Bridge are the Traffic Class 3 load case and the Joggers load case, since these load cases can happen

occasionally. For the other load cases applies that their occurrence is far more exceptional to happen. For these load cases a minimum level of structural damping is given, in order to maintain the same comfort level as in the case of a structural damping of 5%.

For Traffic Class 3 applies the maximum level of comfort at a structural damping of 5%. If the vertical acceleration is larger than 0.50 m/s^2 , a medium level of comfort applies for this load case. In order to remain in the same comfort class, the structural damping should be a higher than 1%.

In case of the Joggers load the Circular Arch Bridge provides a medium level of comfort at a structural damping of 5%. The Circular Arch Bridge will provide a minimum level of comfort when the vertical acceleration is larger than 1.00 m/s^2 . For this load case the structural damping should therefore be larger than 2%.

It is advised that the minimum level of structural damping of the Circular Arch Bridge is 2%. At this level of structural damping, the comfort class of the most common load cases of the Circular Arch Bridge remains the same as in the dynamic assessment performed in this research.

7. Conclusions and recommendations

7.1 Conclusions

The objective of this research is to understand and predict the dynamic behaviour of the Circular Arch Bridge, give an insight in the sensitivity of the parameters within the design and give insight in the effect of design choices on the dynamic properties of the bridge.

It is derived that the Circular Arch Bridge can be considered as a masonry arch structure. All materials within the bridge are considered common materials for masonry structure. Also, the separate units form a solid mass together, thereby classifying the structure as masonry. The arched shape of the bridge classifies it as an arched bridge.

A full dynamic assessment of the Circular Arch Bridge is performed according to the guidelines for pedestrian bridges given in the Eurocodes. This assessment results in a comfort class for the Circular Arch Bridge. The results are shown in **Table 7-1**.

Table 7-1: Results of the dynamic assessment of the Circular Arch Bridge;

Load Case	Maximum acceleration [m/s ²]	Comfort Class	Comfort Level
TC3	0.32	CC1	Maximum
TC3 Second Harmonic	0.078	CC1	Maximum
TC5	0.47	CC1	Maximum
TC5 Second Harmonic	0.10	CC1	Maximum
Joggers	0.83	CC2	Medium
Dancing Group	1.53	CC3	Minimum
TC3 Lateral	0.013	CC1	Maximum
TC5 Lateral	0.016	CC1	Maximum

The Circular Arch Bridge is within Comfort Class 2 for the loads that are given in the Eurocodes for pedestrian bridges. For the Circular Arch Bridge, a special load case is added resembling a group of 60 people dancing on the bridge. This is a situation that will occur only once during the testing of the bridge. For this load case the bridge has a Comfort Class 3, which is a minimum level of comfort. It is concluded that the Circular Arch Bridge shows sufficient level of comfort for all load cases.

The sensitivity of the input parameters of the finite element model is determined. The given overview of the sensitivity of the input parameters shows the influence that inaccuracy of parameters, or uncertainty of the parameters has on the dynamic properties of the Circular Arch Bridge. The most sensitive input parameter is the modulus of elasticity of the interlayer. The sensitivity analysis shows that a large amount of input parameters have a significant effect on the dynamic properties of the bridge, it is therefore important that the selected values of the parameters are accurate compared to the actual values of the to be constructed bridge.

The effect of big stiffness differences between the interlayer and the stones of the bridge on the dynamic properties is investigated. Finite element analysis shows that the big stiffness differences have a positive result on the dynamic properties of the bridge. In a model where the stiffness differences are minimised the bridge shows significantly worse dynamic behaviour.

It can be concluded that the dry-stacked assembly of the Circular Arch Bridge has a negative effect on the dynamic properties of the bridge. Finite element analysis shows that when an adhesive with a tensile capacity is used as an interlayer, the dynamic properties of the bridge are significantly better.

The vertical acceleration at different levels of structural damping has been analysed. The results are compared to the results of the dynamic assessment where structural damping is assumed to be 5%. For the load case Traffic Class 3 the minimum level of structural damping is 1% in order to be in the same comfort class as in the dynamic assessment performed in this research.

7.2 Recommendations for future research

Unfortunately, the finite element model of the Circular Arch Bridge could not be verified with experiments on the actual bridge, due to the fact that the bridge has not been constructed at the time of this research. It is recommended to conduct experiments on the Circular Arch Bridge once it has been constructed. The results can be used to verify the outcomes of this research but can also contribute into new research on the development of guidelines for structural glass and hybrid structures.

During experiments on the bridge the third and fifth mode shapes should at least be investigated. There are no other specifically interesting mode shapes within the first ten eigenmodes. It is therefore advised that the eigenvalue analysis and the sensitivity analysis are extended to a larger amount of eigenvalues, in order to find other mode shapes that can be used during tuning of the model.

Since the Eurocodes do not provide values for damping, an assumption of the damping parameters was made based upon literature on masonry arch bridges. It is recommended to research the damping parameters of the Circular Arch Bridge after construction.

It is advised that the Circular Arch Bridge has a minimum structural damping of 2%. At this level of structural damping the comfort class of the bridge requires the same as in this research for the most common load cases: Traffic Class 3 and Jogger load.

The load case representing a group of dancing people has been based on literature research only. During the testing on the Circular Arch Bridge, it would be interesting to investigate if this load case is representative for the actual situation.

In this research the shape of the stones of the Circular Arch Bridge has been considered orthogonal. It is recommended to investigate the influence of the shear resisting shape of the stones on the dynamic properties of the Circular Arch Bridge during further research.

Bibliography

- Ambrose, J. (1991). *Simplified Design of Masonry Structures*. United States of America: John Wiley & Sons, Inc.
- Aurik, M. (2017). *Structural Aspects of an Arched Glass Masonry Bridge*. Delft: Delft University of Technology.
- Bachmann, H., Ammann, W. J., Deischl, F., Eisenmann, J., Floegl, I., Hirsch, G. H., . . . Steinbeisser, L. (1995). *Vibration Problems in Structures: Practical Guidelines*. Basel; Boston; Berlin; Birkhäuser: Birkhäuser Verlag Basel.
- Bayraktar, A., & Hökelekli, E. (2021). Nonlinear soil deformability effects on the seismic damage mechanisms of brick and stone masonry arch bridges. *International Journal of Damage Mechanics*, 2021(30(3)), 431-452. doi:10.1177/1056789520974423
- C2CA Technology. (2021, May 10). *Technologie*. Retrieved from C2CA Technology: <https://www.c2ca-technology.nl/technologie/>
- Cuevas, R. G., Jiménez-Alonso, J. F., Martínez, F., & Díaz, I. M. (2020). Assessment of the Lateral Vibration Serviceability Limit State of Slender Footbridges Including the Postlock-in Behaviour. *Applied Sciences*, 10(3), 967. doi:10.3390/app10030967
- da Silva, J., da S. Vellasco, P., de Andrade, S., de Lima, L., & Figueiredo, F. (2007). Vibration analysis of footbridges due to vertical human loads. *Computer and Structures*, 2007(85), 1693 - 1703. doi:<https://doi.org/10.1016/j.compstruc.2007.02.012>
- DELO. (2022, January 5). *DELO Photobond 4468 Technical Datasheet*. Retrieved from DELO Adhesives: <https://www.delo-adhesives.com/products/detail/delo-photobond>
- Demirel, I. O., & Aldemir, A. (2021). Simplified Approach for Seismic Performance Assessment of Dry-Joint Masonry Arch Bridges. *Buildings*, 2021(11), 313. doi:<https://doi.org/10.3390/buildings11070313>
- Gentile, C., & Gallino, N. (2007, February 14). Ambient vibration testing and structural evaluation of an historic suspension footbridge. *Advances in Engineering Software*, 2008(39), 356-366. doi:<https://doi.org/10.1016/j.advengsoft.2007.01.001>
- Hartsuijker, C., & Welleman, H. (2016). Constructiemechanica 3 CTB2210 Module: Stabiliteit van het evenwicht. TU Delft.
- Heinemeyer, C., Butz, C., Keil, A., Schlaich, M., Goldack, A., Trometer, S., . . . Caetano, E. (2009). *Design of Lightweight Footbridges for Human Induced Vibrations*. Luxembourg: Office for Official Publications of the European Communities.
- Heyman, J. (1966). The Stone Skeleton. *International Journal of Solids and Structures*, Volume 2, Issue 2, 249-279.
- Heyman, J. (1995). *The stone skeleton: structural engineering of masonry architecture*. Cambridge: Cambridge University Press.
- Hong, K., & Yoon, K. S. (2003). Dynamic Load Factor for Floor Vibration due to Lively Concert. *The 32nd International Congress and Exposition on Noise Control Engineering*. Seogwipo, Korea: Inter-noise2003.

- Ingólfsson, E. T., Georgakis, C. T., & Jönsson, J. (2012, December). Pedestrian-induced lateral vibrations of footbridges: A literature review. *Engineering Structures*, 21-52. doi:doi.org/10.1016/j.engstruct.2012.05.038
- Le Bourhis, E. (2014). *Glass: Mechanics and Technology*. John Wiley & Sons, Incorporated.
- Ochsendorf, J. A. (2002). *Collapse of Masonry Structures*. Cambridge: University of Cambridge.
- Oikonomopoulou, F., Bristogianni, T., Veer, F. A., & Nijse, R. (2018). The construction of the Crystal Houses façade: challenges and innovations. *Glass Struct Eng*(3), 87-108. doi:<https://doi.org/10.1007/s40940-017-0039-4>
- Pelà, L., Aprile, A., & Benedetti, A. (2013). Comparison of seismic assessment procedures for masonry arch bridges. *Construction and Building Materials*(38), 381-394. doi:<https://doi.org/10.1016/j.conbuildmat.2012.08.046>
- Schittich, C., Staib, G., Balkow, D., Schuler, M., & Sobek, W. (2007). *Glass Construction manual* (2nd edition, revised and expanded ed.). Munich: Institut für internationale Architektur-Dokumentation GmbH and Co.
- Veer, F. A. (2007). The strength of glass, a nontransparent value. *HERON*, 52(1/2: Structural glass).
- Venuti, F., & Bruno, L. (2009). Crowd-structure interaction in lively footbridges under synchronous lateral excitation: A literature review. *Physics of Life Reviews*, 6(3), 176-206. doi:<https://doi.org/10.1016/j.plrev.2009.07.001>
- Welleman, J. W. (2019). In *Notities over kabels en bogen: Parametrisch modelleren met MAPLE* (pp. 34-35). Den Hoorn.
- Xia, M., Nematollahi, B., & Sanjayan, J. G. (2019). *Development of Powder-Based 3D Concrete Printing Using Geopolymers*. Butterworth-Heinemann. doi:<https://doi.org/10.1016/B978-0-12-815481-6.00011-7>

Annex A - Eurocodes for Pedestrian Bridges

In the European Union standards for the design of structures are given by the Eurocodes. In the Netherlands in addition to the European standards there is also a National Annex added that provides additional standards, which have to be applied for structures built in the Netherlands. The Eurocodes provide guidelines for the design of pedestrian bridges. The guidelines for pedestrian bridges are shown in this annex, including the additional guidelines from the Dutch National Annex.

EN 1990 – Basics of structural and geotechnical design

Design situations and associated traffic assumptions

1. The design situations should be selected depending on the pedestrian traffic to be admitted on the individual footbridge during its design working life.
2. Depending on the deck area or the part of the deck area under consideration, the presence of a group of about 8 to 15 persons walking normally should be taken into account for design situations considered as pedestrian design situations.
3. Depending on the deck area or the part of the deck area under consideration, other traffic categories, associated with design situations which may be persistent, transient or accidental, should be specified when relevant, including:
 - the presence of streams of pedestrians (significantly more than 15 persons),
 - occasional festive or choreographic events.

Pedestrian comfort criteria (for serviceability)

1. The maximum allowed acceleration of a random part of the deck is:
 - 0.7 m/s² in case of vertical vibrations,
 - 0.2 m/s² in case of horizontal vibrations due to normal use,
 - 0.4 m/s² in case of exceptional crowd circumstances.
2. A verification of the requirements of the comfort criteria should be made if the natural frequency is smaller than:
 - 5 Hz for vertical vibrations,
 - 2.5 Hz for horizontal (lateral) and torsional vibrations.

National Annex

1. The first two values of the maximum allowed acceleration of a random part of the deck correspond with the mid-value of the medium comfort class CL2 in combination with traffic class 3 TC3 according to the JRC-document *Design of Lightweight Footbridges for Human Induced Vibrations* (see (Heinemeyer, et al., 2009)).

EN 1991 – Actions on structures – Part 2: Traffic loads on bridges

Static models for vertical loads – characteristic values

The loads that need to be taken into account are:

1. a uniformly distributed load, $q_{fk} = 5 \text{ kN/m}^2$,
2. a concentrated load $Q_{fwb} = 10 \text{ kN}$ acting on a $0.10 \text{ m} \times 0.10 \text{ m}$ square,
3. loads representing service vehicles Q_{serv} .

National Annex

1. $Q_{fwb} = 7 \text{ kN}$ acting on a 0.10 m by 0.10 m square.
2. $Q_{serv} = 25 \text{ kN}$, two axles with a distance of 3 m , each axle has a width of 1.75 m , the wheel print is $0.25 \text{ m} \times 0.25 \text{ m}$.
3. In case of a permanent measure being placed preventing the access of all vehicles to the pedestrian bridge, it is not necessary to consider service vehicles on the pedestrian bridge.

Static models for horizontal loads – characteristic values

1. For pedestrian bridges only, a horizontal force Q_{fh} should be taken into account, acting along the bridge deck axis at the pavement level.
2. The characteristic value of the horizontal force should be taken equal to the greater of the following two values:
 - 10 % of the total load corresponding to the uniformly distributed load,
 - 60 % of the total weight of the service vehicle, if relevant.
3. The horizontal force is considered as acting simultaneously with the corresponding vertical load, and in no case with the concentrated load Q_{fwb} .

NOTE This force is normally sufficient to ensure the horizontal longitudinal stability of pedestrian bridges. It does not ensure horizontal transverse stability, which should be ensured by considering other actions or by appropriate design measures.

National Annex

1. The characteristic value of the horizontal force should be taken equal to the greater of the following two values:
 - 10 % of the total load corresponding to the uniformly distributed load,
 - 30 % of the total weight of the service vehicle, if relevant.
2. The horizontal force is considered in longitudinal direction as acting simultaneously with the corresponding vertical load, and in no case with the concentrated load Q_{fwb} .

Dynamic models of pedestrian loads

1. Depending on the dynamic characteristics of the structure, the relevant natural frequencies (corresponding to vertical, horizontal, torsional vibrations) of the main structure of the bridge deck should be determined from an appropriate structural model.
2. Forces exerted by pedestrians with a frequency identical to one of the natural frequencies of the bridge can result into resonance and need to be taken into account for limit state verifications in relation with vibrations. For pedestrians the frequencies are:
 - between 1 and 3 Hz, for vertical vibrations,
 - between 0.5 and 1.5 Hz, for horizontal vibrations,
 - 3 Hz for groups of joggers.
3. Appropriate dynamic models of pedestrian loads and comfort criteria should be defined.

National Annex

1. For the dynamic models of pedestrian bridges the load models of annex **NB.I.1** have to be used.
2. For normal use traffic class 3 (TC3) has to be used. For jogger class JC2 has to be used unless project specifications state different. For the calculation it can be assumed that the joggers are at the normative position and do not change position.
3. In the project specifications other traffic classes (for example a crowd of people) can be applied with the accessory comfort criteria according to A2.4.3.2 of NEN-EN 1990+A1+A1/C2/NB:2019 and accessory maximum accelerations.
4. The harmonic dynamic loads according to annex **NB.I.1** have to be applied together with the uniformly distributed load q_{fk} (given in **Static models for vertical loads – characteristic values**).
5. Vertical accelerations as a result of loads from joggers have to be smaller than or equal to 1.5m/s^2 .
6. Annex **NB.I.1** is not applicable to bridges on which events are held. Comfort criteria have to be given in the project specifications.
7. Intentional dynamic loading of a bridge by persons with the goal to cause failure of the bridge (for instance vandalism) may not lead to exceedance of the ultimate limit state.

NB.I.1 Harmonic load models for pedestrians

When considering the load models for pedestrians a distinction can be made between two load models, depending on the density of the stream:

- load model for TC1 to TC3 (density $d < 1.0 \text{ P/m}^2$);
- load model for TC4 and TC5 (density $d \geq 1.0 \text{ P/m}^2$).

The equivalent pedestrian stream is represented by a distributed harmonic load $p(t)$, given in equation (7.1), for both load models.

