TU Delft
Technische Universiteit Delft
Faculteit der Werktuigbouwkunde
en Maritieme Techniek
Vakgroep Transporttechnologie

Summary

A literature survey was performed on the bending behaviour of steel wire rope. In this survey, specifically bending behaviour in free bending conditions and the bending stiffness of wire ropes were of interest.
The theoretical research on these subjects is reviewed in a historical order; the geometrical models of a wire rope of Wiek and Schiffner are discussed more thoroughly. Subsequently the experimental research is discussed shortly in historical order.
The literature survey led to the paper the author contributed to the "OIPEEC Round Table 1993" which was held in Delft. This paper is included in this report in chapter 6. The summary of this paper is placed below;
"To establish the bending stiffness of wire ropes in free and forced bending, rope geometry and internal friction has to be taken into account. The paper describes a calculation method based on stress measurements, which includes both these influences. Because of the influence of friction the lubrication will affect the stiffness. Further more the change from free to forced bending will be determined and fatigue test in free bending conditions will be discussed."