

Rijkswaterstaat

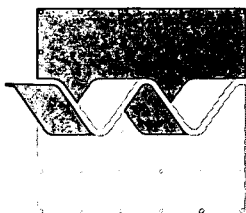
Dienst Weg- en Waterbouwkunde

taluds van losgestorte materialen

meerdere peilingen samengesteld,
behorend bij M 1983 deel II

verslag modelonderzoek

M 1983 bijlage A
januari 1988



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SAMENVATTING

Bij het onderzoek M1983 zijn ongeveer 800 profielen gemeten van taluds van losgestorte materialen onder golfaanval.

In hoofdstuk 1 van deze bijlage zijn de randvoorwaarden voor de proeven gegeven in tabelvorm.

In hoofdstuk 2 is voor ieder type konstruktie dat is onderzocht, een profiel van een proef weergegeven en dit hoofdstuk geeft derhalve een goed overzicht van het onderzoek naar dynamische stabiliteit van taluds.

In de hierop volgende hoofdstukken zijn verschillende proeven samengesteld tot één figuur. De figuren zijn zo samengesteld dat steeds maar één parameter varieert. Vergelijking van de profielen onderling levert de invloed van de varieërende parameter. De figuren zijn zo samengesteld, dat de snijpunten van de profielen met de stilwaterlijn op elkaar liggen. Hiertoe is steeds één profiel horizontaal verschoven. Alleen in hoofdstuk 5 zijn de profielen niet verschoven.

Deze bijlage A behoort bij het verslag M1983 deel II, wat het gehele onderzoek naar dynamische stabiliteit van taluds van losgestorte materialen beschrijft.

INHOUD

1. Tabel met randvoorwaarden voor de proeven
2. Overzicht onderzochte konstrukties met gemeten profielen.
3. Invloed golfhoogte
4. Invloed golfperiode
5. Invloed aantal golven (stormduur)
6. Invloed spectrumvorm
7. Invloed diameter
8. Invloed korrelvorm
9. Invloed gradatie
10. Invloed taludhelling
11. Invloed doorlatendheid
12. Invloed bermhoogte
13. Invloed transmissie (wegpompen water achter konstruktie)
14. Invloed kruinhoogte
15. Invloed vooroever
16. Invloed getij: uitgerekte getijcyclus
17. Invloed getij: stormprogramma

1. Tabel met randvoorwaarden voor de proeven

PROEFNUMMER	=	nummer van de proef
OPMERKING	=	korte omschrijving
		STORTSTEEN = recht talud van stortsteen met PM spektrum
		BERM PROFIEL = taluds met een horizontale berm
		DIKKE FILTERLAAG = dikte filterlaag 2D ₅₀
		INVLOED SPEKTRUM = ander dan PM spektrum
		HOMOGENE DAM = dam met één soort steen, zonder filter of kern.
		VOORLAND = dam met voorland 1:3
		d = waterdiepte ter plaatse van de teen van de konstruktie.
		LAGE DICHTHEID = lage massa dichtheid van steen
		HOGЕ DICHTHEID = hoge massa dichtheid van steen
		GRIND = basisproeven met grind
		RONDE STEEN = invloed korrelvorm: rond grind
		PLATTE STEEN = invloed korrelvorm: platte stortsteen
		ONDOORLATENDE KERN = dynamisch profiel bij dichte kern
		GEEN POMP = water achter de konstruktie niet afgepompt
		S-PROFIEL = profiel met berm rondom waterlijn
		WILLEKEURIG PROFIEL = willekeurig profiel voor toetsing computer model
		INVLOED GRADATIE = stortsteen met een smalle of steile gradatie
		LAGE KRUIN = kruin 0.05 m boven stilwaterlijn
		GRIND DELTAGOOT = proeven in de deltagoot
		GRIND M1216 = proeven M1216 - deel III
		3DIM. M1216 = drie-dimensionele proeven (scheve golfaanval, M1216 deel IV).
		GETIJ CYCLUS = uitgerekte getij cyclus, zie figuur 11, M1983-II
		STORM CYCLUS = getij met stormprogramma, zie figuur 11, M1983-II
DN50	=	nominale diameter (m)
DELTA	=	Δ = relatieve massadichtheid (-)
COTA	=	cota = talud helling (-)
D85/D15	=	steilheid gradatie van grind- of steenklasse (-)
SPEKTRUM	=	vorm van het energie dichtheidsspektrum
		PM = Pierson Moskowitz
		SM = Smal spektrum
		BR = Breed spektrum

Tabel 1. Verklaring parameters in tabellen 2-4

SL = Smal spektrum (M1216)
 TR = Triton spektrum (M1216)
 JO = Jonswap spektrum (M1216)

HS = significante golfhoogte (m)
 TZ = gemiddelde golfperiode (s)
 TP = piekperiode (s)
 HS/DELTADN50 = $H_s / \Delta D_{n50}$ = dimensieloze golfhoogte (-)
 HSLOZ = H_s / L_z = golfsteilheid op diep water = $2\pi H_s / g T_z^2$
 HSLOP = H_s / L_p = golfsteilheid op diep water = $2\pi H_s / g T_p^2$
 KSIZ = ξ_z = brekerparameter met T_z (-)
 KSIP = ξ_p = brekerparameter met T_p (-)
 HOTOZ = $H_s / \Delta D_{n50} * \sqrt{g T_z^2 / D_{n50}}$
 HOTOP = $H_s / \Delta D_{n50} * \sqrt{g T_p^2 / D_{n50}}$

Profiel parameters

hr, lr, hc, lc, hs, ls, ht, zie figuur 12 in M1983 deel II

tanB = $\tan\beta$, zie figuur 12 in M1983 deel II

tanY = $\tan\gamma$, zie figuur 12 in M1983 deel II

1000 = parameter bepaald na 1000 golven

3000 = parameter bepaald na 3000 golven

peil1 = parameter bepaald na de eerste peiling

peil2 = parameter bepaald na de tweede peiling

peil3 = parameter bepaald na de derde peiling

N = aantal golven

b-beneden swl = coëfficiënt b in $y=ax^b$ voor profiel beneden de stilwaterlijn.

b-boven swl = coëfficiënt b in $y=a(-x)^b$ voor profiel boven de stilwaterlijn.

Tabel 1. Verklaring parameters in tabellen 2-4 (vervolg)

PARAMETEROMSCHRIJVING

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kolom	omschrijving
1	PROEFNUMMER
2	OPMERKING
3	DNS0
4	DELTA
5	COTA
6	D85/015
7	SPECTRUM
8	HS
9	TZ
10	TP
11	HS/DELTA/DNS0
12	HSL0Z
13	HSL0P
14	HOT0Z
15	HOT0P

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
301	GRIND	.0115	1.573	5.0	1.50	PM	.1319	1.33	1.37	7.29	.0478	.0450	283.	292.
302	GRIND	.0115	1.573	5.0	1.50	PM	.1298	1.77	2.04	7.18	.0265	.0200	371.	428.
303	GRIND	.0115	1.573	5.0	1.50	PM	.1900	1.76	2.04	10.50	.0393	.0292	540.	626.
304	GRIND	.0115	1.573	5.0	1.50	PM	.1879	2.41	2.99	10.39	.0207	.0135	731.	907.
305	GRIND	.0115	1.573	5.0	1.50	PM	.2326	1.78	2.04	12.86	.0470	.0358	668.	766.
306	GRIND	.0115	1.573	5.0	1.50	PM	.2374	2.35	3.17	13.12	.0275	.0151	901.	1215.
307	STORTSTEEN	.0257	1.615	5.0	1.50	PM	.1281	1.77	2.04	3.09	.0262	.0197	107.	123.
308	STORTSTEEN	.0257	1.615	5.0	1.50	PM	.1303	2.63	3.23	3.14	.0121	.0080	161.	178.
309	STORTSTEEN	.0257	1.615	5.0	1.50	PM	.1882	1.77	2.04	4.53	.0385	.0290	157.	181.
310	STORTSTEEN	.0257	1.615	5.0	1.50	PM	.1904	2.58	3.28	4.59	.0183	.0113	231.	294.
311	STORTSTEEN	.0257	1.615	5.0	1.50	PM	.1945	3.20	4.25	4.69	.0122	.0069	293.	389.
312	STORTSTEEN	.0257	1.615	5.0	1.50	PM	.2394	1.78	2.04	5.77	.0484	.0368	201.	230.
313	STORTSTEEN	.0257	1.615	5.0	1.50	PM	.2380	2.51	3.33	5.73	.0242	.0137	281.	373.
314	STORTSTEEN	.0257	1.615	5.0	1.50	PM	.2289	2.74	3.51	5.51	.0195	.0119	295.	378.
315	STORTSTEEN	.0110	1.586	5.0	1.50	PM	.1336	1.32	1.38	7.66	.0491	.0449	302.	316.
316	STORTSTEEN	.0110	1.586	5.0	1.50	PM	.1288	1.77	2.04	7.38	.0263	.0198	390.	450.
317	STORTSTEEN	.0110	1.586	5.0	1.50	PM	.1236	2.52	3.23	7.08	.0125	.0076	533.	683.
318	STORTSTEEN	.0110	1.586	5.0	1.50	PM	.1884	1.75	2.02	10.80	.0394	.0296	564.	651.
319	STORTSTEEN	.0110	1.586	5.0	1.50	PM	.1870	2.46	3.13	10.72	.0198	.0122	787.	1002.
320	STORTSTEEN	.0110	1.586	5.0	1.50	PM	.1938	3.10	4.25	11.11	.0129	.0069	1028.	1410.
321	STORTSTEEN	.0110	1.586	5.0	1.50	PM	.2369	1.77	2.08	13.58	.0484	.0351	718.	843.
322	STORTSTEEN	.0110	1.586	5.0	1.50	PM	.2338	2.45	3.23	13.40	.0249	.0144	980.	1293.
323	STORTSTEEN	.0110	1.586	5.0	1.50	PM	.2192	2.86	4.20	12.56	.0172	.0080	1073.	1576.
324	STORTSTEEN	.0257	1.615	3.0	1.50	PM	.1556	1.34	1.45	3.75	.0555	.0474	98.	106.
325	STORTSTEEN	.0257	1.615	3.0	1.50	PM	.1574	1.76	2.00	3.79	.0325	.0252	130.	148.
326	STORTSTEEN	.0257	1.615	3.0	1.50	PM	.1285	2.65	3.08	3.10	.0117	.0087	160.	186.
327	STORTSTEEN	.0257	1.615	3.0	1.50	PM	.1912	1.77	2.04	4.61	.0391	.0294	159.	184.
328	STORTSTEEN	.0257	1.615	3.0	1.50	PM	.1900	2.46	3.13	4.58	.0201	.0124	220.	280.
329	STORTSTEEN	.0257	1.615	3.0	1.50	PM	.1937	2.82	3.57	4.67	.0156	.0097	257.	326.
330	STORTSTEEN	.0257	1.615	3.0	1.50	PM	.2449	1.79	2.15	5.90	.0490	.0339	206.	248.
331	STORTSTEEN	.0257	1.615	3.0	1.50	PM	.2327	2.45	3.08	5.61	.0248	.0157	268.	337.
332	STORTSTEEN	.0257	1.615	3.0	1.50	PM	.2283	2.73	3.57	5.50	.0196	.0115	293.	384.
333	STORTSTEEN	.0110	1.586	3.0	1.50	PM	.1265	1.33	1.42	7.25	.0458	.0402	288.	307.
334	STORTSTEEN	.0110	1.586	3.0	1.50	PM	.1328	1.75	2.02	7.61	.0278	.0208	398.	459.
335	STORTSTEEN	.0110	1.586	3.0	1.50	PM	.1319	2.49	3.13	7.56	.0136	.0086	562.	707.
336	STORTSTEEN	.0110	1.586	3.0	1.50	PM	.1861	1.75	2.04	10.67	.0389	.0286	557.	650.
337	STORTSTEEN	.0110	1.586	3.0	1.50	PM	.1937	2.44	3.08	11.10	.0208	.0131	809.	1021.
338	STORTSTEEN	.0110	1.586	3.0	1.50	PM	.1873	2.78	3.57	10.74	.0155	.0094	891.	1145.
339	STORTSTEEN	.0110	1.586	3.0	1.50	PM	.2392	1.79	2.04	13.71	.0478	.0368	733.	835.
340	STORTSTEEN	.0110	1.586	3.0	1.50	PM	.2387	2.42	3.08	13.22	.0252	.0156	956.	1216.
341	STORTSTEEN	.0110	1.586	3.0	1.50	PM	.2236	2.71	3.57	12.82	.0195	.0112	1037.	1366.
342	INVLOED SPECTRUM	.0257	1.615	3.0	1.50	SM	.1573	1.79	1.79	3.79	.0314	.0314	133.	133.
343	INVLOED SPECTRUM	.0257	1.615	3.0	1.50	SM	.1296	2.48	2.53	3.12	.0135	.0130	151.	154.
344	INVLOED SPECTRUM	.0257	1.615	3.0	1.50	SM	.1960	1.79	1.80	4.72	.0392	.0387	165.	166.
345	INVLOED SPECTRUM	.0257	1.615	3.0	1.50	SM	.1884	2.45	2.50	4.54	.0281	.0193	217.	222.
346	INVLOED SPECTRUM	.0257	1.615	3.0	1.50	SM	.2373	1.77	1.80	5.72	.0485	.0469	198.	201.
347	INVLOED SPECTRUM	.0257	1.615	3.0	1.50	SM	.2322	2.42	2.50	5.59	.0254	.0238	265.	273.
348	RONDE STEEN	.0272	1.588	3.0	1.50	PM	.1300	1.77	2.04	3.01	.0266	.0208	101.	117.
349	RONDE STEEN	.0272	1.588	3.0	1.50	PM	.1954	1.77	2.06	4.52	.0399	.0295	152.	177.
350	RONDE STEEN	.0272	1.588	3.0	1.50	PM	.2434	1.79	2.06	5.64	.0487	.0367	192.	220.
351	RONDE STEEN	.0272	1.588	3.0	1.50	PM	.0898	3.01	3.45	2.88	.0063	.0048	119.	136.
352	RONDE STEEN	.0272	1.588	3.0	1.50	PM	.1325	2.95	3.51	3.07	.0098	.0069	172.	204.
353	RONDE STEEN	.0272	1.588	3.0	1.50	PM	.1942	2.85	3.57	4.50	.0153	.0098	243.	305.
354	PLATTE STEEN	.0242	1.608	3.0	1.50	PM	.1304	1.77	2.06	3.35	.0267	.0197	119.	139.
355	PLATTE STEEN	.0242	1.608	3.0	1.50	PM	.1922	1.77	2.06	4.94	.0393	.0290	176.	205.
356	PLATTE STEEN	.0242	1.608	3.0	1.50	PM	.2423	1.79	2.06	6.23	.0484	.0366	224.	258.
357	ONDOORLATENDE KERN	.0257	1.615	3.0	1.50	PM	.1924	1.77	2.04	4.64	.0393	.0296	160.	185.
358	ONDOORLATENDE KERN	.0257	1.615	3.0	1.50	PM	.1924	2.50	3.08	4.64	.0197	.0130	226.	279.
359	ONDOORLATENDE KERN	.0257	1.615	3.0	1.50	PM	.2447	1.79	2.04	5.90	.0489	.0377	206.	235.