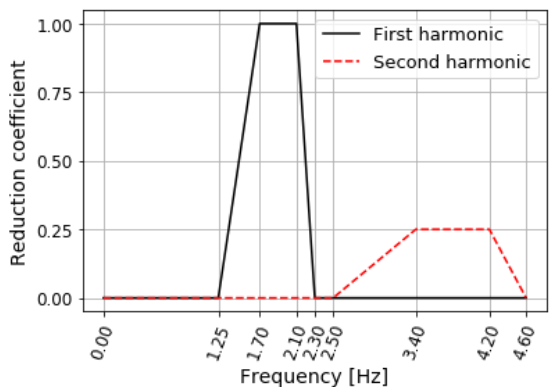
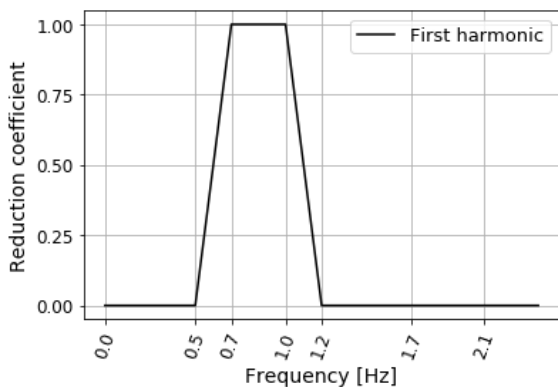
$$p(t) = P \cdot \cos(2\pi f_s t) \cdot n' \cdot \psi \quad (7.1)$$

In which:

$P \cdot \cos(2\pi f_s t)$	is the harmonic load due to a single pedestrian;
P	is the force component due to a single pedestrian with a walking step frequency f_s ;
$p(t)$	is the uniformly distributed harmonic load;
t	is the time;
f_s	is the walking step frequency;
n'	is the equivalent number of pedestrians on loaded surface S ;
S	is the area of the loaded surface;
ψ	is the reduction coefficient, taking into account the probability that the footfall frequency approaches the critical range of natural frequencies under consideration.

All necessary parameters for load models TC1 to TC5 are presented in **Table A - 1**.

Table A - 1: Parameters for load models TC1 to TC5;

P [N]		
Vertical	Longitudinal	Lateral
280	140	35
Reduction coefficient ψ		
Vertical and longitudinal		Lateral
		
Equivalent number of pedestrians n'		
TC1 to TC3		TC4 and TC5
$n' = \frac{10.8\sqrt{\xi \cdot n}}{S} [\text{m}^{-2}]$		$n' = \frac{1.85\sqrt{n}}{S} [\text{m}^{-2}]$
ξ = structural damping coefficient		
n = number of pedestrians on the loaded surface S ($n = S \cdot d$)		

NB.I.3 Harmonic load models for joggers

The load model for joggers is given by a single load $P(t,v)$ that moves across the bridge with a velocity v of the joggers. The single load $P(t,v)$ can be calculated as:

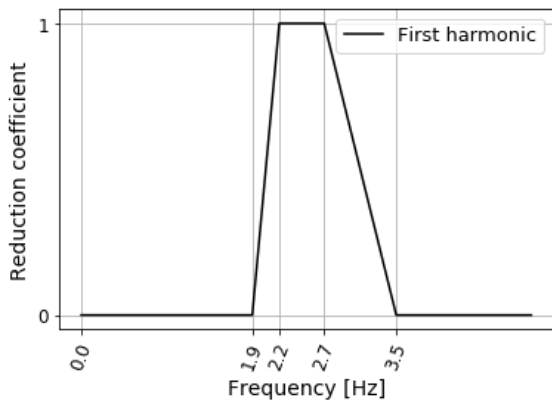
$$P(t, v) = P \cdot \cos(2\pi f t) \cdot n' \cdot \psi \quad (7.2)$$

In which:

- $P \cdot \cos(2\pi f_s t)$ is the harmonic load due to a single pedestrian;
- P is the force component due to a single pedestrian with a walking step frequency f_s ;
- t is the time;
- f is the walking step frequency;
- n' is the equivalent number of pedestrians on loaded surface S ;
- ψ is the reduction coefficient, taking into account the probability that the footfall frequency approaches the critical range of natural frequencies under consideration.

All necessary parameters for the load models for joggers are given in **Table A - 2**.

Table A - 2: Parameters for load models for joggers;

P [N]		
Vertical	Longitudinal	Lateral
1250	-	-
$n' = n []$		
Reduction coefficient ψ		
Vertical		
		

Joggers move across the bridge with a velocity higher than 3 m/s. It may be assumed that $v = 0$, where the load $P(t, v)$ is placed on the position of maximum displacement of the mode shape.

The number of joggers as a function of traffic class and span of the bridge is given in **Table A - 3**.

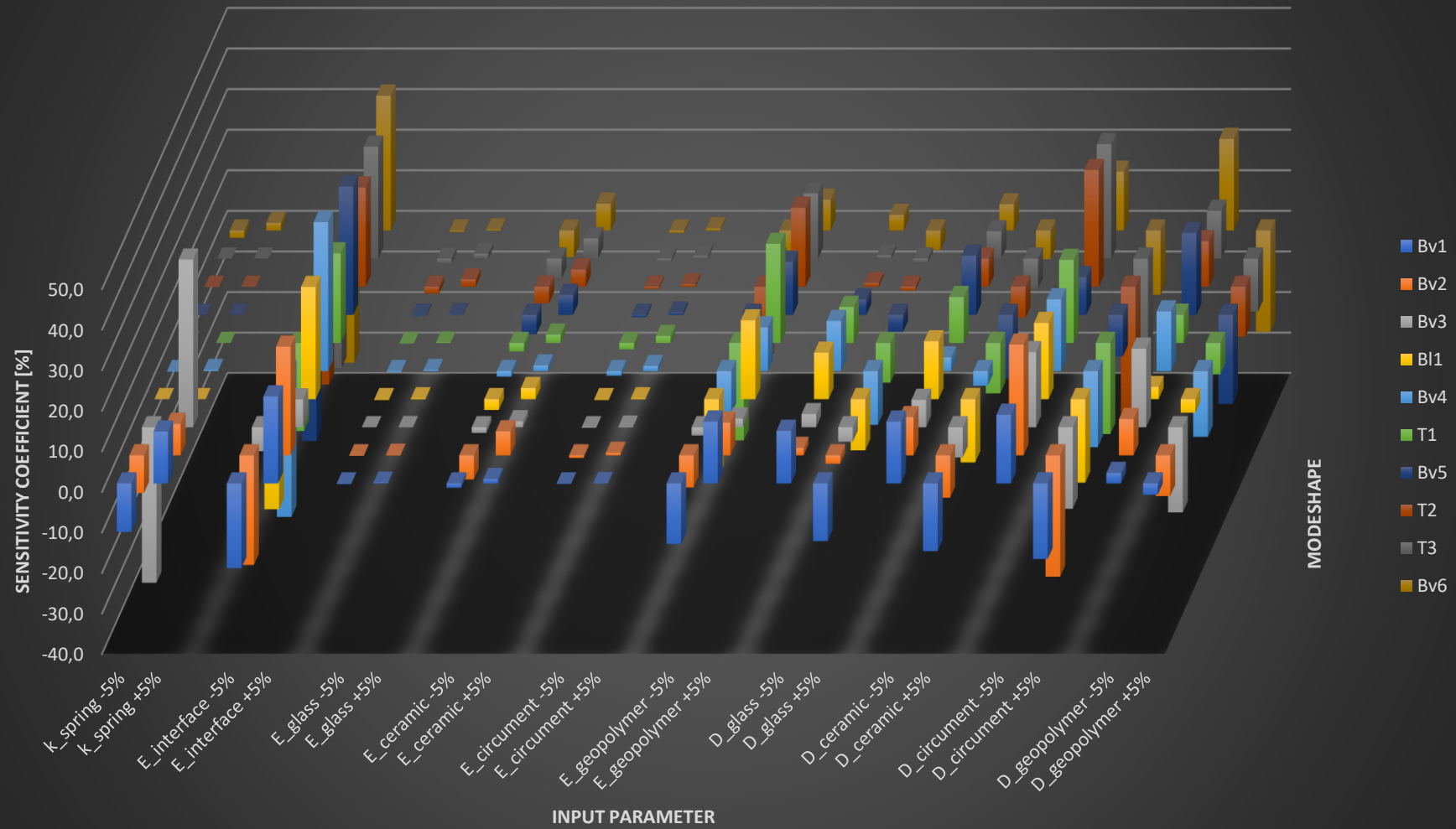
Table A - 3: The number of joggers as a function of traffic class and span of the bridge;

Traffic class		n'	
		L < 30 m	L ≥ 30 m
JC1	Bridges on which groups of synchronised joggers are unlikely (for example: platform bridges, entrance bridges of buildings, hospitals)	0	0
JC2	Bridges on which groups of synchronised joggers occur on incidental occasions (for example: bridges across city canals with a limited width and city bridges with limited pedestrian traffic)	2	4
JC3	Bridges on which joggers walk regularly with other users (for example: bridges near sport parks or event areas)	3	6

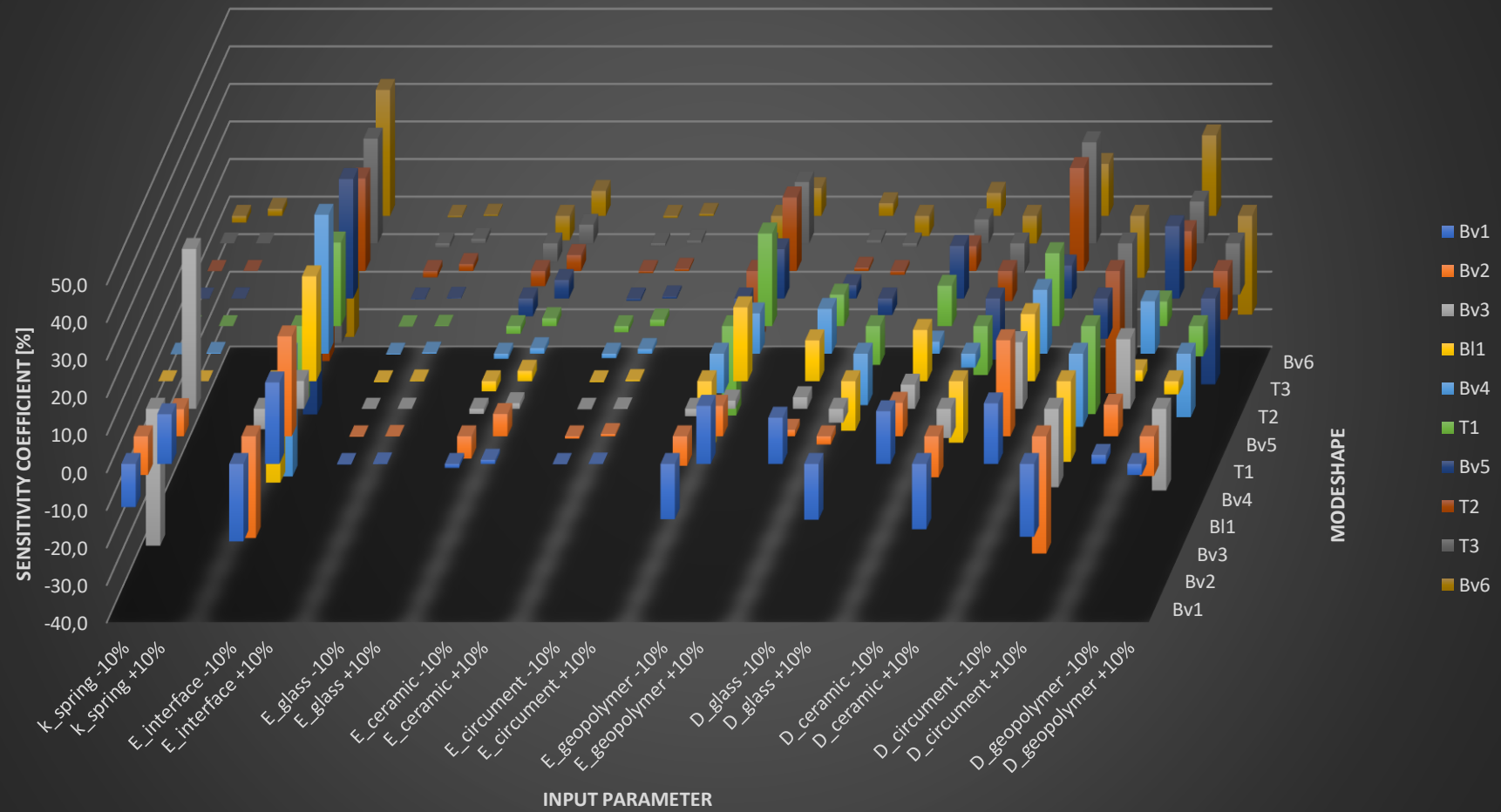
Annex B - Sensitivity Analysis

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Sensitivity of eigenfrequencies from +/- 5% variation



Sensitivity of eigenfrequencies from +/- 10% variation



Sensitivity of eigenfrequencies from +/- 15% variation

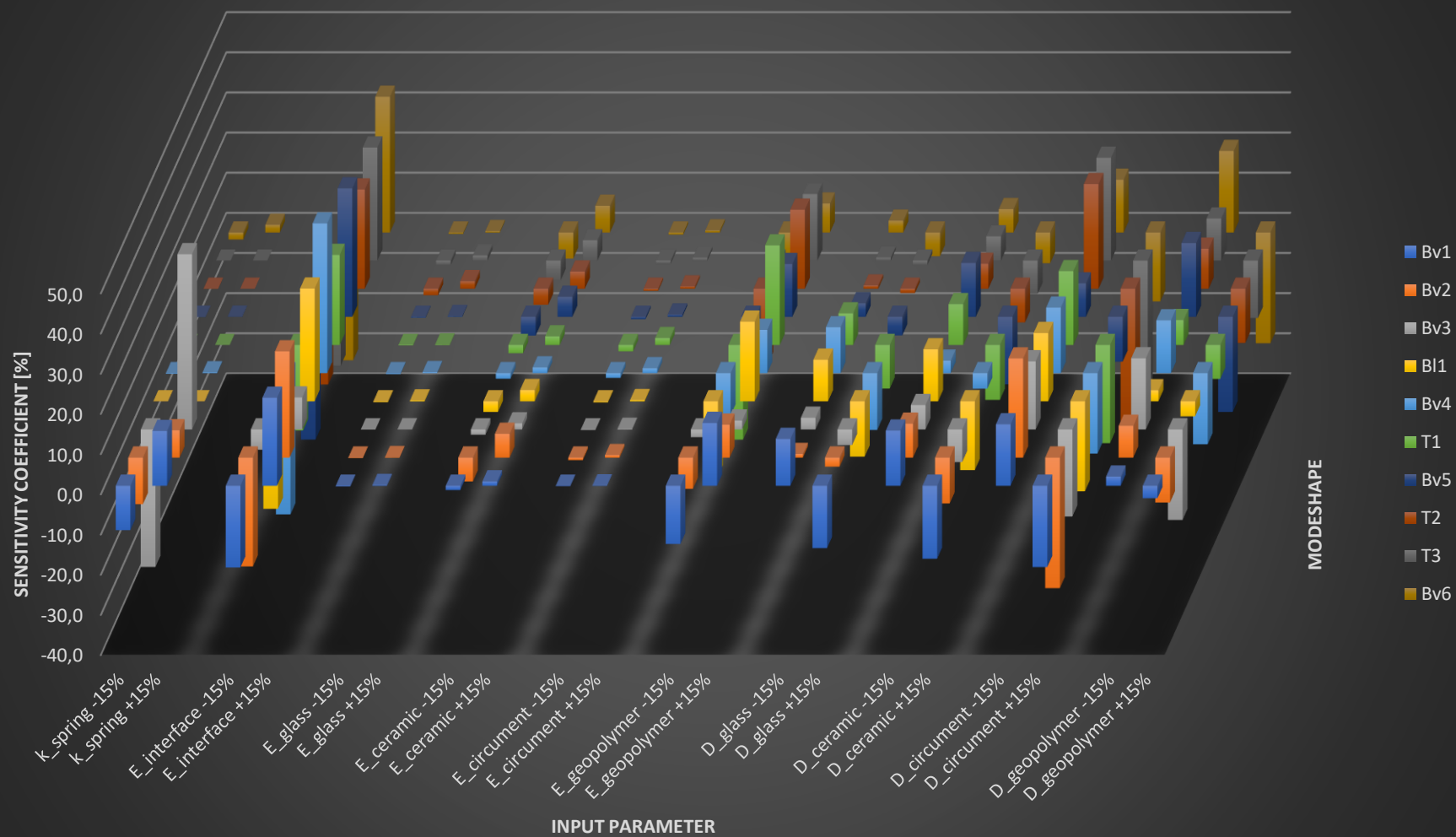


Table B - 1: Full overview of the results of the sensitivity analysis;