Tabel 2b. Golfvandvoorwaarden dynamisch stabiele proeven

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
378	GEEN POMP	.0257	1.615	3.0	1.50	PM	.2377	2.44	3.08	5.73	.0256	.0160	273.	345.
379	ONDOORLATENDE KERN	.0257	1.615	3.0	1.50	PM	.2430	1.79	2.04	5.85	.0486	.0374	205.	233.
380	S-PROFIEL	.0257	1.615	1.5	1.50	PM	.0576	.98	2.09	1.39	.0384	.0084	27.	57.
381	S-PROFIEL	.0257	1.615	1.5	1.50	PM	.0829	1.26	1.41	2.00	.0334	.0267	49.	55.
382	S-PROFIEL	.0257	1.615	1.5	1.50	PM	.1016	1.28	1.41	2.45	.0397	.0327	61.	67.
383	S-PROFIEL	.0257	1.615	1.5	1.50	PM	.1028	1.81	2.05	2.48	.0201	.0157	88.	99.
384	S-PROFIEL	.0257	1.615	1.5	1.50	PM	.1599	1.34	1.39	3.85	.0570	.0530	101.	105.
385	S-PROFIEL	.0257	1.615	-1.	1.50	PM	.1586	1.81	2.06	3.82	.0310	.0239	135.	154.
386	S-PROFIEL	.0257	1.615	-1.	1.50	PM	.1903	1.80	2.12	4.58	.0376	.0271	161.	190.
387	S-PROFIEL	.0257	1.615	-1.	1.50	PM	.1863	2.51	2.98	4.49	.0189	.0134	220.	261.
388	S-PROFIEL	.0257	1.615	-1.	1.50	PM	.2462	1.79	2.01	5.93	.0492	.0390	207.	233.
389	S-PROFIEL	.0257	1.615	-1.	1.50	PM	.2500	2.51	2.96	6.02	.0254	.0183	295.	348.
390	S-PROFIEL	.0257	1.615	-1.	1.50	PM	.1594	1.81	2.05	3.84	.0312	.0243	136.	154.
391	S-PROFIEL	.0257	1.615	-1.	1.50	PM	.1895	1.80	2.08	4.57	.0375	.0281	161.	186.
392	S-PROFIEL	.0257	1.615	-1.	1.50	PM	.2450	1.83	2.04	5.90	.0469	.0377	211.	235.
393	S-PROFIEL	.0257	1.615	-1.	1.50	PM	.1605	1.80	2.05	3.87	.0317	.0245	136.	155.
394	S-PROFIEL	.0257	1.615	-1.	1.50	PM	.1907	1.80	2.07	4.59	.0377	.0285	162.	186.
395	S-PROFIEL	.0257	1.615	-1.	1.50	PM	.2438	1.82	2.03	5.87	.0471	.0379	209.	233.
396	WILLEKEURIG PROFIEL	.0257	1.615	-1.	1.50	PM	.1917	1.79	2.06	4.62	.0383	.0289	162.	186.
397	INVLOED GRADATIE	.0110	1.605	3.0	1.25	PM	.1310	1.29	1.42	7.42	.0504	.0416	286.	315.
398	INVLOED GRADATIE	.0110	1.605	3.0	1.25	PM	.1300	1.78	2.11	7.36	.0263	.0187	391.	464.
399	INVLOED GRADATIE	.0110	1.605	3.0	1.25	PM	.1910	1.80	2.13	10.82	.0378	.0270	582.	688.
400	INVLOED GRADATIE	.0110	1.605	3.0	1.25	PM	.2015	2.46	2.94	11.41	.0213	.0149	838.	1002.
401	INVLOED GRADATIE	.0110	1.605	3.0	1.25	PM	.2401	1.81	2.17	13.60	.0469	.0327	735.	881.
402	INVLOED GRADATIE	.0110	1.605	3.0	1.25	PM	.2437	2.47	3.00	13.80	.0256	.0173	1018.	1237.
403	INVLOED GRADATIE	.0110	1.605	3.0	2.25	PM	.1312	1.29	1.42	7.43	.0505	.0417	286.	315.
404	INVLOED GRADATIE	.0110	1.605	3.0	2.25	PM	.1291	1.77	2.08	7.31	.0264	.0191	387.	454.
405	INVLOED GRADATIE	.0110	1.605	3.0	2.25	PM	.1894	1.81	2.11	10.73	.0370	.0272	580.	676.
406	INVLOED GRADATIE	.0110	1.605	3.0	2.25	PM	.1994	2.45	3.03	11.29	.0213	.0139	826.	1022.
407	INVLOED GRADATIE	.0110	1.605	3.0	2.25	PM	.2394	1.81	2.17	13.56	.0468	.0326	733.	879.
408	INVLOED GRADATIE	.0110	1.605	3.0	2.25	PM	.2403	2.47	3.00	13.61	.0252	.0171	1004.	1219.
409	LAGE KRUIJN	.0257	1.615	1.5	1.50	PM	.1295	1.33	1.45	3.12	.0469	.0394	81.	88.
410	LAGE KRUIJN	.0257	1.615	1.5	1.50	PM	.1770	1.78	2.08	4.26	.0358	.0262	148.	173.
411	LAGE KRUIJN	.0257	1.615	1.5	1.50	PM	.1858	2.64	3.64	4.48	.0171	.0090	231.	318.
412	LAGE KRUIJN	.0257	1.615	1.5	1.50	PM	.2391	1.80	2.12	5.76	.0473	.0341	203.	239.
413	LAGE KRUIJN	.0257	1.615	1.5	1.50	PM	.1323	1.32	1.43	3.19	.0486	.0414	82.	89.
414	LAGE KRUIJN	.0257	1.615	1.5	1.50	PM	.1785	1.79	2.04	4.30	.0357	.0275	150.	171.
415	LAGE KRUIJN	.0257	1.615	1.5	1.50	PM	.2409	1.83	2.13	5.80	.0461	.0340	208.	242.
416	VOORLAND d=0.40M	.0257	1.591	3.0	1.50	PM	.2250	2.55	3.03	5.50	.0222	.0157	274.	326.
417	VOORLAND d=0.30M	.0257	1.591	3.0	1.50	PM	.1890	1.81	2.02	4.62	.0370	.0297	163.	182.
418	VOORLAND d=0.20M	.0257	1.591	3.0	1.50	PM	.1437	2.51	3.03	3.51	.0146	.0100	172.	208.
419	VOORLAND d=0.30M	.0110	1.581	3.0	1.50	PM	.2074	2.49	3.08	11.93	.0214	.0140	887.	1097.
420	VOORLAND d=0.30M	.0110	1.581	3.0	1.50	PM	.1886	1.79	2.11	10.84	.0378	.0272	580.	683.
421	VOORLAND d=0.20M	.0110	1.581	3.0	1.50	PM	.1480	2.49	3.03	8.51	.0153	.0103	633.	770.

Vervolg tabel 2b. Golfrandvoorwaarden dynamisch stabiele proeven

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
501	GRIND M1216	.0041	1.570	10.	1.30	SL	.1080	1.27	1.46	16.78	.0429	.0325	1042.	1198.
502	GRIND M1216	.0041	1.570	10.	1.30	SL	.1630	1.29	1.48	25.32	.0627	.0477	1598.	1833.
503	GRIND M1216	.0041	1.570	10.	1.30	SL	.1540	1.59	1.83	23.92	.0390	.0295	1861.	2142.
504	GRIND M1216	.0041	1.570	10.	1.30	SL	.1900	1.63	1.88	29.52	.0458	.0344	2353.	2714.
506	GRIND M1216	.0041	1.570	5.0	1.30	SL	.1520	1.30	1.50	23.61	.0576	.0433	1502.	1733.
507	GRIND M1216	.0041	1.570	5.0	1.30	SL	.1080	1.27	1.46	16.78	.0429	.0325	1042.	1198.
508	GRIND M1216	.0041	1.570	5.0	1.30	SL	.1880	1.62	1.86	29.21	.0459	.0348	2314.	2657.
509	GRIND M1216	.0041	1.570	5.0	1.30	SL	.1470	1.61	1.85	22.84	.0363	.0275	1799.	2067.
510	GRIND M1216	.0041	1.570	5.0	1.30	SL	.0950	1.58	1.82	14.76	.0244	.0184	1141.	1314.
511	GRIND M1216	.0041	1.570	5.0	1.30	SL	.2050	2.03	2.33	31.85	.0319	.0242	3162.	3630.
512	GRIND M1216	.0041	1.570	5.0	1.30	SL	.1450	1.97	2.27	22.53	.0239	.0180	2171.	2501.
513	GRIND M1216	.0041	1.570	5.0	1.30	SL	.1030	2.03	2.33	16.00	.0160	.0122	1589.	1824.
514	GRIND M1216	.0041	1.570	5.0	1.30	SL	.0880	1.27	1.46	13.67	.0349	.0264	849.	976.
515	GRIND M1216	.0041	1.570	5.0	1.30	SL	.1190	1.29	1.48	18.49	.0458	.0348	1167.	1338.
516	GRIND M1216	.0041	1.570	5.0	1.30	SL	.1150	1.63	1.88	17.87	.0277	.0208	1424.	1643.
517	GRIND M1216	.0041	1.570	5.0	1.30	SL	.1500	1.77	2.04	23.30	.0307	.0231	2018.	2325.
518	GRIND M1216	.0069	1.570	5.0	1.30	SL	.1640	1.56	1.79	15.14	.0432	.0328	891.	1022.
519	GRIND M1216	.0069	1.570	5.0	1.30	SL	.1930	1.62	1.86	17.82	.0471	.0357	1088.	1250.
520	GRIND M1216	.0069	1.570	5.0	1.30	SL	.1580	1.98	2.28	14.58	.0258	.0195	1089.	1254.
521	GRIND M1216	.0069	1.570	5.0	1.30	TR	.1960	1.98	2.28	18.09	.0320	.0241	1351.	1556.
522	GRIND M1216	.0041	1.570	5.0	1.30	TR	.0950	1.97	2.56	14.76	.0157	.0093	1422.	1848.
523	GRIND M1216	.0041	1.570	5.0	1.30	TR	.1500	1.97	2.56	23.30	.0248	.0147	2246.	2918.
524	GRIND M1216	.0041	1.570	5.0	1.30	TR	.1520	2.38	3.10	23.61	.0172	.0101	2749.	3581.
525	GRIND M1216	.0041	1.570	5.0	1.30	TR	.2050	2.38	3.10	31.85	.0232	.0137	3708.	4829.
526	GRIND M1216	.0041	1.570	5.0	1.30	JO	.0790	1.69	1.86	12.27	.0177	.0146	1015.	1117.
527	GRIND M1216	.0041	1.570	5.0	1.30	JO	.1040	1.69	1.86	16.16	.0233	.0193	1336.	1470.
528	GRIND M1216	.0041	1.570	5.0	1.30	JO	.1000	2.07	2.28	15.53	.0149	.0123	1573.	1733.
529	GRIND M1216	.0041	1.570	5.0	1.30	JO	.1300	2.11	2.32	20.20	.0187	.0155	2084.	2292.
530	GRIND M1216	.0041	1.570	5.0	1.30	TR	.1690	2.03	2.64	26.25	.0263	.0155	2607.	3390.
531	GRIND M1216	.0041	1.570	5.0	1.30	TR	.1150	1.58	2.05	17.87	.0295	.0175	1381.	1792.
532	GRIND M1216	.0041	1.570	5.0	1.30	TR	.1520	1.67	2.17	23.61	.0349	.0207	1929.	2507.
533	GRIND M1216	.0041	1.570	5.0	1.30	SL	.1400	1.73	1.99	21.75	.0300	.0226	1841.	2117.
551	3DIM. M1216	.0040	1.590	5.0	1.30	PM	.0740	.89	1.02	11.64	.0598	.0456	513.	588.
552	3DIM. M1216	.0040	1.590	5.0	1.30	JO	.0860	.85	.93	13.52	.0762	.0637	569.	623.
553	3DIM. M1216	.0040	1.590	5.0	1.30	JO	.0780	1.25	1.37	12.26	.0320	.0266	759.	832.
554	3DIM. M1216	.0040	1.590	5.0	1.30	JO	.1260	1.25	1.37	19.81	.0516	.0430	1226.	1344.
555	3DIM. M1216	.0040	1.590	5.0	1.30	PM	.0880	1.11	1.28	13.84	.0457	.0344	761.	877.
556	3DIM. M1216	.0040	1.590	5.0	1.30	PM	.1220	1.11	1.28	19.18	.0634	.0477	1055.	1216.
557	3DIM. M1216	.0040	1.590	5.0	1.30	PM	.0830	1.37	1.58	13.05	.0283	.0213	885.	1021.
558	3DIM. M1216	.0040	1.590	5.0	1.30	PM	.1220	1.37	1.58	19.18	.0416	.0313	1301.	1501.
559	3DIM. M1216	.0040	1.590	5.0	1.30	PM	.1700	1.78	2.05	26.73	.0344	.0259	2356.	2714.
560	3DIM. M1216	.0040	1.590	5.0	1.30	PM	.1620	1.78	2.05	25.47	.0327	.0247	2245.	2586.
571	GRIND DELTAGOOT	.0187	1.600	5.0	1.64	SL	.7700	4.30	5.00	25.74	.0267	.0197	2535.	2947.
572	GRIND DELTAGOOT	.0187	1.600	5.0	1.64	SL	1.000	4.30	5.00	33.42	.0347	.0256	3292.	3828.
578	GRIND DELTAGOOT	.0041	1.600	5.0	1.85	PM	1.080	4.30	5.10	164.6	.0374	.0266	34628	41070

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
803	GRIND DELTAGOOT	.0187	1.600	5.0	1.64	PM	1.500	4.60	5.50	50.13	.0454	.0318	5282.	6315.
804	GRIND DELTAGOOT	.0041	1.600	5.0	1.85	PM	.6200	2.60	2.90	94.51	.0588	.0473	12020	13407
805	GRIND DELTAGOOT	.0041	1.600	5.0	1.85	PM	1.240	3.90	4.50	189.0	.0523	.0393	36060	41608
806	GRIND DELTAGOOT	.0041	1.600	5.0	1.85	PM	1.680	5.00	5.70	256.1	.0431	.0331	62635	71404
807	GRIND DELTAGOOT	.0041	1.600	5.0	1.85	PM	1.280	3.90	4.50	195.1	.0540	.0405	37223	42950
808	GRIND DELTAGOOT	.0041	1.600	5.0	1.85	PM	1.080	4.30	5.10	164.6	.0374	.0266	34628	41070
809	GRIND DELTAGOOT	.0041	1.600	5.0	1.85	PM	1.140	5.90	7.60	173.8	.0210	.0127	50153	64604

Vervolg tabel 2b. Golfrandvoorwaarden dynamisch stabiele proeven

PARAMETEROMSCHRIJVING
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kolom	omschrijving
1	PROEFNUMMER
2	OPMERKING
3	DN50
4	DELTA
5	COTA
6	D85/D15
7	SPECTRUM
8	WATERSTAND
9	HS
10	TZ
11	TP
12	HS/DELTADN50
13	HSL02
14	H0T02