	Bv1	Bv2	Bv3	Bl1	Bv4	T1	Bv5	T2	T3	Bv6
E_spring -5%	-11,9	-9,3	-38,3	0,0	-0,1	0,0	-0,1	-0,1	0,0	-1,8
E_spring -10%	-11,5	-10,3	-36,4	0,0	-0,1	0,0	0,0	0,0	0,0	-1,8
E_spring -15%	-11,0	-11,6	-34,2	0,0	-0,1	0,0	0,0	0,0	0,0	-1,8
E_spring +5%	12,8	7,8	41,3	0,0	0,3	0,0	0,0	0,0	0,0	1,9
E_spring +10%	13,2	7,2	42,5	0,0	0,2	0,0	0,0	0,0	0,0	1,9
E_spring +15%	13,6	6,8	43,6	0,0	0,2	0,0	0,0	0,0	0,0	1,9
E_interface -5%	-20,9	-27,0	-5,9	-27,2	-36,0	-21,7	-31,1	-24,1	-26,9	-32,6
E_interface -10%	-20,6	-27,1	-5,5	-27,0	-32,7	-21,5	-30,9	-24,0	-26,6	-32,2
E_interface -15%	-20,3	-27,1	-5,1	-26,8	-35,1	-21,3	-30,6	-23,8	-26,2	-31,8
E_interface +5%	3,6	7,6	9,1	10,9	15,4	19,6	24,3	25,4	28,5	35,1
E_interface +10%	3,6	7,7	9,1	11,0	15,7	19,8	24,7	25,7	28,8	35,7
E_interface +15%	3,6	7,8	9,2	11,1	15,9	20,0	25,0	26,0	29,2	36,2
E_glass -5%	-0,2	-0,1	0,0	-0,2	-0,3	-0,1	-0,2	-1,7	-1,2	-0,3
E_glass -10%	-0,2	-0,1	0,0	-0,3	-0,2	-0,1	-0,2	-1,7	-1,1	-0,3
E_glass -15%	-0,2	-0,1	0,0	-0,2	-0,2	-0,1	-0,2	-1,6	-1,1	-0,3
E_glass +5%	0,2	0,1	0,0	0,2	0,3	0,1	0,2	1,8	1,2	0,3
E_glass +10%	0,2	0,1	0,0	0,2	0,3	0,1	0,2	1,8	1,2	0,3
E_glass +15%	0,2	0,1	0,0	0,2	0,3	0,1	0,2	1,9	1,3	0,3
E_ceramic -5%	-1,1	-5,9	-1,4	-2,7	-1,4	-2,1	-4,8	-4,1	-4,9	-6,6
E_ceramic -10%	-1,1	-5,9	-1,4	-2,7	-1,4	-2,0	-4,7	-4,0	-4,9	-6,5
E_ceramic -15%	-1,1	-5,9	-1,3	-2,7	-1,4	-2,1	-4,7	-4,0	-4,8	-6,5
E_ceramic +5%	1,1	5,9	1,5	2,7	1,4	2,1	4,9	4,3	5,0	6,6
E_ceramic +10%	1,1	5,9	1,5	2,8	1,5	2,1	4,9	4,2	5,0	6,6
E_ceramic +15%	1,1	5,9	1,5	2,8	1,4	2,1	5,0	4,3	5,0	6,7
E_circument -5%	-0,1	-0,6	-0,1	-0,2	-1,1	-1,6	-0,6	-0,5	-0,7	-0,5
E_circument -10%	-0,1	-0,6	-0,1	-0,3	-1,2	-1,6	-0,6	-0,5	-0,7	-0,5

E_circument -15%	-0,1	-0,6	-0,1	-0,3	-1,2	-1,6	-0,6	-0,5	-0,7	-0,5
E_circument +5%	0,1	0,6	0,1	0,2	1,2	1,7	0,5	0,6	0,7	0,5
E_circument +10%	0,1	0,6	0,1	0,3	1,2	1,7	0,6	0,6	0,7	0,5
E_circument +15%	0,1	0,6	0,1	0,3	1,2	1,7	0,6	0,6	0,7	0,5
E_geopolymer -5%	-14,9	-7,9	-2,0	-19,2	-10,6	-24,0	-12,9	-19,0	-15,7	-7,9
E_geopolymer -10%	-14,7	-7,8	-2,0	-18,9	-10,5	-23,8	-12,8	-18,8	-15,4	-8,1
E_geopolymer -15%	-14,5	-7,8	-1,9	-18,7	-10,5	-23,5	-12,7	-18,6	-15,2	-8,2
E_geopolymer +5%	15,3	8,1	2,1	19,4	10,8	24,4	13,1	19,5	16,1	7,6
E_geopolymer +10%	15,5	8,1	2,2	19,7	10,7	24,6	13,1	19,6	16,4	7,4
E_geopolymer +15%	15,6	8,2	2,2	19,8	10,7	24,8	13,2	19,7	16,6	7,2
D_glass -5%	13,0	1,8	3,2	11,5	12,4	8,9	3,8	0,9	0,8	3,8
D_glass -10%	12,3	1,8	3,1	10,9	11,9	8,4	3,6	0,9	0,8	3,4
D_glass -15%	11,6	0,9	2,9	10,3	11,4	7,9	3,4	0,8	0,8	3,0
D_glass +5%	-14,2	-2,1	-3,6	-12,6	-13,3	-9,8	-4,2	-0,9	-1,0	-4,8
D_glass +10%	-14,9	-2,2	-3,7	-13,2	-13,7	-10,3	-4,4	-1,0	-1,0	-5,4
D_glass +15%	-15,5	-2,3	-3,9	-13,8	-14,1	-10,8	-4,6	-1,1	-1,0	-5,9
D_ceramic -5%	15,2	9,4	6,8	14,3	3,4	11,3	14,6	6,9	6,7	6,5
D_ceramic -10%	14,0	8,9	6,4	13,7	3,2	10,7	14,0	6,6	6,4	6,1
D_ceramic -15%	13,7	8,4	6,1	12,9	3,1	10,2	13,4	6,2	6,0	5,8
D_ceramic +5%	-16,7	-10,4	-7,4	-15,6	-3,6	-12,4	-15,7	-7,6	-7,5	-7,1
D_ceramic +10%	-17,4	-10,9	-7,8	-16,4	-3,7	-13,0	-16,3	-8,0	-7,9	-7,4
D_ceramic +15%	-18,1	-11,4	-8,1	-17,1	-3,9	-13,7	-16,8	-8,4	-8,2	-7,7
D_circument -5%	16,9	27,3	18,5	18,8	17,7	20,5	9,2	28,8	28,2	14,5
D_circument -10%	16,1	25,6	17,7	17,9	17,0	19,4	8,8	27,4	26,9	13,8
D_circument -15%	15,3	24,7	16,9	17,0	16,3	18,4	8,3	26,1	25,6	13,1
D_circument +5%	-18,6	-29,9	-20,1	-20,6	-18,8	-22,5	-10,2	-31,3	-30,9	-15,8
D_circument +10%	-19,4	-31,2	-20,9	-21,5	-19,5	-23,4	-10,7	-32,6	-32,1	-16,5

D_circument +15%	-20,2	-32,5	-21,6	-22,4	-20,0	-24,4	-11,2	-33,8	-33,4	-17,2
D_geopolymer -5%	2,6	8,9	19,4	3,0	14,7	6,9	20,2	11,2	11,8	22,6
D_geopolymer -10%	2,4	8,4	18,5	2,9	13,9	6,5	19,3	10,6	11,1	21,4
D_geopolymer -15%	2,3	7,9	17,7	2,7	13,1	6,2	18,4	10,0	10,5	20,3
D_geopolymer +5%	-2,8	-10,0	-21,0	-3,3	-16,2	-7,7	-22,0	-12,3	-13,1	-25,0
D_geopolymer +10%	-3,0	-10,6	-21,8	-3,5	-16,9	-8,1	-22,8	-12,9	-13,7	-26,3
D_geopolymer +15%	-3,1	-11,2	-22,5	-3,7	-17,7	-8,4	-23,7	-13,5	-14,3	-27,6

Annex C - Description of the Finite Element Model

This section gives a full description of the finite element model. The purpose of this section is for the reader to be able to recreate the finite element model, so that further studies of the Circular Arch Bridge becomes possible. The model is created in Diana FEA Release 10.5. The available license modules within Diana were:

- Basic
- Expert
- Structural I
- Structural II
- Geotech
- Advanced Dynamics
- Liquefaction
- Heat
- Probab

Model Setup

The setup has to be used for the project

The screenshot shows the 'New project' dialog box with the following settings:

- Project name:** Circular Arch Bridge
- Create in:** neDrive\TU\2020-2021\Scriptie (with a 'Browse...' button)
- ☐ Use as default projects location
- Analysis:**
 - ☒ Structural
 - ☐ Heat flow
 - ☐ Groundwater flow
 - ☐ Design analysis
 - ☐ Mixture flow-stress
 - ☐ Enthalpy flow-stress
 - ☐ Fluid-structure interaction
- Dimensions:** Three dimensional
- Model size:** 100 m (with a dropdown arrow)
- Modelling box:** from (-50, -50, -50) to (50, 50, 50)
- Default mesher type:** Hexa/Quad
- Default mesh order:** Quadratic
- Mid-side node location:** Linear interpolation

At the bottom, there are three buttons: 'OK' (highlighted with a blue border), 'Cancel', and 'Help'.

Run saved script

Next step is to run a saved script. This can be done by copying the entire text of the **Script** (end of this annex) into the notepad of your computer, then save as .py (python) file as shown below:

Bestandsnaam:	Script.py
Opslaan als:	Alle bestanden

Use the “Run saved script” (CTRL+R) command in Diana and select the .py file.

Diana will now run the script, this will setup the entire geometry, assign all used materials, assign the interfaces, assign the supports, assign the loads, and generate the mesh.

Setup Analyses

This section gives a guide to setup all the used analyses of the studies.

Eigenvalue analysis

Add analysis

Add command: Structural Eigenvalue

Right click: Execute eigenvalue analysis. Enter the following

The screenshot shows a dialog box titled "Properties - EXECUT". It contains the following settings:

- ☒ Execute eigenvalue analysis
- Solution method: Implicitly restarted Arnoldi method
- Solver type: Parallel direct
- Number of threads: (empty field)
- Number of eigenfrequencies: 10
- Lower bound of search interval: (empty field) Hz
- Upper bound of search interval: (empty field) Hz
- Shift frequency: (empty field) Hz

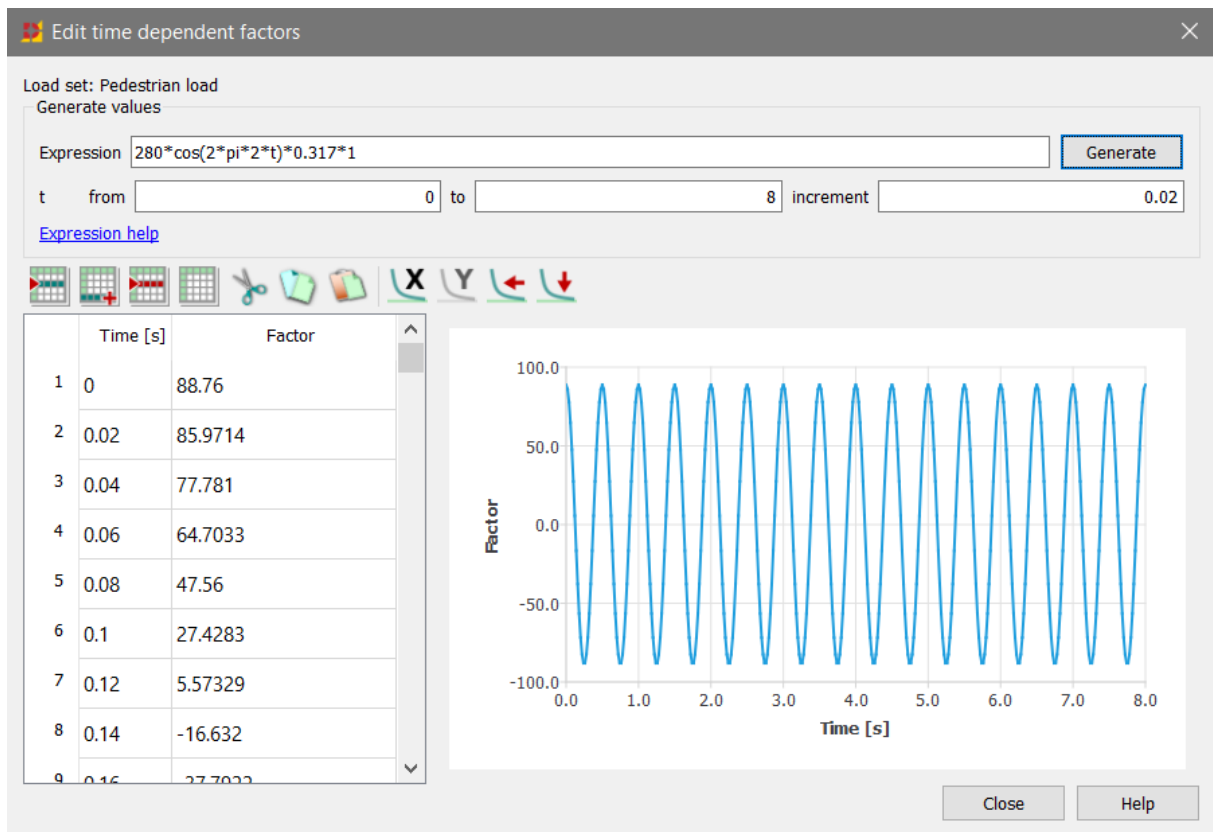
At the bottom, there are "Close" and "Help" buttons.

Pedestrian/Dancing Group Load Cases

The example given is for TC3 Vertical. TC3 second harmonic, TC5 and TC5 second harmonic are done the same way, but with a different equation. For the lateral analysis, the lateral pedestrian load should be selected. The analysis for the dancing group is also done the same way, but only has a vertical load component.

In Geometry > Loads > Pedestrian load: Edit time dependent factors

Enter the given expression for the vertical load of the load case:



Add analysis

Add command: Phased

Add command: Structural nonlinear

New execute block > Load steps > edit properties:

Properties - LOAD

☒ Execute load steps

Load

Load set: Static load

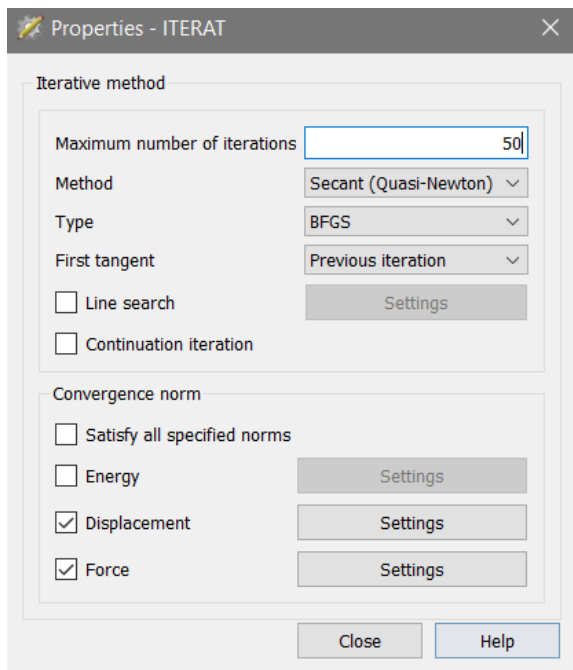
Load steps

☒ User specified sizes: 0.100000(10) Settings

☐ Arc length control

☐ Automatic step sizes Settings

Close Help



The 'Properties - ITERAT' dialog box is used to configure iterative methods. It features a 'Maximum number of iterations' field set to 50. The 'Method' is set to 'Secant (Quasi-Newton)' and the 'Type' is 'BFGS'. The 'First tangent' is set to 'Previous iteration'. There are checkboxes for 'Line search' and 'Continuation iteration', both of which are unchecked. A 'Settings' button is located next to the 'Line search' checkbox. Below these, the 'Convergence norm' section includes a checkbox for 'Satisfy all specified norms' (unchecked) and three checkboxes for 'Energy', 'Displacement', and 'Force'. The 'Displacement' and 'Force' checkboxes are checked, and each has a corresponding 'Settings' button. At the bottom, there are 'Close' and 'Help' buttons.

Properties - ITERAT

Iterative method

Maximum number of iterations: 50

Method: Secant (Quasi-Newton)

Type: BFGS

First tangent: Previous iteration

☐ Line search

☐ Continuation iteration

Convergence norm

☐ Satisfy all specified norms

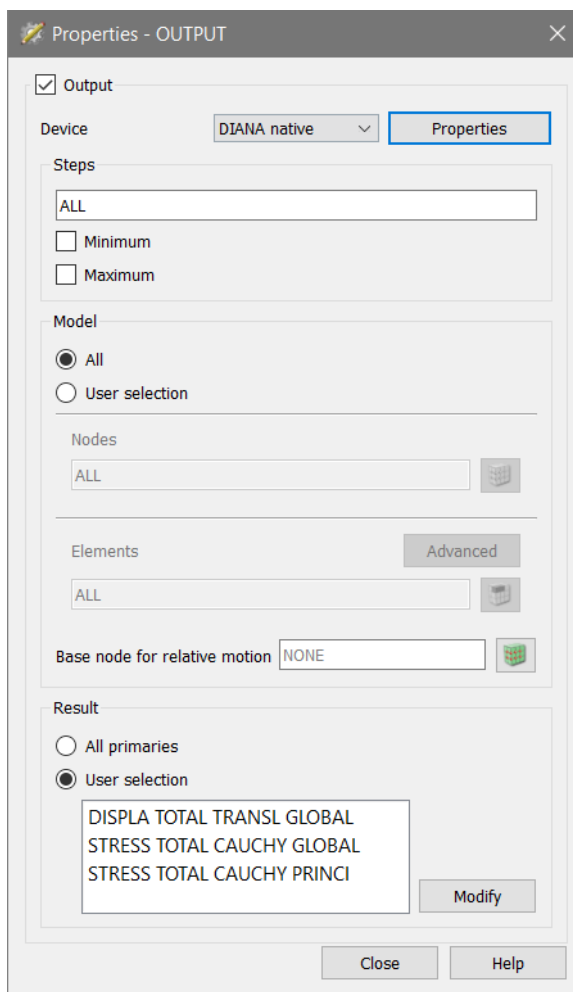
☐ Energy

☒ Displacement

☒ Force

Close Help

Output > edit properties:



The 'Properties - OUTPUT' dialog box is used to configure output settings. It features a 'Device' dropdown set to 'DIANA native' and a 'Properties' button. The 'Steps' section has a text field set to 'ALL' and checkboxes for 'Minimum' and 'Maximum'. The 'Model' section has radio buttons for 'All' (selected) and 'User selection'. The 'Nodes' section has a text field set to 'ALL' and a '3D' icon. The 'Elements' section has a text field set to 'ALL' and an 'Advanced' button. The 'Base node for relative motion' section has a text field set to 'NONE' and a '3D' icon. The 'Result' section has radio buttons for 'All primaries' and 'User selection' (selected). A text box contains the output list: 'DISPLA TOTAL TRANSL GLOBAL', 'STRESS TOTAL CAUCHY GLOBAL', and 'STRESS TOTAL CAUCHY PRINCI'. A 'Modify' button is next to the text box. At the bottom, there are 'Close' and 'Help' buttons.