Tabel 2c. Parameteromschrijving tabel 2d

1	2	3	4	5	6	7	8	9	10	11	12	13	14
3601	GETIJCYCLUS	.0110	1.586	3.0	1.50	PM	.72-.72M	.1271	1.31	1.45	7.29	.0475	285.0
3602	GETIJCYCLUS	.0110	1.586	3.0	1.50	PM	.72-.64M	.1265	1.33	1.56	7.25	.0458	288.0
3603	GETIJCYCLUS	.0110	1.586	3.0	1.50	PM	.64-.72M	.1266	1.30	1.40	7.26	.0480	282.0
3611	GETIJCYCLUS	.0110	1.586	3.0	1.50	PM	.72-.72M	.1281	1.73	2.03	7.34	.0274	379.0
3612	GETIJCYCLUS	.0110	1.586	3.0	1.50	PM	.72-.64M	.1284	1.72	2.07	7.36	.0278	378.0
3613	GETIJCYCLUS	.0110	1.586	3.0	1.50	PM	.64-.72M	.1283	1.73	2.02	7.35	.0275	380.0
3621	GETIJCYCLUS	.0110	1.586	3.0	1.50	PM	.72-.72M	.1888	1.74	2.02	10.82	.0400	562.0
3622	GETIJCYCLUS	.0110	1.586	3.0	1.50	PM	.72-.64M	.1863	1.76	1.90	10.68	.0385	561.0
3623	GETIJCYCLUS	.0110	1.586	3.0	1.50	PM	.64-.72M	.1899	1.76	1.98	10.89	.0393	572.0
3631	GETIJCYCLUS	.0110	1.586	3.0	1.50	PM	.72-.72M	.1819	2.47	3.05	10.43	.0191	769.0
3632	GETIJCYCLUS	.0110	1.586	3.0	1.50	PM	.72-.64M	.1826	2.45	3.00	10.47	.0195	766.0
3633	GETIJCYCLUS	.0110	1.586	3.0	1.50	PM	.64-.72M	.1847	2.46	2.99	10.59	.0196	778.0
3641	GETIJCYCLUS	.0110	1.586	3.0	1.50	PM	.72-.72M	.2406	1.80	2.66	14.10	.0476	758.0
3642	GETIJCYCLUS	.0110	1.586	3.0	1.50	PM	.72-.64M	.2276	1.80	2.08	13.04	.0450	701.0
3643	GETIJCYCLUS	.0110	1.586	3.0	1.50	PM	.64-.72M	.2408	1.82	2.09	13.80	.0466	750.0
3651	GETIJCYCLUS	.0110	1.586	3.0	1.50	PM	.72-.72M	.2330	2.44	3.10	13.36	.0251	973.0
3652	GETIJCYCLUS	.0110	1.586	3.0	1.50	PM	.72-.64M	.2259	2.43	3.10	12.95	.0245	940.0
3653	GETIJCYCLUS	.0110	1.586	3.0	1.50	PM	.64-.72M	.2335	2.43	3.03	13.38	.0254	971.0
3661	STORMCYCLUS	.0110	1.586	3.0	1.50	PM	.64-.72M	.1305	1.73	1.99	7.48	.0280	386.0
3662	STORMCYCLUS	.0110	1.586	3.0	1.50	PM	.68-.80M	.1920	1.75	2.03	11.00	.0402	575.0
3663	STORMCYCLUS	.0110	1.586	3.0	1.50	PM	.68-.80M	.1928	1.74	2.00	11.05	.0408	574.0
3664	STORMCYCLUS	.0110	1.586	3.0	1.50	PM	.64-.72M	.1317	1.73	1.97	7.55	.0282	390.0
3671	STORMCYCLUS	.0110	1.586	3.0	1.50	PM	.64-.72M	.1142	2.40	3.03	6.55	.0127	469.0
3672	STORMCYCLUS	.0110	1.586	3.0	1.50	PM	.68-.80M	.2053	2.44	3.03	11.77	.0221	858.0
3673	STORMCYCLUS	.0110	1.586	3.0	1.50	PM	.68-.80M	.2032	2.49	3.05	11.65	.0210	866.0
3674	STORMCYCLUS	.0110	1.586	3.0	1.50	PM	.64-.72M	.1288	2.50	3.03	7.38	.0132	551.0
3681	STORMCYCLUS	.0110	1.586	3.0	1.50	PM	.64-.72M	.1588	1.73	2.00	9.10	.0340	470.0
3682	STORMCYCLUS	.0110	1.586	3.0	1.50	PM	.68-.80M	.2437	1.79	2.05	13.97	.0488	747.0
3683	STORMCYCLUS	.0110	1.586	3.0	1.50	PM	.68-.80M	.2446	1.78	1.99	14.02	.0495	745.0
3684	STORMCYCLUS	.0110	1.586	3.0	1.50	PM	.64-.72M	.1590	1.73	1.98	9.11	.0341	471.0
3691	GETIJCYCLUS	.0110	1.586	5.0	1.50	PM	.72-.72M	.1901	1.73	2.01	10.90	.0407	563.0
3692	GETIJCYCLUS	.0110	1.586	5.0	1.50	PM	.72-.64M	.1924	1.74	2.01	11.03	.0407	573.0
3693	GETIJCYCLUS	.0110	1.586	5.0	1.50	PM	.64-.72M	.1903	1.75	2.01	10.91	.0398	570.0
3701	GETIJCYCLUS	.0110	1.586	5.0	1.50	PM	.72-.72M	.1871	2.50	3.13	10.72	.0192	800.0
3702	GETIJCYCLUS	.0110	1.586	5.0	1.50	PM	.72-.64M	.1896	2.46	3.05	10.87	.0201	799.0
3703	GETIJCYCLUS	.0110	1.586	5.0	1.50	PM	.64-.72M	.1852	2.50	3.01	10.62	.0190	793.0
3711	GETIJCYCLUS	.0110	1.586	5.0	1.50	PM	.72-.72M	.2401	1.78	2.12	13.76	.0486	731.0
3712	GETIJCYCLUS	.0110	1.586	5.0	1.50	PM	.72-.64M	.2294	1.81	2.23	13.15	.0449	711.0
3713	GETIJCYCLUS	.0110	1.586	5.0	1.50	PM	.64-.72M	.2401	1.79	2.16	13.76	.0480	736.0
3721	GETIJCYCLUS	.0110	1.586	5.0	1.50	PM	.72-.72M	.2344	2.44	3.13	13.44	.0252	979.0
3722	GETIJCYCLUS	.0110	1.586	5.0	1.50	PM	.72-.64M	.2263	2.38	3.17	12.97	.0256	922.0
3723	GETIJCYCLUS	.0110	1.586	5.0	1.50	PM	.64-.72M	.2336	2.41	3.15	13.39	.0258	964.0
3731	STORMCYCLUS	.0110	1.586	5.0	1.50	PM	.64-.72M	.1335	1.74	2.01	7.65	.0288	398.0
3732	STORMCYCLUS	.0110	1.586	5.0	1.50	PM	.68-.80M	.1908	1.74	2.08	10.94	.0404	568.0
3733	STORMCYCLUS	.0110	1.586	5.0	1.50	PM	.68-.80M	.1918	1.74	1.99	11.00	.0406	572.0
3734	STORMCYCLUS	.0110	1.586	5.0	1.50	PM	.64-.72M	.1345	1.74	1.97	7.71	.0284	401.0
3741	STORMCYCLUS	.0110	1.586	5.0	1.50	PM	.64-.72M	.1614	1.74	2.00	9.25	.0342	481.0
3742	STORMCYCLUS	.0110	1.586	5.0	1.50	PM	.68-.80M	.2412	1.77	2.10	13.83	.0494	731.0
3743	STORMCYCLUS	.0110	1.586	5.0	1.50	PM	.68-.80M	.2421	1.77	2.00	13.88	.0495	734.0
3744	STORMCYCLUS	.0110	1.586	5.0	1.50	PM	.64-.72M	.1634	1.73	1.98	9.37	.0350	484.0
3751	GETIJCYCLUS	.0062	1.483	5.0	1.50	PM	.72-.72M	.1916	1.74	2.03	20.84	.0406	1442.0
3752	GETIJCYCLUS	.0062	1.483	5.0	1.50	PM	.72-.64M	.1878	1.75	1.99	20.43	.0393	1422.0
3753	GETIJCYCLUS	.0062	1.483	5.0	1.50	PM	.64-.72M	.1917	1.75	1.99	20.85	.0401	1451.0
3761	GETIJCYCLUS	.0062	1.483	5.0	1.50	PM	.72-.72M	.1936	2.49	3.03	21.06	.0200	2086.0
3762	GETIJCYCLUS	.0062	1.483	5.0	1.50	PM	.72-.64M	.1908	2.49	3.03	20.75	.0197	2058.0
3763	GETIJCYCLUS	.0062	1.483	5.0	1.50	PM	.64-.72M	.1940	2.48	3.01	21.10	.0202	2081.0
3771	STORMCYCLUS	.0062	1.483	5.0	1.50	PM	.64-.72M	.1301	1.74	2.01	14.15	.0276	979.0
3772	STORMCYCLUS	.0062	1.483	5.0	1.50	PM	.68-.80M	.1921	1.74	2.04	20.89	.0407	1446.0
3773	STORMCYCLUS	.0062	1.483	5.0	1.50	PM	.68-.80M	.1934	1.74	2.01	21.03	.0410	1456.0
3774	STORMCYCLUS	.0062	1.483	5.0	1.50	PM	.64-.72M	.1346	1.73	2.00	14.64	.0288	1007.0

Tabel 2d. Golfvandvoorwaarden getij proeven

PARAMETEROMSCHRIJVING

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kolom	omschrijving
1	PROEFNUMMER
2	OPMERKING
3	hr1000
4	hr3000
5	lr1000
6	lr3000
7	hc1000
8	hc3000
9	lc1000
10	lc3000
11	hs1000
12	hs3000
13	ls1000
14	ls3000

Een parameter waar geen waarde voor is gevonden,
wordt aangegeven met het getal -1.00

1	2	3	4	5	6	7	8	9	10	11	12	13	14
301	GRIND	.087	.095	.410	.450	.100	.120	.201	.227	.060	.061	.223	.234
302	GRIND	.124	.126	.594	.607	.156	.191	.293	.340	.092	.115	.375	.448
303	GRIND	.148	.163	.764	.837	.213	.243	.384	.439	.115	.164	.484	.688
304	GRIND	.250	.256	1.106	1.236	.320	.352	.556	.603	.230	.223	.964	.958
305	GRIND	.167	.178	.848	.900	.235	.271	.411	.507	.177	.214	.805	.962
306	GRIND	.275	.274	1.313	1.302	.363	.420	.627	.680	.237	.238	1.064	1.115
307	STORTSTEEN	.072	.073	.391	.404	-1.00	.073	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
308	STORTSTEEN	.122	.130	.607	.622	-1.00	.097	-1.00	.283	-1.00	-1.00	-1.00	-1.00
309	STORTSTEEN	.110	.104	.631	.585	.067	.105	.183	.218	-1.00	-1.00	-1.00	-1.00
310	STORTSTEEN	.156	.175	.779	.916	.172	.227	.371	.421	-1.00	-1.00	-1.00	-1.00
311	STORTSTEEN	.208	.210	.951	.938	.184	.241	.375	.446	-1.00	-1.00	-1.00	-1.00
312	STORTSTEEN	.119	.128	.607	.607	.108	.165	.274	.265	-1.00	-1.00	-1.00	-1.00
313	STORTSTEEN	.194	.207	.907	1.028	.235	.294	.406	.512	-1.00	-1.00	-1.00	-1.00
314	STORTSTEEN	.202	.205	.914	1.025	.234	.297	.404	.499	-1.00	-1.00	-1.00	-1.00
315	STORTSTEEN	.080	.095	.384	.428	.107	.121	.197	.196	-1.00	.073	-1.00	.280
316	STORTSTEEN	.118	.123	.560	.600	.153	.189	.241	.311	-1.00	.099	-1.00	.395
317	STORTSTEEN	.154	.154	.764	.812	.200	.247	.329	.393	-1.00	-1.00	-1.00	-1.00
318	STORTSTEEN	.148	.155	.720	.761	.220	.254	.362	.402	.122	.139	.490	.596
319	STORTSTEEN	.234	.239	1.143	1.178	.310	.372	.479	.567	.233	.225	.956	.907
320	STORTSTEEN	.291	.296	1.349	1.360	.342	.400	.589	.631	.373	.270	1.841	1.152
321	STORTSTEEN	.167	.181	.867	.923	.245	.285	.424	.457	.147	.200	.640	.878
322	STORTSTEEN	.268	.277	1.309	1.317	.370	.460	.592	.644	.258	.260	1.084	1.134
323	STORTSTEEN	.315	.314	1.421	1.420	.405	.470	.664	.713	.263	.289	1.159	1.287
324	STORTSTEEN	.101	.115	.277	.274	-1.00	.100	-1.00	.146	-1.00	.178	-1.00	.711
325	STORTSTEEN	.157	.190	.395	.448	-1.00	.144	-1.00	.249	.220	.222	.848	.922
326	STORTSTEEN	.121	.168	-1.00	.427	-1.00	.135	-1.00	.242	.235	.275	.858	1.023
327	STORTSTEEN	.207	.231	.480	.503	.160	.209	.263	.331	.228	.250	.966	1.137
328	STORTSTEEN	.258	.292	.597	.663	.221	.292	.348	.446	.302	.323	1.288	1.435
329	STORTSTEEN	.289	.294	.686	.674	.227	.294	.383	.434	.299	.328	1.263	1.446
330	STORTSTEEN	.250	.291	.537	.583	.234	.262	.379	.397	.273	.320	1.198	1.434
331	STORTSTEEN	.317	.359	.697	.771	.383	.350	.451	.518	.330	.335	1.482	1.576
332	STORTSTEEN	.356	.364	.814	.817	.300	.364	.503	.571	.324	.345	1.442	1.571
333	STORTSTEEN	.167	.170	.386	.379	.139	.170	.223	.255	.129	.141	.552	.629
334	STORTSTEEN	.206	.219	.491	.503	.200	.219	.299	.331	.160	.170	.713	.722
335	STORTSTEEN	.241	.256	.599	.619	.213	.256	.320	.366	.239	.256	.946	1.019
336	STORTSTEEN	.277	.290	.619	.657	.277	.297	.429	.469	.217	.210	.991	.994
337	STORTSTEEN	.365	-1.00	.743	.900	.354	.409	.531	.603	.281	.286	1.206	1.254
338	STORTSTEEN	.358	.368	.834	.871	.334	.368	.539	.594	.264	.289	1.149	1.242
339	STORTSTEEN	.348	.349	.811	.789	.318	.356	.549	.589	.275	.276	1.199	1.240
340	STORTSTEEN	-1.00	-1.00	-1.00	-1.00	.400	.460	.589	.663	.288	.304	1.297	1.386
341	STORTSTEEN	-1.00	-1.00	-1.00	-1.00	.420	.460	.669	-1.00	.290	.300	1.293	1.377
342	INVLOED SPECTRUM	.177	.173	-1.00	.411	.118	.146	.242	.240	-1.00	.220	-1.00	.903
343	INVLOED SPECTRUM	.194	.200	.474	.470	-1.00	.147	.259	.240	-1.00	.244	-1.00	.991
344	INVLOED SPECTRUM	.176	.181	.414	.368	.160	.170	.294	.280	.228	.225	.911	1.025
345	INVLOED SPECTRUM	.262	.291	.609	.665	.229	.254	.374	.378	.300	.292	1.251	1.326
346	INVLOED SPECTRUM	.216	.248	.480	.501	.193	.212	.310	.331	.230	.241	1.054	1.235
347	INVLOED SPECTRUM	.307	.334	.699	.730	.280	.334	.423	.514	.283	.347	1.331	1.571
348	RONDE STEEN	-1.00	.141	-1.00	.314	-1.00	.115	-1.00	.223	-1.00	-1.00	-1.00	-1.00
349	RONDE STEEN	.223	.249	.469	.526	.196	.223	.334	.415	.241	.264	1.063	1.197
350	RONDE STEEN	.242	.278	.531	.580	.221	.264	.400	.459	.272	.324	1.249	1.505
351	RONDE STEEN	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
352	RONDE STEEN	.118	.148	.265	.286	.118	.148	-1.00	.280	-1.00	.290	-1.00	1.185
353	RONDE STEEN	.284	.311	.674	.686	.230	.283	.411	.478	.314	.340	1.358	1.558
354	PLATTE STEEN	.149	.158	.366	.371	.110	.129	.206	.211	-1.00	-1.00	-1.00	-1.00
355	PLATTE STEEN	.224	.265	.514	.583	.200	.239	.318	.393	.231	.254	1.000	1.153
356	PLATTE STEEN	.288	.300	.654	.640	.258	.288	.440	.466	.275	.302	1.191	1.354
357	ONDOORLATENDE KERN	.261	.375	-1.00	-1.00	.261	.375	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
358	ONDOORLATENDE KERN	.334	.347	-1.00	-1.00	.295	.328	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
359	ONDOORLATENDE KERN	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00

Tabel 3b. Profielparameters

PARAMETEROMSCHRIJVING
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kolom	omschrijving
1	PROEFNUMMER
2	OPMERKING
3	ht1000
4	ht3000
5	tanB-1000
6	tanB-3000
7	tanY-1000
8	tanY-3000

Een parameter waar geen waarde voor is gevonden,
wordt aangegeven met het getal -1.00

1	2	3	4	5	6	7	8	9	10	11	12	13	14
378	GEEN POMP	.330	.372	-1.00	-1.00	.309	.360	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
379	ONDOORLATENDE KERN	.342	.348	-1.00	-1.00	.342	.348	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
380	S-PROFIEL	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
381	S-PROFIEL	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
382	S-PROFIEL	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
383	S-PROFIEL	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
384	S-PROFIEL	.082	.085	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
385	S-PROFIEL	.157	.171	.521	.512	.119	.120	.370	.361	-1.00	.225	-1.00	1.073
386	S-PROFIEL	.172	.206	.494	.558	.134	.160	.265	.261	.245	.280	1.160	1.288
387	S-PROFIEL	.255	.286	.669	.677	.200	.245	.375	.389	.309	.327	1.393	1.540
388	S-PROFIEL	.216	.264	.535	.613	.194	.223	.325	.392	.300	.313	1.384	1.530
389	S-PROFIEL	.344	.385	.795	.850	.326	.370	.507	.613	.341	.350	1.661	1.836
390	S-PROFIEL	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.245	.250	-1.00	-1.00
391	S-PROFIEL	.171	.185	.434	.462	-1.00	.141	-1.00	.283	.281	.295	-1.00	295.0
392	S-PROFIEL	.223	.257	.553	.587	.186	.228	.323	.393	.320	.333	1.475	1.631
393	S-PROFIEL	-1.00	.131	-1.00	-1.00	.109	.104	.192	.192	.250	.271	.784	.916
394	S-PROFIEL	.139	.192	.485	.521	.128	.150	.183	.291	.285	.281	1.008	.995
395	S-PROFIEL	.235	.289	.576	.606	.209	.262	.352	.452	.287	.306	1.302	1.483
396	WILLEKEURIG PROFIEL	.079	.113	.517	.507	.159	.126	.224	.206	.265	.280	.978	1.178
397	INVLOED GRADATIE	.159	.181	.406	.463	.144	.161	.240	.286	.113	.124	.505	.560
398	INVLOED GRADATIE	.205	.216	.485	.520	.200	.229	.303	.354	.149	.158	.651	.688
399	INVLOED GRADATIE	.285	.305	.680	.743	.282	.313	.454	.500	.210	.225	.943	1.011
400	INVLOED GRADATIE	.390	-1.00	-1.00	-1.00	.370	.441	.571	.631	.284	.290	1.201	1.251
401	INVLOED GRADATIE	.347	.369	.811	.857	.333	.369	.543	.594	.250	.273	1.150	1.240
402	INVLOED GRADATIE	-1.00	-1.00	-1.00	-1.00	.429	.482	.669	-1.00	.305	.300	1.328	1.371
403	INVLOED GRADATIE	.176	.206	.423	.497	.150	.167	.261	.297	.125	.130	.593	.648
404	INVLOED GRADATIE	.222	.234	.514	.531	.215	.234	.333	.392	.160	.171	.757	.841
405	INVLOED GRADATIE	.318	.325	.680	.709	.296	.325	.463	.540	.234	.245	1.149	1.207
406	INVLOED GRADATIE	-1.00	-1.00	-1.00	-1.00	.376	.448	.589	.731	.280	.286	1.341	1.377
407	INVLOED GRADATIE	.358	-1.00	.811	-1.00	.342	.367	.594	.643	.264	.266	1.280	1.409
408	INVLOED GRADATIE	-1.00	-1.00	-1.00	-1.00	.477	.495	.726	-1.00	.307	.310	1.485	1.545
409	LAGE KRUIN	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
410	LAGE KRUIN	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
411	LAGE KRUIN	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
412	LAGE KRUIN	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
413	LAGE KRUIN	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.194	.187	.523	.558
414	LAGE KRUIN	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.273	.292	.722	1.140
415	LAGE KRUIN	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
416	VOORLAND d=0.40M	-1.00	-1.00	-1.00	-1.00	.276	.294	.464	.473	.242	.276	.917	1.038
417	VOORLAND d=0.30M	.196	.215	.474	.489	.186	.210	.297	.323	.175	.186	.791	.971
418	VOORLAND d=0.20M	.195	.234	.526	.617	-1.00	.190	-1.00	.379	.109	.121	.417	.520
419	VOORLAND d=0.30M	.357	.375	.920	.960	.365	.385	.581	.589	.176	.180	.680	.720
420	VOORLAND d=0.30M	.276	.302	.668	.743	.265	.295	.416	.470	.171	.170	.729	.735
421	VOORLAND d=0.20M	.345	.345	.846	.903	.287	.330	.468	.552	-1.00	-1.00	-1.00	-1.00

1	2	3	4	5	6	7	8	9	10	11	12	13	14
803	GRIND DELTAGOOT	1.840	2.000	8.570	9.310	1.727	2.093	4.990	5.890	1.340	1.420	8.250	8.970
804	GRIND DELTAGOOT	.833	.907	3.310	4.000	.667	.813	1.750	2.190	-1.00	.443	-1.00	3.450
805	GRIND DELTAGOOT	2.080	2.093	8.570	8.570	1.440	1.653	4.630	4.630	1.110	1.167	8.290	9.460
806	GRIND DELTAGOOT	2.583	2.767	11.66	12.91	2.067	2.353	7.140	7.310	1.500	1.517	10.18	10.93
807	GRIND DELTAGOOT	-1.00	1.910	-1.00	5.490	-1.00	1.760	-1.00	5.170	-1.00	1.133	-1.00	9.540
808	GRIND DELTAGOOT	1.787	1.980	8.450	9.090	1.473	1.667	5.070	4.800	1.267	1.307	7.270	7.570
809	GRIND DELTAGOOT	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	1.423	1.537	6.370	7.190