Properties - OUTPUT

☒ Output

Device: DIANA native

Properties

Steps

ALL

☐ Minimum

☐ Maximum

Model

☒ All

☐ User selection

Nodes

ALL

Elements

Advanced

ALL

Base node for relative motion: NONE

Result

☐ All primaries

☒ User selection

DISPLA TOTAL TRANSL GLOBAL
STRESS TOTAL CAUCHY GLOBAL
STRESS TOTAL CAUCHY PRINCI

Modify

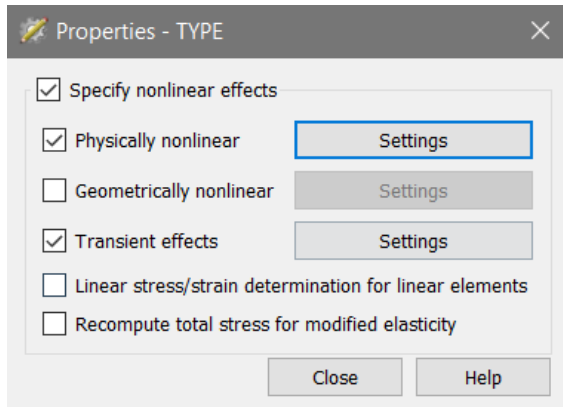
Close Help

Add command: Phased

Add command: Structural nonlinear

Delete: new execute block

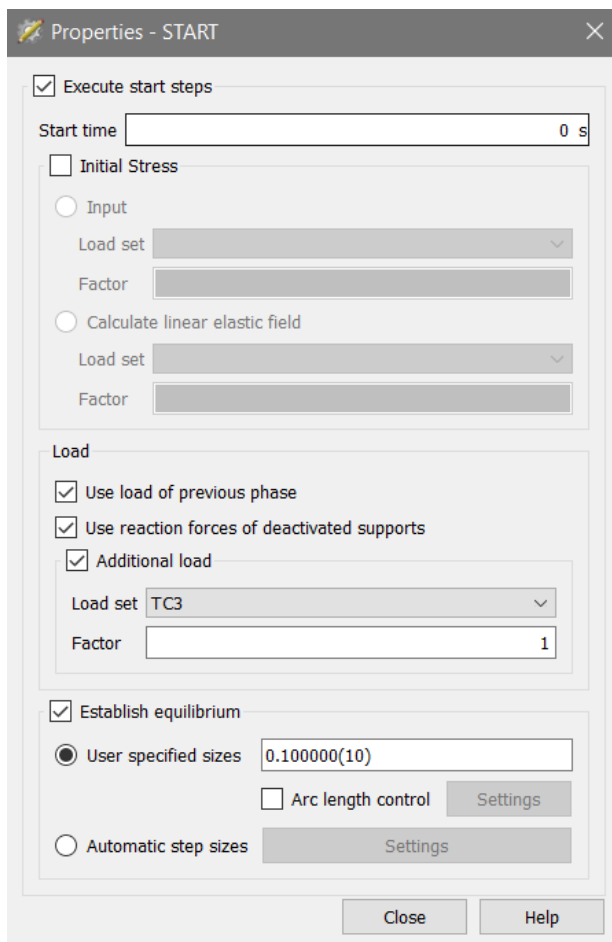
Nonlinear effects > edit properties



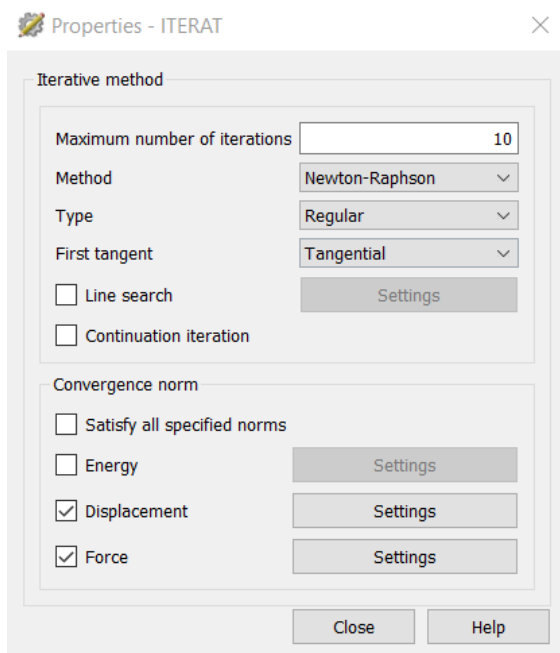
Equilibrium iteration > edit properties:

Add: Execute steps – start steps

Start steps > edit properties:



Equilibrium iteration > edit properties:



Properties - ITERAT

Iterative method

Maximum number of iterations: 10

Method: Newton-Raphson

Type: Regular

First tangent: Tangential

☐ Line search

☐ Continuation iteration

Convergence norm

☐ Satisfy all specified norms

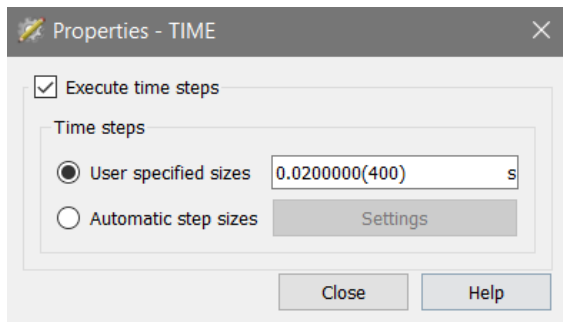
☐ Energy

☒ Displacement

☒ Force

Close Help

Add: Execute steps – time steps
Time steps > edit properties:



Properties - TIME

☒ Execute time steps

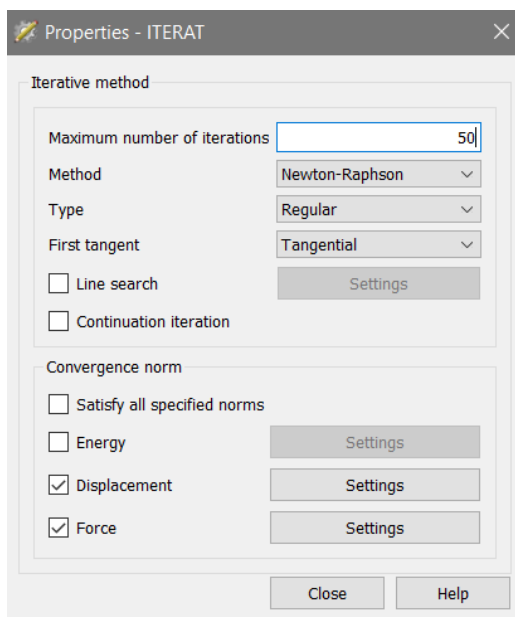
Time steps

☒ User specified sizes: 0.0200000(400) s

☐ Automatic step sizes

Close Help

Equilibrium iteration > edit properties:



Properties - ITERAT

Iterative method

Maximum number of iterations: 50

Method: Newton-Raphson

Type: Regular

First tangent: Tangential

☐ Line search

☐ Continuation iteration

Convergence norm

☐ Satisfy all specified norms

☐ Energy

☒ Displacement

☒ Force

Close Help

Output > edit properties:

Properties - OUTPUT

☒ Output

Device: DIANA native Properties

Steps

ALL

☐ Minimum

☐ Maximum

Model

☒ All

☐ User selection

Nodes

ALL Properties

Elements Advanced

ALL Properties

Base node for relative motion: NONE Properties

Result

☐ All primaries

☒ User selection

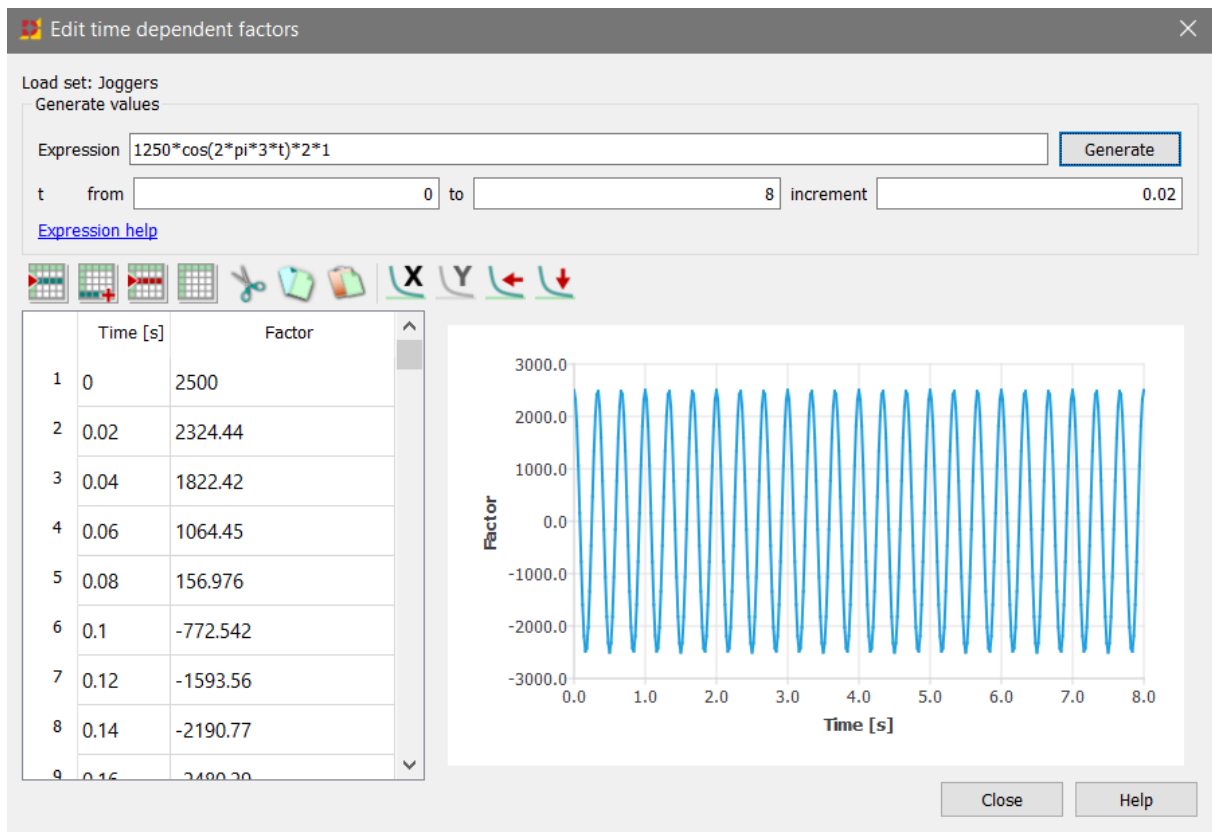
DISPLA TOTAL TRANSL GLOBAL
ACCELE TOTAL TRANSL GLOBAL
STRESS TOTAL CAUCHY GLOBAL
STRESS TOTAL CAUCHY PRINCI

Modify

Close Help

Jogger Load Cases

In Geometry > Loads > Joggers: Edit time dependent factors
Enter the given expression for the vertical load of the load case:

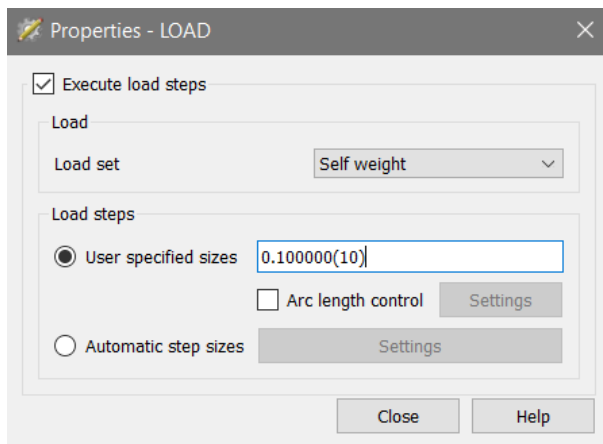


Add analysis

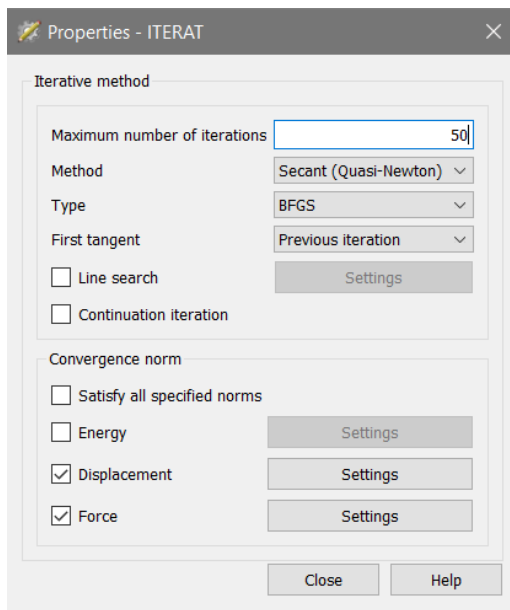
Add command: Phased

Add command: Structural nonlinear

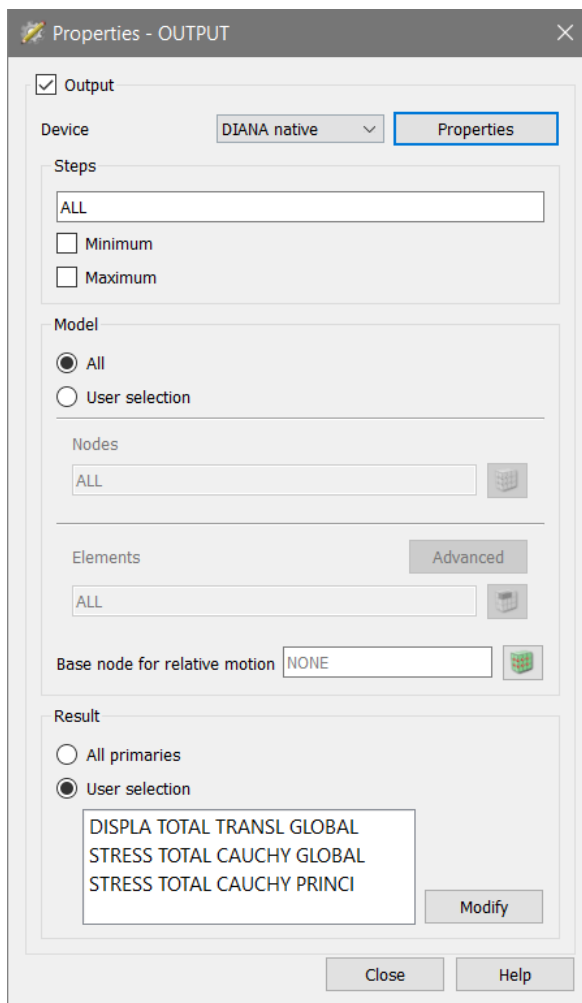
New execute block > Load steps> edit properties:



Equilibrium iteration > edit properties:



Output > edit properties:

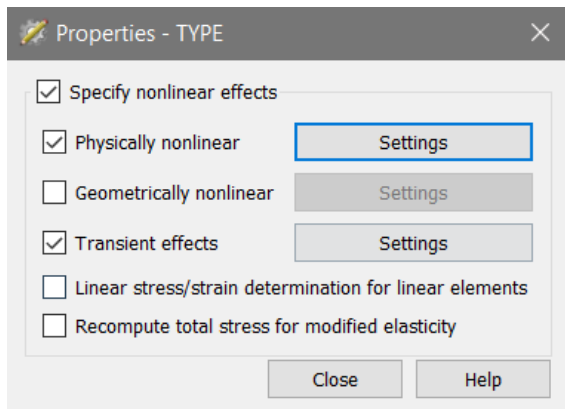


Add command: Phased

Add command: Structural nonlinear

Delete: new execute block

Nonlinear effects > edit properties



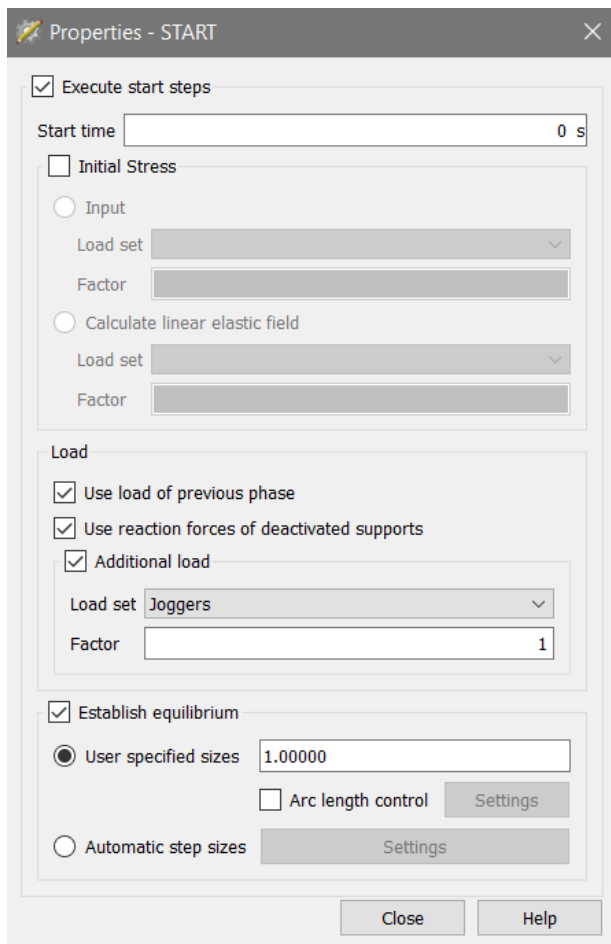
The 'Properties - TYPE' dialog box contains the following settings:

- ☒ Specify nonlinear effects
 - ☒ Physically nonlinear (Settings button)
 - ☐ Geometrically nonlinear (Settings button)
 - ☒ Transient effects (Settings button)
 - ☐ Linear stress/strain determination for linear elements
 - ☐ Recompute total stress for modified elasticity

Buttons: Close, Help

Add: Execute steps – start steps

Start steps > edit properties:

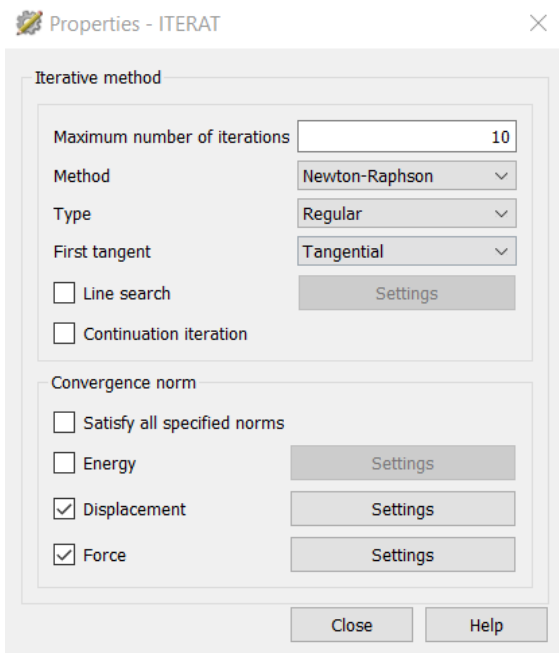


The 'Properties - START' dialog box contains the following settings:

- ☒ Execute start steps
 - Start time: 0 s
 - ☐ Initial Stress
 - ☐ Input
 - Load set: [dropdown]
 - Factor: [text box]
 - ☐ Calculate linear elastic field
 - Load set: [dropdown]
 - Factor: [text box]
 - Load**
 - ☒ Use load of previous phase
 - ☒ Use reaction forces of deactivated supports
 - ☒ Additional load
 - Load set: Joggers [dropdown]
 - Factor: 1 [text box]
 - ☒ Establish equilibrium
 - ☒ User specified sizes: 1.00000 [text box]
 - ☐ Arc length control (Settings button)
 - ☐ Automatic step sizes (Settings button)

Buttons: Close, Help

Equilibrium iteration > edit properties:



Properties - ITERAT

Iterative method

Maximum number of iterations: 10

Method: Newton-Raphson

Type: Regular

First tangent: Tangential

☐ Line search

☐ Continuation iteration

Convergence norm

☐ Satisfy all specified norms

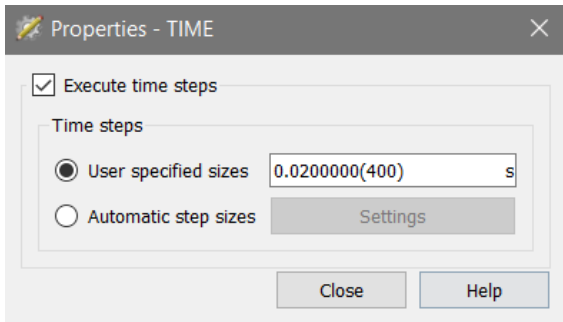
☐ Energy

☒ Displacement

☒ Force

Close Help

Add: Execute steps – time steps
Time steps > edit properties:



Properties - TIME

☒ Execute time steps

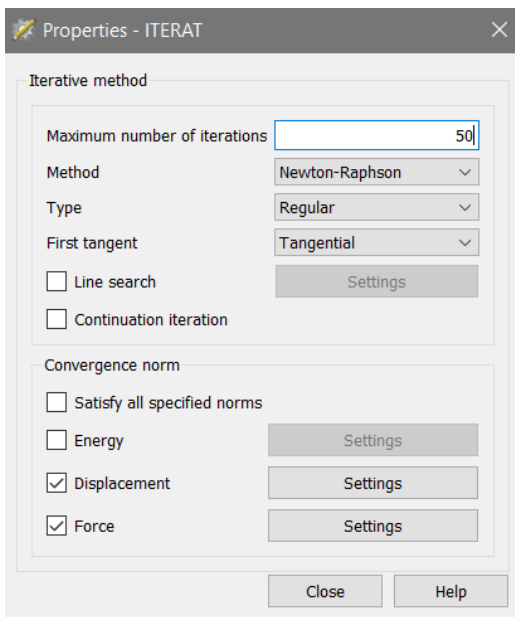
Time steps

☒ User specified sizes: 0.0200000(400) s

☐ Automatic step sizes

Close Help

Equilibrium iteration > edit properties:



Properties - ITERAT

Iterative method

Maximum number of iterations: 50

Method: Newton-Raphson

Type: Regular

First tangent: Tangential

☐ Line search

☐ Continuation iteration

Convergence norm

☐ Satisfy all specified norms

☐ Energy

☒ Displacement

☒ Force

Close Help

Output > edit properties:

Properties - OUTPUT

☒ Output

Device: DIANA native

Steps: ALL

Model: ☒ All

Nodes: ALL

Elements: ALL

Base node for relative motion: NONE

Result: ☒ User selection

DISPLA TOTAL TRANSL GLOBAL
ACCELE TOTAL TRANSL GLOBAL
STRESS TOTAL CAUCHY GLOBAL
STRESS TOTAL CAUCHY PRINC

Close Help

Script

```
createSheet( "Sheet 1", [[ [-7.083834, 0.595167, 0], [-6.886989, 0.634159, 0], [-6.772046, 0.045272, 0], [-6.965606, 0.006931, 0]]])
createSheet( "Sheet 2", [[ [-6.886989, 0.634159, 0], [-6.689886, 0.67206, 0], [-6.578233, 0.08254, 0], [-6.772046, 0.045272, 0]]])
createSheet( "Sheet 3", [[ [-6.689886, 0.67206, 0], [-6.492535, 0.708867, 0], [-6.384175, 0.118733, 0], [-6.578233, 0.08254, 0]]])
createSheet( "Sheet 4", [[ [-6.492535, 0.708867, 0], [-6.294944, 0.744578, 0], [-6.189882, 0.153848, 0], [-6.384175, 0.118733, 0]]])
createSheet( "Sheet 5", [[ [-6.294944, 0.744578, 0], [-6.097123, 0.779191, 0], [-5.995362, 0.187884, 0], [-6.189882, 0.153848, 0]]])
createSheet( "Sheet 6", [[ [-6.097123, 0.779191, 0], [-5.89908, 0.812704, 0], [-5.800625, 0.220837, 0], [-5.995362, 0.187884, 0]]])
createSheet( "Sheet 7", [[ [-5.89908, 0.812704, 0], [-5.700825, 0.845114, 0], [-5.60568, 0.252706, 0], [-5.800625, 0.220837, 0]]])
createSheet( "Sheet 8", [[ [-5.700825, 0.845114, 0], [-5.502368, 0.876419, 0], [-5.410534, 0.283488, 0], [-5.60568, 0.252706, 0]]])
createSheet( "Sheet 9", [[ [-5.502368, 0.876419, 0], [-5.303717, 0.906618, 0], [-5.215199, 0.313183, 0], [-5.410534, 0.283488, 0]]])
createSheet( "Sheet 10", [[ [-5.303717, 0.906618, 0], [-5.104882, 0.935709, 0], [-5.019682, 0.341789, 0], [-5.215199, 0.313183, 0]]])
createSheet( "Sheet 11", [[ [-5.104882, 0.935709, 0], [-4.905872, 0.96369, 0], [-4.823993, 0.369303, 0], [-5.019682, 0.341789, 0]]])
createSheet( "Sheet 12", [[ [-4.905872, 0.96369, 0], [-4.706696, 0.99056, 0], [-4.628141, 0.395725, 0], [-4.823993, 0.369303, 0]]])
createSheet( "Sheet 13", [[ [-4.706696, 0.99056, 0], [-4.507363, 1.016317, 0], [-4.432136, 0.421052, 0], [-4.628141, 0.395725, 0]]])
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createSheet( "Sheet 15", [[ [-4.307883, 1.04096, 0], [-4.108266, 1.064488, 0], [-4.051127, 0.567764, 0], [-4.235985, 0.445284, 0]]])
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createSheet( "Sheet 17", [[ [-3.948405, 1.082515, 0], [-3.788446, 1.099828, 0], [-3.735756, 0.602612, 0], [-3.89349, 0.585539, 0]]])
createSheet( "Sheet 18", [[ [-3.788446, 1.099828, 0], [-3.628394, 1.116426, 0], [-3.577929, 0.61898, 0], [-3.735756, 0.602612, 0]]])
createSheet( "Sheet 19", [[ [-3.628394, 1.116426, 0], [-3.468253, 1.13231, 0], [-3.420016, 0.634642, 0], [-3.577929, 0.61898, 0]]])
createSheet( "Sheet 20", [[ [-3.468253, 1.13231, 0], [-3.308028, 1.147478, 0], [-3.262019, 0.6496, 0], [-3.420016, 0.634642, 0]]])
createSheet( "Sheet 21", [[ [-3.308028, 1.147478, 0], [-3.147723, 1.16193, 0], [-3.103944, 0.66385, 0], [-3.262019, 0.6496, 0]]])
createSheet( "Sheet 22", [[ [-3.147723, 1.16193, 0], [-2.987345, 1.175665, 0], [-2.945796, 0.677394, 0], [-3.103944, 0.66385, 0]]])
createSheet( "Sheet 23", [[ [-2.987345, 1.175665, 0], [-2.826896, 1.188682, 0], [-2.787579, 0.690231, 0], [-2.945796, 0.677394, 0]]])
createSheet( "Sheet 24", [[ [-2.826896, 1.188682, 0], [-2.666384, 1.200982, 0], [-2.629299, 0.702359, 0], [-2.787579, 0.690231, 0]]])
createSheet( "Sheet 25", [[ [-2.666384, 1.200982, 0], [-2.505811, 1.212563, 0], [-2.470959, 0.713779, 0], [-2.629299, 0.702359, 0]]])
createSheet( "Sheet 26", [[ [-2.505811, 1.212563, 0], [-2.345183, 1.223425, 0], [-2.312566, 0.72449, 0], [-2.470959, 0.713779, 0]]])
createSheet( "Sheet 27", [[ [-2.345183, 1.223425, 0], [-2.184505, 1.233568, 0], [-2.154122, 0.734492, 0], [-2.312566, 0.72449, 0]]])
createSheet( "Sheet 28", [[ [-2.184505, 1.233568, 0], [-2.023781, 1.242991, 0], [-2.001263, 0.843625, 0], [-2.154122, 0.734492, 0]]])
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```