Vervolg tabel 3b. Profielparameters

1	2	3	4	5	6	7	8
301	GRIND	.099	.106	.297	.377	.085	.087
302	GRIND	.167	.179	.264	.379	.081	.049
303	GRIND	.244	.278	.307	.424	.070	.064
304	GRIND	.370	.400	.339	.406	.043	.005
305	GRIND	.330	.371	.332	.425	.112	.129
306	GRIND	.445	.465	.439	.417	-.011	-.023
307	STORTSTEEN	-1.00	-1.00	-1.00	-1.00	-1.00	.119
308	STORTSTEEN	-1.00	-1.00	-1.00	.392	-1.00	-1.00
309	STORTSTEEN	-1.00	-1.00	-1.00	-1.00	.082	.073
310	STORTSTEEN	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
311	STORTSTEEN	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
312	STORTSTEEN	-1.00	-1.00	-1.00	-1.00	.087	.069
313	STORTSTEEN	-1.00	-1.00	-1.00	-1.00	-1.00	.129
314	STORTSTEEN	-1.00	-1.00	-1.00	-1.00	.142	.148
315	STORTSTEEN	-1.00	.102	-1.00	-1.00	.101	.041
316	STORTSTEEN	-1.00	.175	-1.00	.326	.111	.049
317	STORTSTEEN	-1.00	-1.00	-1.00	-1.00	.108	.099
318	STORTSTEEN	.239	.270	.292	.381	.073	.093
319	STORTSTEEN	.377	.387	.335	.460	.062	.046
320	STORTSTEEN	.425	.363	.202	.430	.035	.035
321	STORTSTEEN	.326	.366	.340	.366	.063	.115
322	STORTSTEEN	.430	.454	.396	.450	0.000	-.033
323	STORTSTEEN	.385	.423	.285	.430	.105	-.055
324	STORTSTEEN	-1.00	-1.00	-1.00	.479	-1.00	-1.00
325	STORTSTEEN	-1.00	-1.00	.394	.509	-1.00	-1.00
326	STORTSTEEN	-1.00	-1.00	.482	.507	-1.00	-1.00
327	STORTSTEEN	-1.00	-1.00	.452	.518	-1.00	-1.00
328	STORTSTEEN	-1.00	-1.00	.539	.587	-1.00	-1.00
329	STORTSTEEN	-1.00	-1.00	.490	.590	-1.00	-1.00
330	STORTSTEEN	-1.00	-1.00	.486	.527	-1.00	-1.00
331	STORTSTEEN	-1.00	-1.00	.537	.570	-1.00	-1.00
332	STORTSTEEN	-1.00	-1.00	.569	.559	-1.00	-1.00
333	STORTSTEEN	-1.00	-1.00	.423	.441	-1.00	-1.00
334	STORTSTEEN	-1.00	-1.00	.432	.467	-1.00	-1.00
335	STORTSTEEN	-1.00	.435	.457	.508	-1.00	.078
336	STORTSTEEN	-1.00	-1.00	.496	.456	-1.00	-1.00
337	STORTSTEEN	.530	.538	.574	.636	.168	.141
338	STORTSTEEN	.531	.540	.514	.592	.187	.181
339	STORTSTEEN	.527	.532	.537	.504	.260	.222
340	STORTSTEEN	.575	.582	.561	.786	.144	.163
341	STORTSTEEN	.588	.594	.510	.624	.153	.132
342	INVLOED SPECTRUM	-1.00	-1.00	-1.00	.405	-1.00	-1.00
343	INVLOED SPECTRUM	-1.00	-1.00	-1.00	.465	-1.00	-1.00
344	INVLOED SPECTRUM	-1.00	-1.00	.417	-1.00	-1.00	-1.00
345	INVLOED SPECTRUM	-1.00	-1.00	.545	.522	-1.00	-1.00
346	INVLOED SPECTRUM	-1.00	-1.00	.496	.492	-1.00	-1.00
347	INVLOED SPECTRUM	-1.00	-1.00	.502	.576	-1.00	-1.00
348	RONDE STEEN	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
349	RONDE STEEN	-1.00	-1.00	.482	.496	-1.00	-1.00
350	RONDE STEEN	-1.00	-1.00	.498	.521	-1.00	-1.00
351	RONDE STEEN	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
352	RONDE STEEN	-1.00	-1.00	-1.00	.470	-1.00	-1.00
353	RONDE STEEN	-1.00	-1.00	.572	.573	-1.00	-1.00
354	PLATTE STEEN	-1.00	-1.00	-1.00	.500	-1.00	-1.00
355	PLATTE STEEN	-1.00	-1.00	.441	.477	-1.00	-1.00
356	PLATTE STEEN	-1.00	-1.00	.472	.469	-1.00	-1.00
357	ONDOORLATENDE KERN	-1.00	-1.00	.528	.588	-1.00	-1.00
358	ONDOORLATENDE KERN	-1.00	-1.00	.725	.727	-1.00	-1.00
359	ONDOORLATENDE KERN	-1.00	-1.00	.629	.627	-1.00	-1.00

Tabel 3d. Profielparameters

1	2	3	4	5	6	7	8
378	GEEN POMP	-1.00	-1.00	.610	.645	-1.00	-1.00
379	ONDOORLATENDE KERN	-1.00	-1.00	.550	.596	-1.00	-1.00
380	S-PROFIEL	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
381	S-PROFIEL	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
382	S-PROFIEL	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
383	S-PROFIEL	-1.00	-1.00	-1.00	.838	-1.00	-1.00
384	S-PROFIEL	-1.00	-1.00	.783	.811	-1.00	-1.00
385	S-PROFIEL	-1.00	-1.00	.878	.859	-1.00	-1.00
386	S-PROFIEL	-1.00	-1.00	.890	.897	-1.00	-1.00
387	S-PROFIEL	-1.00	-1.00	.827	.859	-1.00	-1.00
388	S-PROFIEL	-1.00	-1.00	.827	.817	-1.00	-1.00
389	S-PROFIEL	-1.00	-1.00	.807	.818	-1.00	-1.00
390	S-PROFIEL	-1.00	-1.00	.790	.884	-1.00	-1.00
391	S-PROFIEL	-1.00	-1.00	.831	.842	-1.00	-1.00
392	S-PROFIEL	-1.00	-1.00	.863	.898	-1.00	-1.00
393	S-PROFIEL	-1.00	-1.00	.821	.873	-1.00	-1.00
394	S-PROFIEL	-1.00	-1.00	.845	.835	-1.00	-1.00
395	S-PROFIEL	-1.00	-1.00	.876	.869	-1.00	-1.00
396	WILLEKEURIG PROFIEL	-1.00	-1.00	.890	.891	-1.00	-1.00
397	INVLOED GRADATIE	-1.00	-1.00	.498	.453	-1.00	-1.00
398	INVLOED GRADATIE	-1.00	.305	.508	.476	-1.00	-1.00
399	INVLOED GRADATIE	-1.00	.420	.542	.584	-1.00	-1.00
400	INVLOED GRADATIE	.548	.555	.575	.611	-1.00	-1.00
401	INVLOED GRADATIE	.519	.524	.495	.537	-1.00	-1.00
402	INVLOED GRADATIE	.600	.605	.644	.676	-1.00	-1.00
403	INVLOED GRADATIE	-1.00	-1.00	.586	.531	-1.00	-1.00
404	INVLOED GRADATIE	-1.00	-1.00	.550	.452	-1.00	-1.00
405	INVLOED GRADATIE	-1.00	-1.00	.426	.487	-1.00	-1.00
406	INVLOED GRADATIE	.560	.575	.573	.596	-1.00	-1.00
407	INVLOED GRADATIE	-1.00	-1.00	.562	.477	-1.00	-1.00
408	INVLOED GRADATIE	.605	.605	.632	.617	-1.00	-1.00
409	LAGE KRUIN	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
410	LAGE KRUIN	-1.00	-1.00	.784	.704	-1.00	-1.00
411	LAGE KRUIN	-1.00	-1.00	.784	.758	-1.00	-1.00
412	LAGE KRUIN	-1.00	-1.00	.784	-1.00	-1.00	-1.00
413	LAGE KRUIN	-1.00	-1.00	.893	.926	-1.00	-1.00
414	LAGE KRUIN	-1.00	-1.00	.916	1.008	-1.00	-1.00
415	LAGE KRUIN	-1.00	-1.00	.725	.787	-1.00	-1.00
416	VOORLAND d=0.40M	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
417	VOORLAND d=0.30M	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
418	VOORLAND d=0.20M	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
419	VOORLAND d=0.30M	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
420	VOORLAND d=0.30M	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
421	VOORLAND d=0.20M	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00

1	2	3	4	5	6	7	8
803	GRIND DELTAGOOT	2.680	2.940	.464	.488	.140	.127
804	GRIND DELTAGOOT	-1.00	1.090	-1.00	.360	-1.00	.165
805	GRIND DELTAGOOT	2.250	2.310	.343	.388	.171	.175
806	GRIND DELTAGOOT	2.770	2.600	.273	.333	.153	.159
807	GRIND DELTAGOOT	-1.00	2.330	-1.00	.311	-1.00	.163
808	GRIND DELTAGOOT	2.120	2.110	.304	.321	.147	.147
809	GRIND DELTAGOOT	2.260	2.330	.414	.427	.100	.073

Vervolg tabel 3d. Profielparameters

PARAMETEROMSCHRIJVING

=====

kolom	omschrijving
1	PROEFNUMMER
2	Npeil1
3	Npeil2
4	Npeil3
5	hrpeil1
6	hrpeil2
7	hrpeil3
8	lrpeil1
9	lrpeil2
10	lrpeil3
11	hcpeil1
12	hcpeil2
13	hcpeil3
14	lcpeil1
15	lcpeil2
16	lcpeil3

Een parameter waar geen waarde voor is gevonden,
wordt aangegeven met het getal -1.00

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
501	-1	-1	11342	-1.00	-1.00	.046	-1.00	-1.00	.590	-1.00	-1.00	.130	-1.00	-1.00	.210
502	382	1145	11189	.073	.073	.078	.820	.730	.780	.073	.090	.180	-1.00	.180	.310
503	309	-1	9049	.090	-1.00	.080	-1.00	.950	1.050	-1.00	.244	-1.00	-1.00	-1.00	.410
504	300	901	8809	.118	.113	.105	1.070	1.030	1.160	.113	.273	-1.00	-1.00	.280	.450
506	379	1123	4953	.133	.132	.140	.610	.620	.700	.133	.170	.193	.310	.380	.410
507	387	-1	3451	.107	-1.00	.112	.470	-1.00	.500	.117	-1.00	.160	.230	-1.00	.290
508	304	911	4563	.188	.198	.204	.820	.880	.920	.177	.200	.280	.430	.460	.540
509	305	-1	5595	.164	-1.00	.180	.750	-1.00	.850	.164	-1.00	.250	.400	-1.00	.460
510	310	-1	4436	.120	-1.00	.152	.550	-1.00	.720	.131	-1.00	.200	.250	-1.00	.350
511	242	727	3554	.268	.286	.300	1.150	1.270	1.370	.232	.286	.354	.620	.610	.710
512	512	-1	3678	.237	-1.00	.232	1.010	-1.00	1.030	.183	-1.00	.320	.490	-1.00	.610
513	242	-1	3756	.159	-1.00	.160	.700	-1.00	.770	.132	-1.00	.240	.300	-1.00	.400
514	387	-1	5671	.092	-1.00	.098	.410	-1.00	.460	.112	-1.00	.150	.190	-1.00	.250
515	382	1145	5595	.106	.116	.122	.480	.550	.620	.118	.142	.170	.240	.260	.310
516	300	-1	4404	.137	-1.00	.140	.600	-1.00	.690	.142	-1.00	.220	.280	-1.00	.370
517	277	830	4194	.161	.167	.180	.680	.740	.850	.172	.203	.250	.360	.360	.460
518	395	-1	4626	.170	.176	.176	.730	.800	.820	.170	-1.00	.230	.330	.440	.440
519	381	1142	4452	.165	.186	.184	.710	.840	.860	.180	.226	.260	.380	.440	.510
520	311	-1	3632	.213	-1.00	.236	.940	-1.00	1.070	.200	-1.00	.310	.370	-1.00	.530
521	311	932	3632	.241	.258	.264	1.020	1.150	1.180	.232	.284	.340	.480	.560	.630
522	249	-1	3748	.121	-1.00	.132	.550	-1.00	.600	.119	-1.00	.210	.210	-1.00	.310
523	249	748	3870	.159	.160	.236	.690	.720	1.030	.170	.216	.270	.360	.400	.470
524	206	-1	2793	.220	-1.00	.252	.900	-1.00	1.080	.175	-1.00	.300	.370	-1.00	.510
525	206	618	3497	.290	.300	.342	1.220	1.260	1.450	.259	.302	.420	.620	.630	.760
526	290	-1	4258	.101	-1.00	.108	.510	-1.00	.510	.108	-1.00	.180	.200	-1.00	.270
527	290	871	4329	.139	.139	.144	.650	.660	.690	.133	.174	.220	.280	.330	.390
528	237	-1	3561	.144	-1.00	.172	.620	-1.00	.800	.136	-1.00	.240	.240	-1.00	.370
529	233	698	3812	.192	.200	.210	.820	.920	1.000	.158	.215	.300	.370	.420	.520
530	242	725	3545	.191	.207	.236	.770	.860	1.050	.173	.230	.310	.400	.450	.520
531	311	-1	4566	.131	-1.00	.148	.570	-1.00	.920	.136	-1.00	.220	.240	-1.00	.340
532	251	753	4313	.152	.165	.200	.680	.730	.910	.161	.203	.260	.310	.360	.410
533	283	851	4161	.158	.175	.177	.740	.850	.880	.163	.184	.250	.320	.360	.420
551	556	4059	8118	.058	.059	.062	.264	.272	.281	.070	.083	.089	.143	.162	.172
552	583	4258	12654	.048	.052	.057	.213	.249	.258	.056	.064	.075	.120	.141	.159
553	396	2891	8673	.067	.071	.076	.279	.348	.378	.090	.112	.120	.177	.204	.233
554	396	2891	5781	.092	.095	.098	.462	.479	.485	.110	.138	.140	.243	.324	.333
555	443	3234	6469	.070	.074	.080	.347	.371	.393	.094	.114	.125	.186	.228	.256
556	443	3234	6469	.093	.095	.095	.447	.459	.469	.111	.141	.144	.240	.282	.318
557	359	2620	5241	.081	.088	.097	.387	.456	.495	.110	.143	.154	.220	.273	.299
558	359	2620	5241	.116	.116	.117	.582	.570	.651	.131	.175	.185	.339	.379	.432
559	277	2020	4039	.145	.147	.152	.711	.756	.756	.138	.200	.220	.306	.402	.462
560	277	2020	4039	.183	.178	.184	.819	.849	.882	.180	.243	.247	.490	.552	.569
571	245	1000	3594	1.250	1.245	1.230	5.620	5.620	5.620	.950	1.255	1.520	2.740	3.020	3.060
572	735	3591	7182	1.450	1.450	1.450	6.260	6.400	6.510	1.400	1.745	1.825	3.890	4.160	4.000
578	1000	3000	6000	1.787	1.970	1.267	9.090	9.200	9.200	1.473	1.667	1.866	5.070	4.800	5.300