```

createSheet( "Sheet 30", [[ -1.902993, 1.249598, 0 ], [ -1.782176, 1.255798, 0 ], [ -1.762347, 0.85629, 0 ], [ -1.881819, 0.850159, 0 ] ] )
createSheet( "Sheet 31", [[ -1.782176, 1.255798, 0 ], [ -1.661335, 1.261592, 0 ], [ -1.64285, 0.86202, 0 ], [ -1.762347, 0.85629, 0 ] ] )
createSheet( "Sheet 32", [[ -1.661335, 1.261592, 0 ], [ -1.540469, 1.26698, 0 ], [ -1.523329, 0.867347, 0 ], [ -1.64285, 0.86202, 0 ] ] )
createSheet( "Sheet 33", [[ -1.540469, 1.26698, 0 ], [ -1.419582, 1.271961, 0 ], [ -1.403787, 0.872273, 0 ], [ -1.523329, 0.867347, 0 ] ] )
createSheet( "Sheet 34", [[ -1.419582, 1.271961, 0 ], [ -1.298676, 1.276535, 0 ], [ -1.284226, 0.876796, 0 ], [ -1.403787, 0.872273, 0 ] ] )
createSheet( "Sheet 35", [[ -1.298676, 1.276535, 0 ], [ -1.177752, 1.280703, 0 ], [ -1.164648, 0.880917, 0 ], [ -1.284226, 0.876796, 0 ] ] )
createSheet( "Sheet 36", [[ -1.177752, 1.280703, 0 ], [ -1.056813, 1.284463, 0 ], [ -1.045054, 0.884636, 0 ], [ -1.164648, 0.880917, 0 ] ] )
createSheet( "Sheet 37", [[ -1.056813, 1.284463, 0 ], [ -0.93586, 1.287817, 0 ], [ -0.925447, 0.887952, 0 ], [ -1.045054, 0.884636, 0 ] ] )
createSheet( "Sheet 38", [[ -0.93586, 1.287817, 0 ], [ -0.814896, 1.290763, 0 ], [ -0.808096, 0.99084, 0 ], [ -0.925447, 0.887952, 0 ] ] )
createSheet( "Sheet 39", [[ -0.814896, 1.290763, 0 ], [ -0.733924, 1.292508, 0 ], [ -0.727799, 0.99257, 0 ], [ -0.808096, 0.99084, 0 ] ] )
createSheet( "Sheet 40", [[ -0.733924, 1.292508, 0 ], [ -0.652947, 1.29407, 0 ], [ -0.647498, 0.994119, 0 ], [ -0.727799, 0.99257, 0 ] ] )
createSheet( "Sheet 41", [[ -0.652947, 1.29407, 0 ], [ -0.571964, 1.29545, 0 ], [ -0.567191, 0.995488, 0 ], [ -0.647498, 0.994119, 0 ] ] )
createSheet( "Sheet 42", [[ -0.571964, 1.29545, 0 ], [ -0.490977, 1.296647, 0 ], [ -0.48688, 0.996675, 0 ], [ -0.567191, 0.995488, 0 ] ] )
createSheet( "Sheet 43", [[ -0.490977, 1.296647, 0 ], [ -0.409987, 1.297662, 0 ], [ -0.406566, 0.997682, 0 ], [ -0.48688, 0.996675, 0 ] ] )
createSheet( "Sheet 44", [[ -0.409987, 1.297662, 0 ], [ -0.328993, 1.298495, 0 ], [ -0.326248, 0.998507, 0 ], [ -0.406566, 0.997682, 0 ] ] )
createSheet( "Sheet 45", [[ -0.328993, 1.298495, 0 ], [ -0.247997, 1.299145, 0 ], [ -0.245928, 0.999152, 0 ], [ -0.326248, 0.998507, 0 ] ] )
createSheet( "Sheet 46", [[ -0.247997, 1.299145, 0 ], [ -0.166999, 1.299612, 0 ], [ -0.165606, 0.999615, 0 ], [ -0.245928, 0.999152, 0 ] ] )
createSheet( "Sheet 47", [[ -0.166999, 1.299612, 0 ], [ -0.086, 1.299897, 0 ], [ -0.085282, 0.999898, 0 ], [ -0.165606, 0.999615, 0 ] ] )
createSheet( "Sheet 48", [[ -0.086, 1.299897, 0 ], [ -0.005, 1.3, 0 ], [ -0.004958, 1, 0 ], [ -0.085282, 0.999898, 0 ] ] )
createSheet( "Sheet 49", [[ -0.005, 1.3, 0 ], [ 0.005, 1.3, 0 ], [ 0.004958, 1, 0 ], [ -0.004958, 1, 0 ] ] )
createSheet( "Sheet 50", [[ 0.005, 1.3, 0 ], [ 0.086, 1.299897, 0 ], [ 0.085282, 0.999898, 0 ], [ 0.004958, 1, 0 ] ] )
createSheet( "Sheet 51", [[ 0.086, 1.299897, 0 ], [ 0.166999, 1.299612, 0 ], [ 0.165606, 0.999615, 0 ], [ 0.085282, 0.999898, 0 ] ] )
createSheet( "Sheet 52", [[ 0.166999, 1.299612, 0 ], [ 0.247997, 1.299145, 0 ], [ 0.245928, 0.999152, 0 ], [ 0.165606, 0.999615, 0 ] ] )
createSheet( "Sheet 53", [[ 0.247997, 1.299145, 0 ], [ 0.328993, 1.298495, 0 ], [ 0.326248, 0.998507, 0 ], [ 0.245928, 0.999152, 0 ] ] )
createSheet( "Sheet 54", [[ 0.328993, 1.298495, 0 ], [ 0.409987, 1.297662, 0 ], [ 0.406566, 0.997682, 0 ], [ 0.326248, 0.998507, 0 ] ] )
createSheet( "Sheet 55", [[ 0.409987, 1.297662, 0 ], [ 0.490977, 1.296647, 0 ], [ 0.48688, 0.996675, 0 ], [ 0.406566, 0.997682, 0 ] ] )
createSheet( "Sheet 56", [[ 0.490977, 1.296647, 0 ], [ 0.571964, 1.29545, 0 ], [ 0.567191, 0.995488, 0 ], [ 0.48688, 0.996675, 0 ] ] )
createSheet( "Sheet 57", [[ 0.571964, 1.29545, 0 ], [ 0.652947, 1.29407, 0 ], [ 0.647498, 0.994119, 0 ], [ 0.567191, 0.995488, 0 ] ] )
createSheet( "Sheet 58", [[ 0.652947, 1.29407, 0 ], [ 0.733924, 1.292508, 0 ], [ 0.727799, 0.99257, 0 ], [ 0.647498, 0.994119, 0 ] ] )
createSheet( "Sheet 59", [[ 0.733924, 1.292508, 0 ], [ 0.814896, 1.290763, 0 ], [ 0.808096, 0.99084, 0 ], [ 0.727799, 0.99257, 0 ] ] )
createSheet( "Sheet 60", [[ 0.814896, 1.290763, 0 ], [ 0.93586, 1.287817, 0 ], [ 0.925447, 0.887952, 0 ], [ 0.808096, 0.99084, 0 ] ] )
createSheet( "Sheet 61", [[ 0.93586, 1.287817, 0 ], [ 1.056813, 1.284463, 0 ], [ 1.045054, 0.884636, 0 ], [ 0.925447, 0.887952, 0 ] ] )
createSheet( "Sheet 62", [[ 1.056813, 1.284463, 0 ], [ 1.177752, 1.280703, 0 ], [ 1.164648, 0.880917, 0 ], [ 1.045054, 0.884636, 0 ] ] )
createSheet( "Sheet 63", [[ 1.177752, 1.280703, 0 ], [ 1.298676, 1.276535, 0 ], [ 1.284226, 0.876796, 0 ], [ 1.164648, 0.880917, 0 ] ] )
createSheet( "Sheet 64", [[ 1.298676, 1.276535, 0 ], [ 1.419582, 1.271961, 0 ], [ 1.403787, 0.872273, 0 ], [ 1.284226, 0.876796, 0 ] ] )
createSheet( "Sheet 65", [[ 1.419582, 1.271961, 0 ], [ 1.540469, 1.26698, 0 ], [ 1.523329, 0.867347, 0 ], [ 1.403787, 0.872273, 0 ] ] )
createSheet( "Sheet 66", [[ 1.540469, 1.26698, 0 ], [ 1.661335, 1.261592, 0 ], [ 1.64285, 0.86202, 0 ], [ 1.523329, 0.867347, 0 ] ] )
createSheet( "Sheet 67", [[ 1.661335, 1.261592, 0 ], [ 1.782176, 1.255798, 0 ], [ 1.762347, 0.85629, 0 ], [ 1.64285, 0.86202, 0 ] ] )
createSheet( "Sheet 68", [[ 1.782176, 1.255798, 0 ], [ 1.902993, 1.249598, 0 ], [ 1.881819, 0.850159, 0 ], [ 1.762347, 0.85629, 0 ] ] )
createSheet( "Sheet 69", [[ 1.902993, 1.249598, 0 ], [ 2.023781, 1.242991, 0 ], [ 2.001263, 0.843625, 0 ], [ 1.881819, 0.850159, 0 ] ] )
createSheet( "Sheet 70", [[ 2.023781, 1.242991, 0 ], [ 2.184505, 1.233568, 0 ], [ 2.154122, 0.734492, 0 ], [ 2.001263, 0.843625, 0 ] ] )
createSheet( "Sheet 71", [[ 2.184505, 1.233568, 0 ], [ 2.345183, 1.223425, 0 ], [ 2.312566, 0.72449, 0 ], [ 2.154122, 0.734492, 0 ] ] )
createSheet( "Sheet 72", [[ 2.345183, 1.223425, 0 ], [ 2.505811, 1.212563, 0 ], [ 2.470959, 0.713779, 0 ], [ 2.312566, 0.72449, 0 ] ] )
createSheet( "Sheet 73", [[ 2.505811, 1.212563, 0 ], [ 2.666384, 1.200982, 0 ], [ 2.629299, 0.702359, 0 ], [ 2.470959, 0.713779, 0 ] ] )
createSheet( "Sheet 74", [[ 2.666384, 1.200982, 0 ], [ 2.826896, 1.188682, 0 ], [ 2.787579, 0.690231, 0 ], [ 2.629299, 0.702359, 0 ] ] )
createSheet( "Sheet 75", [[ 2.826896, 1.188682, 0 ], [ 2.987345, 1.175665, 0 ], [ 2.945796, 0.677394, 0 ], [ 2.787579, 0.690231, 0 ] ] )
createSheet( "Sheet 76", [[ 2.987345, 1.175665, 0 ], [ 3.147723, 1.16193, 0 ], [ 3.103944, 0.66385, 0 ], [ 2.945796, 0.677394, 0 ] ] )
createSheet( "Sheet 77", [[ 3.147723, 1.16193, 0 ], [ 3.308028, 1.147478, 0 ], [ 3.262019, 0.6496, 0 ], [ 3.103944, 0.66385, 0 ] ] )
createSheet( "Sheet 78", [[ 3.308028, 1.147478, 0 ], [ 3.468253, 1.13231, 0 ], [ 3.420016, 0.634642, 0 ], [ 3.262019, 0.6496, 0 ] ] )
createSheet( "Sheet 79", [[ 3.468253, 1.13231, 0 ], [ 3.628394, 1.116426, 0 ], [ 3.577929, 0.61898, 0 ], [ 3.420016, 0.634642, 0 ] ] )
createSheet( "Sheet 80", [[ 3.628394, 1.116426, 0 ], [ 3.788446, 1.099828, 0 ], [ 3.735756, 0.602612, 0 ], [ 3.577929, 0.61898, 0 ] ] )
createSheet( "Sheet 81", [[ 3.788446, 1.099828, 0 ], [ 3.948405, 1.082515, 0 ], [ 3.89349, 0.585539, 0 ], [ 3.735756, 0.602612, 0 ] ] )
createSheet( "Sheet 82", [[ 3.948405, 1.082515, 0 ], [ 4.108266, 1.064488, 0 ], [ 4.051127, 0.567764, 0 ], [ 3.89349, 0.585539, 0 ] ] )
createSheet( "Sheet 83", [[ 4.108266, 1.064488, 0 ], [ 4.307883, 1.04096, 0 ], [ 4.235985, 0.445284, 0 ], [ 4.051127, 0.567764, 0 ] ] )
createSheet( "Sheet 84", [[ 4.307883, 1.04096, 0 ], [ 4.507363, 1.016317, 0 ], [ 4.432136, 0.421052, 0 ], [ 4.235985, 0.445284, 0 ] ] )
createSheet( "Sheet 85", [[ 4.507363, 1.016317, 0 ], [ 4.706696, 0.99056, 0 ], [ 4.628141, 0.395725, 0 ], [ 4.432136, 0.421052, 0 ] ] )
createSheet( "Sheet 86", [[ 4.706696, 0.99056, 0 ], [ 4.905872, 0.96369, 0 ], [ 4.823993, 0.369303, 0 ], [ 4.628141, 0.395725, 0 ] ] )
createSheet( "Sheet 87", [[ 4.905872, 0.96369, 0 ], [ 5.104882, 0.935709, 0 ], [ 5.019682, 0.341789, 0 ], [ 4.823993, 0.369303, 0 ] ] )
createSheet( "Sheet 88", [[ 5.104882, 0.935709, 0 ], [ 5.303717, 0.906618, 0 ], [ 5.215199, 0.313183, 0 ], [ 5.019682, 0.341789, 0 ] ] )
createSheet( "Sheet 89", [[ 5.303717, 0.906618, 0 ], [ 5.502368, 0.876419, 0 ], [ 5.410534, 0.283488, 0 ], [ 5.215199, 0.313183, 0 ] ] )
createSheet( "Sheet 90", [[ 5.502368, 0.876419, 0 ], [ 5.700825, 0.845114, 0 ], [ 5.60568, 0.252706, 0 ], [ 5.410534, 0.283488, 0 ] ] )
createSheet( "Sheet 91", [[ 5.700825, 0.845114, 0 ], [ 5.89908, 0.812704, 0 ], [ 5.800625, 0.220837, 0 ], [ 5.60568, 0.252706, 0 ] ] )
createSheet( "Sheet 92", [[ 5.89908, 0.812704, 0 ], [ 6.097123, 0.779191, 0 ], [ 5.995362, 0.187884, 0 ], [ 5.800625, 0.220837, 0 ] ] )
createSheet( "Sheet 93", [[ 6.097123, 0.779191, 0 ], [ 6.294944, 0.744578, 0 ], [ 6.189882, 0.153848, 0 ], [ 5.995362, 0.187884, 0 ] ] )
createSheet( "Sheet 94", [[ 6.294944, 0.744578, 0 ], [ 6.492535, 0.708867, 0 ], [ 6.384175, 0.118733, 0 ], [ 6.189882, 0.153848, 0 ] ] )
createSheet( "Sheet 95", [[ 6.492535, 0.708867, 0 ], [ 6.689886, 0.67206, 0 ], [ 6.578233, 0.08254, 0 ], [ 6.384175, 0.118733, 0 ] ] )
createSheet( "Sheet 96", [[ 6.689886, 0.67206, 0 ], [ 6.886989, 0.634159, 0 ], [ 6.772046, 0.045272, 0 ], [ 6.578233, 0.08254, 0 ] ] )
createSheet( "Sheet 97", [[ 6.886989, 0.634159, 0 ], [ 7.083834, 0.595167, 0 ], [ 6.965606, 0.006931, 0 ], [ 6.772046, 0.045272, 0 ] ] )

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```
setModelDefinition( "GRAVDI", 2 )
```

```

extrudeProfile( [ "Sheet 1", "Sheet 3", "Sheet 5", "Sheet 7", "Sheet 9", "Sheet 11", "Sheet 13", "Sheet 15", "Sheet 17", "Sheet 19", "Sheet 21", "Sheet 23",
"Sheet 25", "Sheet 27", "Sheet 29", "Sheet 31", "Sheet 33", "Sheet 35", "Sheet 37", "Sheet 39", "Sheet 41", "Sheet 43", "Sheet 45", "Sheet 47", "Sheet 49",
"Sheet 51", "Sheet 53", "Sheet 55", "Sheet 57", "Sheet 59", "Sheet 61", "Sheet 63", "Sheet 65", "Sheet 67", "Sheet 69", "Sheet 71", "Sheet 73", "Sheet 75",
"Sheet 77", "Sheet 79", "Sheet 81", "Sheet 83", "Sheet 85", "Sheet 87", "Sheet 89", "Sheet 91", "Sheet 93", "Sheet 95", "Sheet 97" ], [ [ 0, 0, -0.4 ] ] )

```

```

unit( ("Sheet 351", ["Sheet 390", "Sheet 391", "Sheet 392", "Sheet 393", "Sheet 394", "Sheet 395", "Sheet 396", "Sheet 397", "Sheet 398", "Sheet 399", "Sheet
400", "Sheet 401", "Sheet 402", "Sheet 403", "Sheet 404", "Sheet 405", "Sheet 406", "Sheet 407", "Sheet 408", "Sheet 409", "Sheet 410", "Sheet 411", "Sheet
412", "Sheet 413", "Sheet 414", "Sheet 415", "Sheet 416", "Sheet 417", "Sheet 418", "Sheet 419", "Sheet 420", "Sheet 421", "Sheet 422", "Sheet 423", "Sheet
424", "Sheet 425", "Sheet 426", "Sheet 427", "Sheet 428", "Sheet 429", "Sheet 430", "Sheet 431", "Sheet 432", "Sheet 433", "Sheet 434", "Sheet 435", "Sheet
436", "Sheet 437" ], True, True )

```

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

```

attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 190", [[ 4.8709566, 0.71022733, -0.9805708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 141", [[ 4.8709566, 0.71022733, -0.5755708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 87", [[ 4.8709566, 0.71022733, -0.1705708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 89", [[ 5.2659705, 0.65356129, -0.1705708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 142", [[ 5.2659705, 0.65356129, -0.5755708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 191", [[ 5.2659705, 0.65356129, -0.9805708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 240", [[ 5.2659705, 0.65356129, -1.3855708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 289", [[ 5.2659705, 0.65356129, -1.7905708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 91", [[ 5.6602526, 0.59249523, -0.1705708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 143", [[ 5.6602526, 0.59249523, -0.5755708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 192", [[ 5.6602526, 0.59249523, -0.9805708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 241", [[ 5.6602526, 0.59249523, -1.3855708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 290", [[ 5.6602526, 0.59249523, -1.7905708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 93", [[ 6.0537294, 0.52704173, -0.1705708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 144", [[ 6.0537294, 0.52704173, -0.5755708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 193", [[ 6.0537294, 0.52704173, -0.9805708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 242", [[ 6.0537294, 0.52704173, -1.3855708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 291", [[ 6.0537294, 0.52704173, -1.7905708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 95", [[ 6.4463274, 0.45721793, -0.1705708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 145", [[ 6.4463274, 0.45721793, -0.5755708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 194", [[ 6.4463274, 0.45721793, -0.9805708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 243", [[ 6.4463274, 0.45721793, -1.3855708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 292", [[ 6.4463274, 0.45721793, -1.7905708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 97", [[ 6.8379742, 0.38304168, -0.1705708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 146", [[ 6.8379742, 0.38304168, -0.5755708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 195", [[ 6.8379742, 0.38304168, -0.9805708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 244", [[ 6.8379742, 0.38304168, -1.3855708 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 2", "TARGET", "Sheet 293", [[ 6.8379742, 0.38304168, -1.7905708 ]])

```

```

createConnection( "Connection 3", "INTER", "SHAPEFACE", "SHAPEFACE" )
setParameter( "GEOMETRYCONNECTION", "Connection 3", "MODE", "CLOSED" )
setElementClassType( "GEOMETRYCONNECTION", "Connection 3", "STPLIF" )
assignMaterial( "Interface", "GEOMETRYCONNECTION", "Connection 3" )
setParameter( "GEOMETRYCONNECTION", "Connection 3", "FLIP", False )
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 97", [[ 6.9213636, 0.36676517, -0.4 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 96", [[ 6.7257714, 0.40485867, -0.2 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 95", [[ 6.5299285, 0.44186715, -0.4 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 94", [[ 6.333844, 0.47778841, -0.2 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 93", [[ 6.1375269, 0.51262059, -0.4 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 92", [[ 5.9409862, 0.54636112, -0.2 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 91", [[ 5.744231, 0.57900769, -0.4 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 90", [[ 5.5472705, 0.61055742, -0.2 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 89", [[ 5.3501141, 0.64101026, -0.4 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 88", [[ 5.1527708, 0.67036376, -0.2 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 87", [[ 4.9552497, 0.69861565, -0.4 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 86", [[ 4.7575601, 0.72576529, -0.2 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 85", [[ 4.5597111, 0.75181042, -0.4 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 84", [[ 4.3617119, 0.77674997, -0.2 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 83", [[ 4.1685462, 0.84293452, -0.4 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 82", [[ 3.9927698, 0.86310121, -0.2 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 81", [[ 3.8338006, 0.88061446, -0.4 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 80", [[ 3.6747363, 0.89741712, -0.2 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 79", [[ 3.5155822, 0.91350977, -0.4 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 78", [[ 3.3563424, 0.9288916, -0.2 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 77", [[ 3.1970214, 0.94356125, -0.4 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 76", [[ 3.0376248, 0.95751874, -0.2 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 75", [[ 2.8781568, 0.97076321, -0.4 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 74", [[ 2.7186228, 0.98329427, -0.2 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 73", [[ 2.5590271, 0.99511116, -0.4 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 72", [[ 2.3993746, 1.0062137, -0.2 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 71", [[ 2.23967, 1.0166014, -0.4 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 70", [[ 2.0823999, 1.0688439, -0.2 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 69", [[ 1.9452316, 1.0765488, -0.4 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 68", [[ 1.825, 1.0828918, -0.2 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 67", [[ 1.7047423, 1.0888309, -0.4 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 66", [[ 1.58446, 1.0943655, -0.2 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 65", [[ 1.4641552, 1.0994956, -0.4 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 64", [[ 1.3438305, 1.1042205, -0.2 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 63", [[ 1.2234877, 1.1085412, -0.4 ]])
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attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 61", [[ 0.98275503, 1.1159669, -0.4 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 60", [[ 0.86339725, 1.1617023, -0.2 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 59", [[ 0.76571892, 1.1639037, -0.4 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 58", [[ 0.68503204, 1.1655377, -0.2 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 57", [[ 0.60433978, 1.1669906, -0.4 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 56", [[ 0.52364266, 1.1682608, -0.2 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 55", [[ 0.44294212, 1.16935, -0.4 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 54", [[ 0.36223801, 1.1702571, -0.2 ]])

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attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 53", [[ 0.28153104, 1.1709825, -0.4 ]])
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attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 50", [[ 0.039399846, 1.1720671, -0.2 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 49", [[ -0.00073309454, 1.1720725, -0.4 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 48", [[ -0.051276168, 1.1720517, -0.2 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 47", [[ -0.13198766, 1.171845, -0.4 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 3", "SOURCE", "Sheet 46", [[ -0.21269809, 1.1714573, -0.2 ]])
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attachTo( "GEOMETRYCONNECTION", "Connection 3", "TARGET", "Sheet 124", [[ 0.28153104, 1.1709825, -0.405 ] ] )
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attachTo( "GEOMETRYCONNECTION", "Connection 3", "TARGET", "Sheet 137", [[ 3.5155822, 0.91350977, -0.405 ] ] )
attachTo( "GEOMETRYCONNECTION", "Connection 3", "TARGET", "Sheet 381", [[ 3.6747363, 0.89741712, -0.204 ] ] )
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createConnection( "Connection 4", "INTER", "SHAPEFACE", "SHAPEFACE" )
setParameter( "GEOMETRYCONNECTION", "Connection 4", "MODE", "CLOSED" )
setElementClassType( "GEOMETRYCONNECTION", "Connection 4", "STPLIF" )
assignMaterial( "Interface", "GEOMETRYCONNECTION", "Connection 4" )

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setParameter( "GEOMETRYCONNECTION", "Connection 4", "FLIP", False )
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attachTo( "GEOMETRYCONNECTION", "Connection 6", "TARGET", "Sheet 528", [[ 4.7575601, 0.72576529, -1.416 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 6", "TARGET", "Sheet 288", [[ 4.9552497, 0.69861565, -1.62 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 6", "TARGET", "Sheet 529", [[ 5.1527708, 0.67036376, -1.416 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 6", "TARGET", "Sheet 289", [[ 5.3501141, 0.64101026, -1.62 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 6", "TARGET", "Sheet 530", [[ 5.5472705, 0.61055742, -1.416 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 6", "TARGET", "Sheet 290", [[ 5.744231, 0.57900769, -1.62 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 6", "TARGET", "Sheet 531", [[ 5.9409862, 0.54636112, -1.416 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 6", "TARGET", "Sheet 291", [[ 6.1375269, 0.51262059, -1.62 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 6", "TARGET", "Sheet 532", [[ 6.333844, 0.47778841, -1.416 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 6", "TARGET", "Sheet 292", [[ 6.5299285, 0.44186715, -1.62 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 6", "TARGET", "Sheet 533", [[ 6.7257714, 0.40485867, -1.416 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 6", "TARGET", "Sheet 293", [[ 6.9213636, 0.36676517, -1.62 ]])

createConnection( "Connection 7", "INTER", "SHAPEFACE", "SHAPEFACE" )
setParameter( "GEOMETRYCONNECTION", "Connection 7", "MODE", "CLOSED" )
setElementClassType( "GEOMETRYCONNECTION", "Connection 7", "STPLIF" )
assignMaterial( "Interface", "GEOMETRYCONNECTION", "Connection 7" )
setParameter( "GEOMETRYCONNECTION", "Connection 7", "FLIP", False )
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 533", [[ 6.7257714, 0.40485867, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 532", [[ 6.333844, 0.47778841, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 531", [[ 5.9409862, 0.54636112, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 530", [[ 5.5472705, 0.61055742, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 529", [[ 5.1527708, 0.67036376, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 528", [[ 4.7575601, 0.72576529, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 527", [[ 4.3617119, 0.77674997, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 526", [[ 3.9927698, 0.86310121, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 525", [[ 3.6747363, 0.89741712, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 524", [[ 3.3563424, 0.9288916, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 523", [[ 3.0376248, 0.95751874, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 522", [[ 2.7186228, 0.98329427, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 521", [[ 2.3993746, 1.0062137, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 520", [[ 2.0823999, 1.0688439, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 519", [[ 1.825, 1.0828918, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 518", [[ 1.58446, 1.0943655, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 517", [[ 1.3438305, 1.1042205, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 516", [[ 1.1031286, 1.1124563, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 515", [[ 0.86339725, 1.1617023, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 514", [[ 0.68503204, 1.1655377, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 513", [[ 0.52364266, 1.1682608, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 512", [[ 0.36223801, 1.1702571, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 511", [[ 0.20082206, 1.1715254, -1.816 ]])

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attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 510", [[ 0.039399846, 1.1720671, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 509", [[ -0.051276168, 1.1720517, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 508", [[ -0.21269809, 1.1714573, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 507", [[ -0.37411344, 1.1701349, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 506", [[ -0.53551708, 1.1680857, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 505", [[ -0.69690499, 1.165309, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 504", [[ -0.88008408, 1.1186406, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 503", [[ -1.1208396, 1.1119057, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 502", [[ -1.3615367, 1.1035509, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 501", [[ -1.6021603, 1.0935766, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 500", [[ -1.8426931, 1.0819843, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 499", [[ -2.1034269, 1.0248957, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 498", [[ -2.4228694, 1.004625, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 497", [[ -2.7421007, 0.98149509, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 496", [[ -3.0610831, 0.95550961, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 495", [[ -3.3797784, 0.9266727, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 494", [[ -3.6981471, 0.89498967, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 493", [[ -4.0161525, 0.86046463, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 492", [[ -4.3908544, 0.7731498, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 491", [[ -4.7866581, 0.72183976, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 490", [[ -5.181819, 0.66611351, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 489", [[ -5.5762637, 0.60598446, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 488", [[ -5.9699186, 0.54146514, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 487", [[ -6.3627105, 0.47257159, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "SOURCE", "Sheet 486", [[ -6.7545666, 0.39932176, -1.816 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 294", [[ -6.7545666, 0.39932176, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 295", [[ -6.3627105, 0.47257159, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 296", [[ -5.9699186, 0.54146514, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 297", [[ -5.5762637, 0.60598446, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 298", [[ -5.181819, 0.66611351, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 299", [[ -4.7866581, 0.72183976, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 300", [[ -4.3908544, 0.7731498, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 301", [[ -4.0161525, 0.86046463, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 302", [[ -3.6981471, 0.89498967, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 303", [[ -3.3797784, 0.9266727, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 304", [[ -3.0610831, 0.95550961, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 305", [[ -2.7421007, 0.98149509, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 306", [[ -2.4228694, 1.004625, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 307", [[ -2.1034269, 1.0248957, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 308", [[ -1.8426931, 1.0819843, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 309", [[ -1.6021603, 1.0935766, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 310", [[ -1.3615367, 1.1035509, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 311", [[ -1.1208396, 1.1119057, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 312", [[ -0.88008408, 1.1186406, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 313", [[ -0.69690499, 1.165309, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 314", [[ -0.53551708, 1.1680857, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 315", [[ -0.37411344, 1.1701349, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 316", [[ -0.21269809, 1.1714573, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 317", [[ -0.051276168, 1.1720517, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 318", [[ 0.039399846, 1.1720671, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 319", [[ 0.20082206, 1.1715254, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 320", [[ 0.36223801, 1.1702571, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 321", [[ 0.52364266, 1.1682608, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 322", [[ 0.68503204, 1.1655377, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 323", [[ 0.86339725, 1.1617023, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 324", [[ 1.1031286, 1.1124563, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 325", [[ 1.3438305, 1.1042205, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 326", [[ 1.58446, 1.0943655, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 327", [[ 1.825, 1.0828918, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 328", [[ 2.0823999, 1.0688439, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 329", [[ 2.3993746, 1.0062137, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 330", [[ 2.7186228, 0.98329427, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 331", [[ 3.0376248, 0.95751874, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 332", [[ 3.3563424, 0.9288916, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 333", [[ 3.6747363, 0.89741712, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 334", [[ 3.9927698, 0.86310121, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 335", [[ 4.3617119, 0.77674997, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 336", [[ 4.7575601, 0.72576529, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 337", [[ 5.1527708, 0.67036376, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 338", [[ 5.5472705, 0.61055742, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 339", [[ 5.9409862, 0.54636112, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 340", [[ 6.333844, 0.47778841, -1.82 ]])
attachTo( "GEOMETRYCONNECTION", "Connection 7", "TARGET", "Sheet 341", [[ 6.7257714, 0.40485867, -1.82 ]])

createConnection( "Connection 8", "INTER", "SHAPEFACE", "SHAPEFACE" )
setParameter( "GEOMETRYCONNECTION", "Connection 8", "MODE", "CLOSED" )
setElementClassType( "GEOMETRYCONNECTION", "Connection 8", "STPLIF" )
assignMaterial( "Interface", "GEOMETRYCONNECTION", "Connection 8" )

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setParameter( "GEOMETRYCONNECTION", "Connection 8", "FLIP", False )
attachTo( "GEOMETRYCONNECTION", "Connection 8", "SOURCE", "Sheet 534", [ [ -7.0160199, 0.25777071, -0.86138254 ] ] )
attachTo( "GEOMETRYCONNECTION", "Connection 8", "TARGET", "Sheet 1", [ [ -7.0334184, 0.34432729, -0.1705708 ] ] )
attachTo( "GEOMETRYCONNECTION", "Connection 8", "TARGET", "Sheet 98", [ [ -7.0334184, 0.34432729, -0.5755708 ] ] )
attachTo( "GEOMETRYCONNECTION", "Connection 8", "TARGET", "Sheet 147", [ [ -7.0334184, 0.34432729, -0.9805708 ] ] )
attachTo( "GEOMETRYCONNECTION", "Connection 8", "TARGET", "Sheet 196", [ [ -7.0334184, 0.34432729, -1.3855708 ] ] )
attachTo( "GEOMETRYCONNECTION", "Connection 8", "TARGET", "Sheet 245", [ [ -7.0334184, 0.34432729, -1.7905708 ] ] )

createConnection( "Connection 9", "INTER", "SHAPEFACE", "SHAPEFACE" )
setParameter( "GEOMETRYCONNECTION", "Connection 9", "MODE", "CLOSED" )
setElementClassType( "GEOMETRYCONNECTION", "Connection 9", "STPLIF" )
assignMaterial( "Interface", "GEOMETRYCONNECTION", "Connection 9" )
setParameter( "GEOMETRYCONNECTION", "Connection 9", "FLIP", False )
attachTo( "GEOMETRYCONNECTION", "Connection 9", "SOURCE", "Sheet 97", [ [ 7.0160216, 0.25777071, -0.1705708 ] ] )
attachTo( "GEOMETRYCONNECTION", "Connection 9", "SOURCE", "Sheet 146", [ [ 7.0160216, 0.25777071, -0.5755708 ] ] )
attachTo( "GEOMETRYCONNECTION", "Connection 9", "SOURCE", "Sheet 195", [ [ 7.0160216, 0.25777071, -0.9805708 ] ] )
attachTo( "GEOMETRYCONNECTION", "Connection 9", "SOURCE", "Sheet 244", [ [ 7.0160216, 0.25777071, -1.3855708 ] ] )
attachTo( "GEOMETRYCONNECTION", "Connection 9", "SOURCE", "Sheet 293", [ [ 7.0160216, 0.25777071, -1.7905708 ] ] )
attachTo( "GEOMETRYCONNECTION", "Connection 9", "TARGET", "Sheet 535", [ [ 7.0160199, 0.25777071, -0.86138254 ] ] )

addSet( "GEOMETRYSUPPORTSET", "Supports" )
createSurfaceSupport( "Support X", "Supports" )
setParameter( "GEOMETRYSUPPORT", "Support X", "AXES", [ 1, 2 ] )
setParameter( "GEOMETRYSUPPORT", "Support X", "TRANSL", [ 1, 0, 0 ] )
setParameter( "GEOMETRYSUPPORT", "Support X", "ROTATI", [ 0, 0, 0 ] )
attach( "GEOMETRYSUPPORT", "Support X", "Sheet 534", [ [ -7.46561, 0.34432729, -1.1586175 ] ] )
attach( "GEOMETRYSUPPORT", "Support X", "Sheet 535", [ [ 7.46561, 0.34432729, -1.1586175 ] ] )
createSurfaceSupport( "Support Y", "Supports" )
setParameter( "GEOMETRYSUPPORT", "Support Y", "AXES", [ 1, 2 ] )
setParameter( "GEOMETRYSUPPORT", "Support Y", "TRANSL", [ 0, 1, 0 ] )
setParameter( "GEOMETRYSUPPORT", "Support Y", "ROTATI", [ 0, 0, 0 ] )
attach( "GEOMETRYSUPPORT", "Support Y", "Sheet 534", [ [ -7.1788212, 0.006931, -0.86138254 ] ] )
attach( "GEOMETRYSUPPORT", "Support Y", "Sheet 535", [ [ 7.2523948, 0.006931, -1.1586175 ] ] )
createSurfaceSupport( "Support Z", "Supports" )
setParameter( "GEOMETRYSUPPORT", "Support Z", "AXES", [ 1, 2 ] )
setParameter( "GEOMETRYSUPPORT", "Support Z", "TRANSL", [ 0, 0, 1 ] )
setParameter( "GEOMETRYSUPPORT", "Support Z", "ROTATI", [ 0, 0, 0 ] )
attach( "GEOMETRYSUPPORT", "Support Z", "Sheet 534", [ [ -7.2077373, 0.21923925, 0 ], [ -7.2077373, 0.21923925, -2.02 ] ] )
attach( "GEOMETRYSUPPORT", "Support Z", "Sheet 535", [ [ 7.2077373, 0.21923925, 0 ], [ 7.2077373, 0.21923925, -2.02 ] ] )

addMaterial( "Geopolymer concrete", "MCSTEL", "ISOTRO", [ ] )
setParameter( "MATERIAL", "Geopolymer concrete", "LINEAR/ELASTI/YOUNG", 5e+09 )
setParameter( "MATERIAL", "Geopolymer concrete", "LINEAR/ELASTI/YOUNG", 5e+09 )
setParameter( "MATERIAL", "Geopolymer concrete", "LINEAR/ELASTI/POISON", 0.2 )
setParameter( "MATERIAL", "Geopolymer concrete", "LINEAR/ELASTI/POISON", 0.2 )
setParameter( "MATERIAL", "Geopolymer concrete", "LINEAR/MASS/DENSIT", 2000 )
addMaterial( "Circument", "MCSTEL", "ISOTRO", [ ] )
setParameter( "MATERIAL", "Circument", "LINEAR/ELASTI/YOUNG", 7e+10 )
setParameter( "MATERIAL", "Circument", "LINEAR/ELASTI/YOUNG", 7e+10 )
setParameter( "MATERIAL", "Circument", "LINEAR/ELASTI/POISON", 0.2 )
setParameter( "MATERIAL", "Circument", "LINEAR/ELASTI/POISON", 0.2 )
setParameter( "MATERIAL", "Circument", "LINEAR/MASS/DENSIT", 2500 )
setParameter( "MATERIAL", "Circument", "LINEAR/MASS/DENSIT", 2500 )
addMaterial( "Ceramic", "MCSTEL", "ISOTRO", [ ] )
setParameter( "MATERIAL", "Ceramic", "LINEAR/ELASTI/YOUNG", 5e+09 )
setParameter( "MATERIAL", "Ceramic", "LINEAR/ELASTI/YOUNG", 5e+09 )
setParameter( "MATERIAL", "Ceramic", "LINEAR/ELASTI/POISON", 0.2 )
setParameter( "MATERIAL", "Ceramic", "LINEAR/ELASTI/POISON", 0.2 )
setParameter( "MATERIAL", "Ceramic", "LINEAR/MASS/DENSIT", 2000 )
addMaterial( "Glass", "MCSTEL", "ISOTRO", [ ] )
setParameter( "MATERIAL", "Glass", "LINEAR/ELASTI/YOUNG", 7e+10 )
setParameter( "MATERIAL", "Glass", "LINEAR/ELASTI/YOUNG", 7e+10 )
setParameter( "MATERIAL", "Glass", "LINEAR/ELASTI/POISON", 0.2 )
setParameter( "MATERIAL", "Glass", "LINEAR/ELASTI/POISON", 0.2 )
setParameter( "MATERIAL", "Glass", "LINEAR/MASS/DENSIT", 2500 )
addMaterial( "Stiff material", "MCSTEL", "ISOTRO", [ ] )
setParameter( "MATERIAL", "Stiff material", "LINEAR/ELASTI/YOUNG", 7e+13 )
setParameter( "MATERIAL", "Stiff material", "LINEAR/ELASTI/YOUNG", 7e+13 )
setParameter( "MATERIAL", "Stiff material", "LINEAR/ELASTI/POISON", 0.2 )
setParameter( "MATERIAL", "Stiff material", "LINEAR/ELASTI/POISON", 0.2 )
setParameter( "MATERIAL", "Stiff material", "LINEAR/MASS/DENSIT", 1e-06 )

setColor( "MATERIAL", "#999999", [ "Stiff material" ] )
setColor( "MATERIAL", "#3d85c6", [ "Glass" ] )
setColor( "MATERIAL", "#00ff7f", [ "Geopolymer concrete" ] )
setColor( "MATERIAL", "#55ffff", [ "Circument" ] )
setColor( "MATERIAL", "#e06666", [ "Ceramic" ] )