Tabel 3f. Profielparameters

PARAMETEROMSCHRIJVING
=====

kolom	omschrijving
1	PROEFNUMMER
2	hspeil1
3	hspeil2
4	hspeil3
5	lspeil1
6	lspeil2
7	lspeil3
8	htpeil1
9	htpeil2
10	htpeil3
11	tan β peil1
12	tan β peil2
13	tan β peil3
14	tan γ peil1
15	tan γ peil2
16	tan γ peil3

Een parameter waar geen waarde voor is gevonden,
wordt aangegeven met het getal -1.00

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
501	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.112	-1.00	-1.00	-1.00	-1.00	-1.00	.064
502	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.114	-1.00	-1.00	-1.00	.088	.078	.037
503	-1.00	-1.00	.102	-1.00	-1.00	.460	-1.00	-1.00	.182	-1.00	-1.00	.380	-1.00	-1.00	.075
504	-1.00	-1.00	.116	-1.00	-1.00	.540	-1.00	-1.00	.192	-1.00	.330	.072	-1.00	.079	.082
506	.081	.130	.145	.410	.610	.780	-1.00	-1.00	.265	.316	.342	.422	-1.00	.158	.131
507	.070	-1.00	.084	.350	-1.00	.410	.130	-1.00	.150	.411	-1.00	.480	.076	-1.00	.072
508	.210	.215	.240	1.160	1.080	1.250	-1.00	.320	.390	.324	.364	.550	.153	.142	.116
509	-1.00	-1.00	.152	-1.00	-1.00	.840	-1.00	-1.00	.310	-1.00	-1.00	.420	.158	-1.00	.115
510	.108	-1.00	.096	.480	-1.00	.400	-1.00	-1.00	.188	.351	-1.00	.570	.082	-1.00	-.026
511	.260	.236	.210	1.430	1.300	1.240	.374	.384	.420	.260	.380	.470	.151	.087	.056
512	.184	-1.00	.180	.960	-1.00	.900	.270	-1.00	.335	.296	-1.00	.610	.098	-1.00	-.032
513	.137	-1.00	.144	.700	-1.00	.610	.210	-1.00	.244	.332	-1.00	.540	.065	-1.00	.018
514	.061	-1.00	.082	.250	-1.00	.380	.121	-1.00	.162	.380	-1.00	.550	.086	-1.00	.028
515	.111	.132	.132	.540	.620	.620	.175	.200	.230	.223	.384	.390	.141	.127	.084
516	.145	-1.00	.152	.760	-1.00	.720	.222	-1.00	.248	.372	-1.00	.450	.073	-1.00	.034
517	.164	.190	.196	.940	1.010	1.000	.280	.290	.310	.459	.373	.680	.104	.073	-.046
518	.131	-1.00	.180	.590	-1.00	.880	.240	.310	.320	.306	-1.00	.440	.139	.134	.137
519	-1.00	.217	.234	-1.00	1.050	1.150	-1.00	.328	.400	-1.00	.378	.340	.163	.142	.111
520	.193	-1.00	.186	.970	-1.00	.860	.315	-1.00	.340	.382	-1.00	.550	.106	-1.00	-.062
521	.220	.232	.232	1.190	1.190	1.190	.370	.385	.392	.413	.400	.550	.099	.085	.072
522	.120	-1.00	.144	.650	-1.00	.610	.184	-1.00	.204	.325	-1.00	.460	.103	-1.00	.054
523	.143	.132	.200	.830	.670	1.000	.244	.240	.312	.369	.303	.620	.100	.108	.036
524	.181	-1.00	.180	1.050	-1.00	.940	.288	-1.00	.328	.410	-1.00	.600	.131	-1.00	-.014
525	.200	.261	.266	1.290	1.500	1.500	.330	.390	.430	.471	.475	.570	.147	.038	-.083
526	.096	-1.00	.096	.400	-1.00	.380	.148	-1.00	.176	.361	-1.00	.590	.079	-1.00	.004
527	.110	.110	.114	.460	.500	.510	.174	.188	.210	.453	.529	.530	.073	-.002	-.018
528	.110	-1.00	.128	.540	-1.00	.570	.200	-1.00	.250	.401	-1.00	.550	.080	-1.00	.028
529	.120	.130	.136	.670	.640	.660	.230	.270	.310	.410	.467	.570	.085	.034	-.024
530	.163	.172	.200	.870	.900	1.060	.280	.292	.340	.353	.390	.350	.066	.145	.048
531	.110	-1.00	.126	.500	-1.00	.610	.178	-1.00	.238	.323	-1.00	.550	.105	-1.00	.037
532	-1.00	.148	.168	-1.00	.750	.980	-1.00	.250	.320	-1.00	.439	.360	.163	.122	.094
533	.149	.184	.192	.910	.970	1.000	.254	.276	.300	.409	.383	.580	.103	.074	.041
551	-1.00	-1.00	.045	-1.00	-1.00	.189	.076	.074	.077	-1.00	-1.00	.300	-1.00	.046	.038
552	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.260	-1.00	0.000	.076
553	.047	.058	.058	.207	.264	.252	.097	.118	.130	.352	.418	.380	.045	.055	.042
554	.077	.088	.095	.336	.444	.474	.115	.160	.180	.316	.494	.416	.148	.126	.120
555	.050	.074	.067	.209	.309	.312	.102	.117	.125	.313	.400	.399	.086	.076	.084
556	.065	.078	.090	.288	.378	.420	.105	.145	.166	.308	.404	.376	.125	.112	.087
557	.075	.085	.085	.300	.360	.393	.128	.170	.184	.312	.424	.520	.085	.040	.012
558	.110	.110	.122	.519	.546	.617	.174	.213	.238	.382	.444	.560	.083	.081	.028
559	-1.00	.108	.123	-1.00	.502	.582	-1.00	.238	.260	.262	.436	.435	.117	.038	.016
560	.170	.171	.160	.915	.876	.780	.250	.294	.300	.486	.582	.528	.072	-.025	-.035
571	.850	.750	4.930	4.210	4.480	5.620	1.410	1.490	1.600	.342	.340	.486	.165	.124	.105
572	.825	.925	1.000	5.560	5.830	6.140	1.820	1.970	2.080	.395	.463	.495	.140	.110	.093
578	1.307	1.350	7.270	7.570	7.220	8.450	2.120	2.110	2.090	.304	.321	.400	.147	.147	.146

Tabel 3h. Profielparameters

PARAMETEROMSCHRIJVING

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kolom | omschrijving

1	VOLGNUMMER
2	PROEFNUMMER
3	Dn50
4	AANTAL GOLVEN
5	b-beneden swl
6	b-boven swl
7	hr
8	lr
9	hc
10	lc
11	hs
12	ls
13	ht
14	TAN B
15	TAN Y

Een parameter waar geen waarde voor is gevonden,
wordt aangegeven met het getal -1.00