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setElementClassType( "SHAPE", [ "Sheet 534", "Sheet 535" ], "STRSOL" )
assignMaterial( "Stiff material", "SHAPE", [ "Sheet 534", "Sheet 535" ] )
setElementClassType( "SHAPE", [ "Sheet 148", "Sheet 438", "Sheet 2", "Sheet 147", "Sheet 4", "Sheet 150", "Sheet 245", "Sheet 342", "Sheet 439", "Sheet 440",
"Sheet 6", "Sheet 343", "Sheet 246", "Sheet 149", "Sheet 8", "Sheet 152", "Sheet 247", "Sheet 344", "Sheet 200", "Sheet 441", "Sheet 442", "Sheet 10", "Sheet
296", "Sheet 345", "Sheet 248", "Sheet 151", "Sheet 12", "Sheet 396", "Sheet 299", "Sheet 395", "Sheet 492", "Sheet 202", "Sheet 15", "Sheet 105", "Sheet
203", "Sheet 300", "Sheet 390", "Sheet 1", "Sheet 392", "Sheet 98", "Sheet 486", "Sheet 3", "Sheet 196", "Sheet 99", "Sheet 487", "Sheet 5", "Sheet 100",
"Sheet 294", "Sheet 197", "Sheet 391", "Sheet 295", "Sheet 488", "Sheet 198", "Sheet 7", "Sheet 101", "Sheet 298", "Sheet 394", "Sheet 491", "Sheet 201",
"Sheet 13", "Sheet 489", "Sheet 104", "Sheet 9", "Sheet 102", "Sheet 199", "Sheet 297", "Sheet 393", "Sheet 490", "Sheet 11", "Sheet 103", "Sheet 154", "Sheet
249", "Sheet 346", "Sheet 443", "Sheet 444", "Sheet 14", "Sheet 347", "Sheet 153", "Sheet 250", "Sheet 251", "Sheet 348", "Sheet 252", "Sheet 485", "Sheet
94", "Sheet 146", "Sheet 194", "Sheet 95", "Sheet 244", "Sheet 140", "Sheet 480", "Sheet 533", "Sheet 532", "Sheet 436", "Sheet 339", "Sheet 145", "Sheet
242", "Sheet 97", "Sheet 243", "Sheet 340", "Sheet 437", "Sheet 341", "Sheet 527", "Sheet 83", "Sheet 139", "Sheet 85", "Sheet 529", "Sheet 142", "Sheet 237",
"Sheet 431", "Sheet 528", "Sheet 432", "Sheet 87", "Sheet 335", "Sheet 89", "Sheet 141", "Sheet 238", "Sheet 531", "Sheet 435", "Sheet 338", "Sheet 144",
"Sheet 241", "Sheet 239", "Sheet 433", "Sheet 530", "Sheet 434", "Sheet 91", "Sheet 337", "Sheet 143", "Sheet 240", "Sheet 93", "Sheet 388",
"Sheet 387", "Sheet 291", "Sheet 484", "Sheet 96", "Sheet 195", "Sheet 293", "Sheet 389", "Sheet 292", "Sheet 188", "Sheet 84", "Sheet 384", "Sheet 191",
"Sheet 90", "Sheet 479", "Sheet 86", "Sheet 287", "Sheet 189", "Sheet 286", "Sheet 383", "Sheet 190", "Sheet 88", "Sheet 482", "Sheet 385", "Sheet 92", "Sheet
192", "Sheet 290", "Sheet 289", "Sheet 483", "Sheet 193", "Sheet 481", "Sheet 288", "Sheet 386" ], "STRSOL" )
assignMaterial( "Geopolymer concrete", "SHAPE", [ "Sheet 148", "Sheet 438", "Sheet 2", "Sheet 147", "Sheet 4", "Sheet 150", "Sheet 245", "Sheet 342", "Sheet
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382", "Sheet 334" ], "STRSOL" )
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382", "Sheet 334" ] )
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"Sheet 55", "Sheet 125", "Sheet 127", "Sheet 224", "Sheet 418", "Sheet 322", "Sheet 514", "Sheet 417", "Sheet 320" ] )

addSet( "GEOMETRYLOADSET", "Self weight" )
createModelLoad( "Self weight", "Self weight" )

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translate( [ "Sheet 535" ], [ 1e-06, 0, 0 ] )
setCoincidentTolerance(0.000002)

addSet( "GEOMETRYLOADSET", "Pedestrian load" )
createSurfaceLoad( "Vertical", "Pedestrian load" )
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attach( "GEOMETRYLOAD", "Vertical", "Sheet 5", [ [ -6.1814792, 0.76443108, -0.1705708 ] ] )
attach( "GEOMETRYLOAD", "Vertical", "Sheet 7", [ [ -5.7853663, 0.8312935, -0.1705708 ] ] )
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attach( "GEOMETRYLOAD", "Lateral", "Sheet 408", [[ -0.86647832, 1.2895067, -0.7705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 409", [[ -0.68747778, 1.2934039, -0.7705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 410", [[ -0.52551204, 1.2961366, -0.7705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 411", [[ -0.36353103, 1.2981398, -0.7705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 412", [[ -0.20153873, 1.2994129, -0.7705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 413", [[ -0.039540587, 1.2999561, -0.7705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 414", [[ 0.051459413, 1.2999409, -0.7705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 415", [[ 0.21345727, 1.2993441, -0.7705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 416", [[ 0.37544897, 1.2980172, -0.7705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 417", [[ 0.53742896, 1.2959604, -0.7705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 418", [[ 0.69939322, 1.2931741, -0.7705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 419", [[ 0.88427768, 1.2890733, -0.7705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 420", [[ 1.1261803, 1.2823064, -0.7705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 421", [[ 1.3680244, 1.2739115, -0.7705708 ]])
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attach( "GEOMETRYLOAD", "Lateral", "Sheet 423", [[ 1.8514734, 1.2522418, -0.7705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 424", [[ 2.1159679, 1.2375862, -0.7705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 425", [[ 2.4373149, 1.2171949, -0.7705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 426", [[ 2.7584493, 1.1939271, -0.7705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 427", [[ 3.0793335, 1.167787, -0.7705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 428", [[ 3.3999287, 1.138778, -0.7705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 429", [[ 3.7201955, 1.1069058, -0.7705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 430", [[ 4.040097, 1.0721752, -0.7705708 ]])
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attach( "GEOMETRYLOAD", "Lateral", "Sheet 434", [[ 5.6161976, 0.8584633, -0.7705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 435", [[ 6.0126721, 0.79348185, -0.7705708 ]])
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attach( "GEOMETRYLOAD", "Lateral", "Sheet 450", [[ -2.4136791, 1.2187931, -1.1705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 451", [[ -2.0923181, 1.2389728, -1.1705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 452", [[ -1.8336956, 1.2531542, -1.1705708 ]])

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attach( "GEOMETRYLOAD", "Lateral", "Sheet 454", [[ -1.3502336, 1.2745845, -1.1705708 ]])
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attach( "GEOMETRYLOAD", "Lateral", "Sheet 456", [[ -0.86647832, 1.2895067, -1.1705708 ]])
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attach( "GEOMETRYLOAD", "Lateral", "Sheet 459", [[ -0.36353103, 1.2981398, -1.1705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 460", [[ -0.20153873, 1.2994129, -1.1705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 461", [[ -0.039540587, 1.2999561, -1.1705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 462", [[ 0.051459413, 1.2999409, -1.1705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 463", [[ 0.21345727, 1.2993441, -1.1705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 464", [[ 0.37544897, 1.2980172, -1.1705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 465", [[ 0.53742896, 1.2959604, -1.1705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 466", [[ 0.69939322, 1.2931741, -1.1705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 467", [[ 0.88427768, 1.2890733, -1.1705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 468", [[ 1.1261803, 1.2823064, -1.1705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 469", [[ 1.3680244, 1.2739115, -1.1705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 470", [[ 1.6097945, 1.2638896, -1.1705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 471", [[ 1.8514734, 1.2522418, -1.1705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 472", [[ 2.1159679, 1.2375862, -1.1705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 473", [[ 2.4373149, 1.2171949, -1.1705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 474", [[ 2.7584493, 1.1939271, -1.1705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 475", [[ 3.0793335, 1.167787, -1.1705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 476", [[ 3.3999287, 1.138778, -1.1705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 477", [[ 3.7201955, 1.1069058, -1.1705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 478", [[ 4.040097, 1.0721752, -1.1705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 479", [[ 4.4222993, 1.0268254, -1.1705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 480", [[ 4.820938, 0.97514809, -1.1705708 ]])
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attach( "GEOMETRYLOAD", "Lateral", "Sheet 483", [[ 6.0126721, 0.79348185, -1.1705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 484", [[ 6.4082769, 0.72409513, -1.1705708 ]])
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attach( "GEOMETRYLOAD", "Lateral", "Sheet 491", [[ -4.79163, 0.97910191, -1.5705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 492", [[ -4.3929467, 1.0304516, -1.5705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 493", [[ -4.016574, 1.0748278, -1.5705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 494", [[ -3.6966445, 1.1093482, -1.5705708 ]])
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attach( "GEOMETRYLOAD", "Lateral", "Sheet 497", [[ -2.7348307, 1.1957369, -1.5705708 ]])
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attach( "GEOMETRYLOAD", "Lateral", "Sheet 499", [[ -2.0923181, 1.2389728, -1.5705708 ]])
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attach( "GEOMETRYLOAD", "Lateral", "Sheet 511", [[ 0.21345727, 1.2993441, -1.5705708 ]])
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attach( "GEOMETRYLOAD", "Lateral", "Sheet 522", [[ 2.7584493, 1.1939271, -1.5705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 523", [[ 3.0793335, 1.167787, -1.5705708 ]])
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attach( "GEOMETRYLOAD", "Lateral", "Sheet 528", [[ 4.820938, 0.97514809, -1.5705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 529", [[ 5.2189284, 0.91902319, -1.5705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 530", [[ 5.6161976, 0.8584633, -1.5705708 ]])
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attach( "GEOMETRYLOAD", "Lateral", "Sheet 531", [[ 6.0126721, 0.79348185, -1.5705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 532", [[ 6.4082769, 0.72409513, -1.5705708 ]])
attach( "GEOMETRYLOAD", "Lateral", "Sheet 533", [[ 6.802939, 0.65032101, -1.5705708 ]])

createPointBody( "point 1", [ -7.465611, 0.006931, 0 ] )
arrayCopy( [ "point 1" ], [ 0, 0, -0.10526316 ], [ 0, 0, 0 ], [ 0, 0, 0 ], 19 )
createPointBody( "point 21", [ 7.465611, 0.006931, 0 ] )
arrayCopy( [ "point 21" ], [ 0, 0, -0.10526316 ], [ 0, 0, 0 ], [ 0, 0, 0 ], 19 )
remove( "GEOMETRYSUPPORT", [ "Support X" ] )
addMaterial( "Spring Support", "SPRING", "LINETR", [] )
setParameter( "MATERIAL", "Spring Support", "LINETR/SPRING", 2400000 )
addMaterial( "Points", "MASSEL", "POINTM", [] )
setParameter( "MATERIAL", "Points", "POINTM/TRISO/MASS", 0 )
setElementClassType( "SHAPE", [ "point 1", "point 30", "point 2", "point 3", "point 15", "point 4", "point 34", "point 5", "point 6", "point 7", "point 8", "point 9",
"point 10", "point 16", "point 11", "point 23", "point 12", "point 13", "point 14", "point 17", "point 18", "point 19", "point 20", "point 21", "point 22", "point
24", "point 25", "point 39", "point 26", "point 27", "point 28", "point 29", "point 31", "point 32", "point 33", "point 35", "point 36", "point 37", "point 38" ],
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assignMaterial( "Points", "SHAPE", [ "point 1", "point 30", "point 2", "point 3", "point 15", "point 4", "point 34", "point 5", "point 6", "point 7", "point 8", "point
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22", "point 24", "point 25", "point 39", "point 26", "point 27", "point 28", "point 29", "point 31", "point 32", "point 33", "point 35", "point 36", "point 37",
"point 38" ] )
createConnection( "Support Springs", "BNDSPR", "SHAPEVERTEX", "SHAPEVERTEX" )
setParameter( "GEOMETRYCONNECTION", "Support Springs", "MODE", "CLOSED" )
setElementClassType( "GEOMETRYCONNECTION", "Support Springs", "SPRING" )
assignMaterial( "Spring Support", "GEOMETRYCONNECTION", "Support Springs" )
setParameter( "GEOMETRYCONNECTION", "Support Springs", "FLIP", False )
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 1", [[ -7.465611, 0.006931, 0 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 2", [[ -7.465611, 0.006931, -0.10526316 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 3", [[ -7.465611, 0.006931, -0.21052632 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 4", [[ -7.465611, 0.006931, -0.31578947 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 5", [[ -7.465611, 0.006931, -0.42105263 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 6", [[ -7.465611, 0.006931, -0.52631579 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 7", [[ -7.465611, 0.006931, -0.63157895 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 8", [[ -7.465611, 0.006931, -0.7368421 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 9", [[ -7.465611, 0.006931, -0.84210526 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 10", [[ -7.465611, 0.006931, -0.94736842 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 11", [[ -7.465611, 0.006931, -1.0526316 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 12", [[ -7.465611, 0.006931, -1.1578947 ]])
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attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 14", [[ -7.465611, 0.006931, -1.3684211 ]])
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attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 16", [[ -7.465611, 0.006931, -1.5789474 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 17", [[ -7.465611, 0.006931, -1.6842105 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 18", [[ -7.465611, 0.006931, -1.7894737 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 19", [[ -7.465611, 0.006931, -1.8947368 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 20", [[ -7.465611, 0.006931, -2 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 21", [[ 7.465611, 0.006931, 0 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 22", [[ 7.465611, 0.006931, -0.10526316 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 23", [[ 7.465611, 0.006931, -0.21052632 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 24", [[ 7.465611, 0.006931, -0.31578947 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 25", [[ 7.465611, 0.006931, -0.42105263 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 26", [[ 7.465611, 0.006931, -0.52631579 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 27", [[ 7.465611, 0.006931, -0.63157895 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 28", [[ 7.465611, 0.006931, -0.7368421 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 29", [[ 7.465611, 0.006931, -0.84210526 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 30", [[ 7.465611, 0.006931, -0.94736842 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 31", [[ 7.465611, 0.006931, -1.0526316 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 32", [[ 7.465611, 0.006931, -1.1578947 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 33", [[ 7.465611, 0.006931, -1.2631579 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 34", [[ 7.465611, 0.006931, -1.3684211 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 35", [[ 7.465611, 0.006931, -1.4736842 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 36", [[ 7.465611, 0.006931, -1.5789474 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 37", [[ 7.465611, 0.006931, -1.6842105 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 38", [[ 7.465611, 0.006931, -1.7894737 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 39", [[ 7.465611, 0.006931, -1.8947368 ]])
attachTo( "GEOMETRYCONNECTION", "Support Springs", "SOURCE", "point 40", [[ 7.465611, 0.006931, -2 ]])

createPointBody( "point 41", [ 0, 1.3, -1 ] )
setElementClassType( "SHAPE", [ "point 41" ], "MASS" )
assignMaterial( "Points", "SHAPE", [ "point 41" ] )
setElementClassType( "SHAPE", [ "point 40", "point 1", "point 2", "point 3", "point 4", "point 5", "point 6", "point 7", "point 8", "point 9", "point 10", "point 11",
"point 38", "point 12", "point 13", "point 14", "point 15", "point 16", "point 17", "point 18", "point 19", "point 20", "point 21", "point 22", "point 23", "point
24", "point 25", "point 26", "point 27", "point 28", "point 29", "point 30", "point 31", "point 32", "point 33", "point 34", "point 35", "point 36", "point 37",
"point 39" ], "MASS" )
assignMaterial( "Points", "SHAPE", [ "point 40", "point 1", "point 2", "point 3", "point 4", "point 5", "point 6", "point 7", "point 8", "point 9", "point 10", "point
11", "point 38", "point 12", "point 13", "point 14", "point 15", "point 16", "point 17", "point 18", "point 19", "point 20", "point 21", "point 22", "point 23",
"point 24", "point 25", "point 26", "point 27", "point 28", "point 29", "point 30", "point 31", "point 32", "point 33", "point 34", "point 35", "point 36", "point
37", "point 39" ] )

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generateMesh( [] )

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