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	384	.0257	250	2.000	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.800	-1.00
2	384	.0257	500	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.799	-1.00
3	384	.0257	1000	4.000	-1.00	.082	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.783	-1.00
4	384	.0257	2000	-1.00	-1.00	.080	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.798	-1.00
5	384	.0257	3000	6.000	-1.00	.085	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.811	-1.00
6	384	.0257	4000	-1.00	-1.00	.094	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.774	-1.00
7	384	.0257	5000	8.000	-1.00	.099	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.832	-1.00
8	384	.0257	7500	-1.00	-1.00	.098	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	.832	-1.00
9	387	.0257	250	.885	1.017	.184	.590	.120	.325	.244	1.066	-1.00	.884	-1.00
10	387	.0257	500	.824	1.146	.195	.567	.139	.315	.290	1.266	-1.00	.857	-1.00
11	387	.0257	1000	.782	1.009	.255	.669	.200	.375	.309	1.393	-1.00	.827	-1.00
12	387	.0257	2000	.755	1.220	.274	.670	.215	.352	.320	1.486	-1.00	.862	-1.00
13	387	.0257	3000	.772	1.171	.286	.677	.245	.389	.327	1.540	-1.00	.859	-1.00
14	387	.0257	4000	.764	1.076	.283	.640	.253	.389	.325	1.590	-1.00	.873	-1.00
15	387	.0257	5000	.811	1.156	.290	.658	.275	.421	.320	1.595	-1.00	.840	-1.00
16	387	.0257	7500	.762	1.146	.310	.686	.290	.425	.325	1.631	-1.00	.878	-1.00
17	387	.0257	10000	.781	1.118	.326	.741	.300	.600	.331	1.625	-1.00	.833	-1.00
18	388	.0257	250	.915	1.261	.179	.567	.160	.439	.261	1.087	-1.00	.826	-1.00
19	388	.0257	500	.782	1.098	.190	.549	.164	.332	.286	1.229	-1.00	.820	-1.00
20	388	.0257	1000	.905	1.103	.216	.535	.194	.325	.300	1.384	-1.00	.827	-1.00
21	388	.0257	2000	.821	1.248	.224	.507	.224	.379	.311	1.502	-1.00	.819	-1.00
22	388	.0257	3000	.774	1.322	.264	.613	.223	.393	.313	1.530	-1.00	.817	-1.00
23	388	.0257	4000	.838	1.317	.260	.585	.234	.402	.321	1.593	-1.00	.848	-1.00
24	388	.0257	5000	.849	1.356	.270	.590	.236	.421	.295	1.576	-1.00	.802	-1.00
25	388	.0257	7500	.808	1.372	.277	.590	.261	.453	.330	1.655	-1.00	.863	-1.00
26	403	.0110	250	.846	1.228	.136	.331	.112	.194	.086	.394	-1.00	.448	-1.00
27	403	.0110	500	.811	1.285	.144	.337	.131	.211	.110	.514	-1.00	.455	-1.00
28	403	.0110	1000	.841	1.260	.176	.423	.150	.261	.125	.593	-1.00	.506	-1.00
29	403	.0110	2000	.811	1.285	.185	.439	.170	.299	.122	.608	-1.00	.518	-1.00
30	403	.0110	3000	.855	31.00	.206	.497	.167	.297	.130	.648	-1.00	.531	-1.00
31	403	.0110	4000	-1.00	-1.00	.199	.491	.181	.320	.126	.629	-1.00	.490	-1.00
32	403	.0110	5000	.798	1.167	.204	.505	.185	.322	.137	.654	-1.00	.504	-1.00
33	407	.0110	250	.874	1.195	.321	.731	.270	.434	-1.00	-1.00	-1.00	.517	-1.00
34	407	.0110	500	.887	1.179	.329	.743	.310	.514	.243	1.210	-1.00	.633	-1.00
35	407	.0110	1000	.810	1.174	.358	.811	.342	.594	.264	1.280	-1.00	.562	-1.00
36	407	.0110	2000	.985	1.143	.372	.817	.362	.600	.280	1.442	-1.00	.495	-1.00
37	407	.0110	3000	38.00	-1.00	-1.00	-1.00	.367	.643	.266	1.409	-1.00	.477	-1.00
38	407	.0110	4000	-1.00	-1.00	-1.00	-1.00	.372	.629	.280	1.430	-1.00	.490	-1.00
39	407	.0110	5000	41.00	.950	-1.00	-1.00	.377	.686	.260	1.368	-1.00	.540	-1.00
40	503	.0041	309	-1.00	-1.00	.090	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00	-1.00
41	503	.0041	4525	-1.00	-1.00	.078	.950	.204	.340	.064	.310	.148	.300	.078
42	503	.0041	9049	-1.00	43.00	.080	1.050	.244	.410	.102	.460	.182	.380	.075
43	503	.0041	18098	-1.00	-1.00	.080	1.140	.280	.470	.126	.600	.230	.390	.061
44	503	.0041	27148	-1.00	45.00	.080	1.150	.296	.510	.122	.620	.248	.480	.055
45	504	.0041	300	-1.00	-1.00	.118	1.070	.072	.430	-1.00	-1.00	-1.00	-1.00	-1.00
46	504	.0041	901	.515	1.357	.113	1.030	.113	.280	-1.00	-1.00	-1.00	-1.00	.079
47	504	.0041	8809	.897	1.225	.105	1.160	.273	.450	.116	.540	.192	.330	.082
48	504	.0041	17617	.775	1.152	.102	1.350	.296	.500	.186	.790	.256	.490	.071
49	504	.0041	26426	.860	1.240	.102	1.450	.312	.550	.184	1.000	.300	.430	.056
50	511	.0041	242	-1.00	51.00	.268	1.150	.232	.620	.260	1.430	.374	.260	.151
51	511	.0041	727	-1.00	-1.00	.286	1.270	.286	.610	.236	1.300	.384	.380	.087
52	511	.0041	3554	.840	1.142	.300	1.370	.354	.720	.210	1.240	.420	.470	.056
53	511	.0041	7107	.933	1.144	.310	1.390	.380	.720	.276	1.460	.444	.590	.053
54	511	.0041	13859	.967	1.107	.314	1.410	.396	.730	.282	1.520	.460	.520	.052

Tabel 4b. Profielparameters voor langeduur proeven

2. Overzicht onderzochte konstrukties met profielen

Fig. 2.1

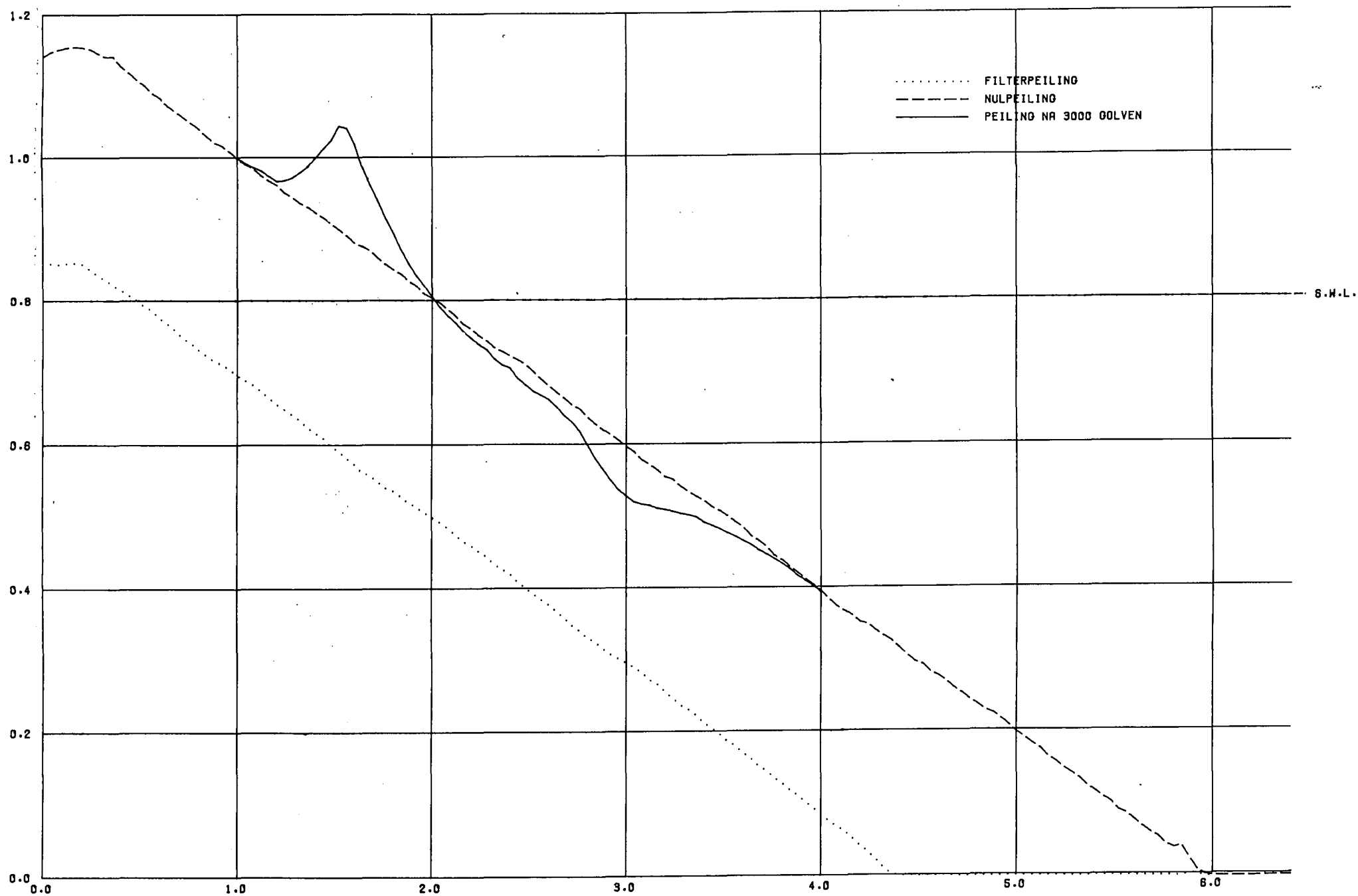
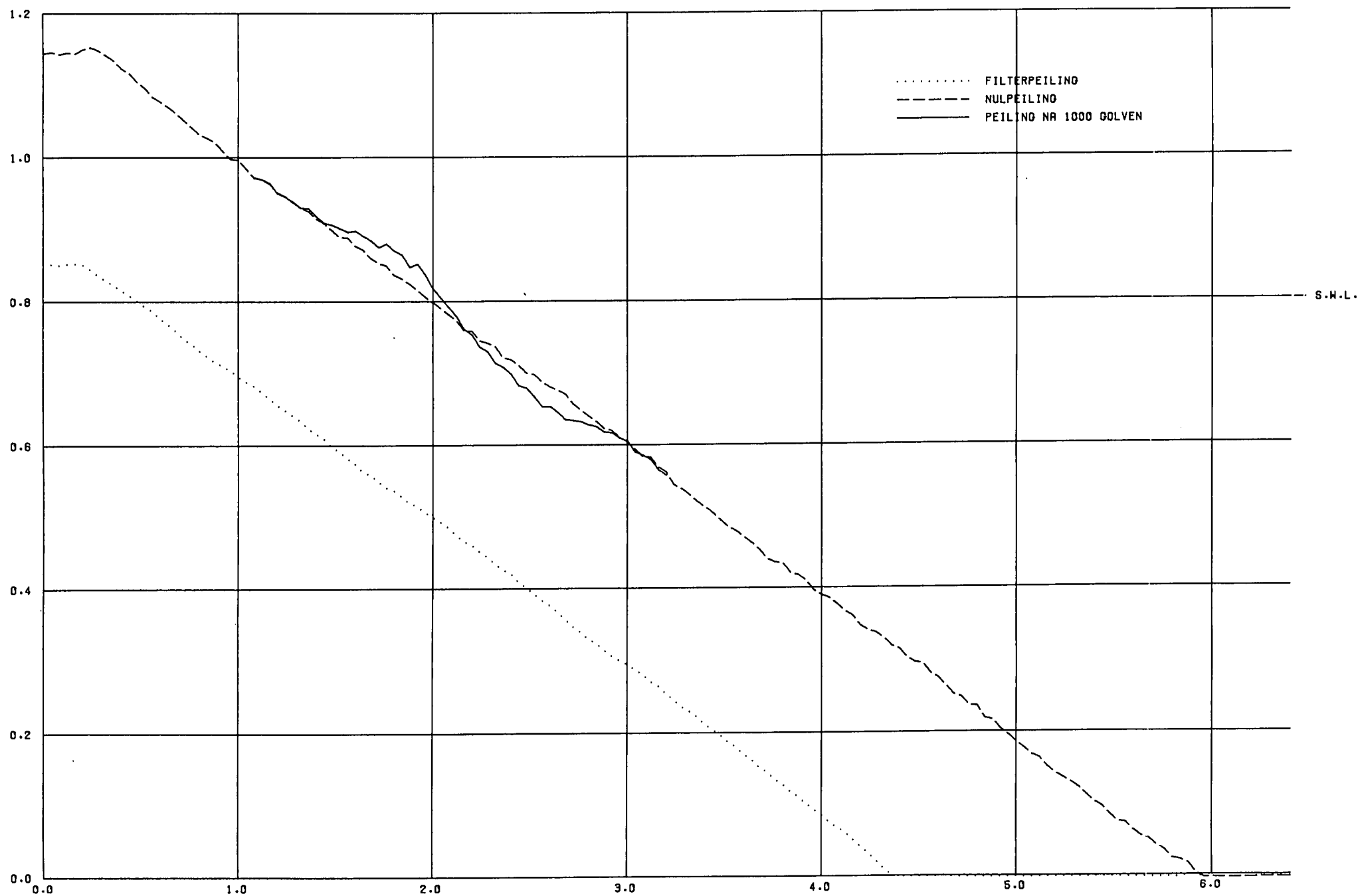


Fig. 2.2



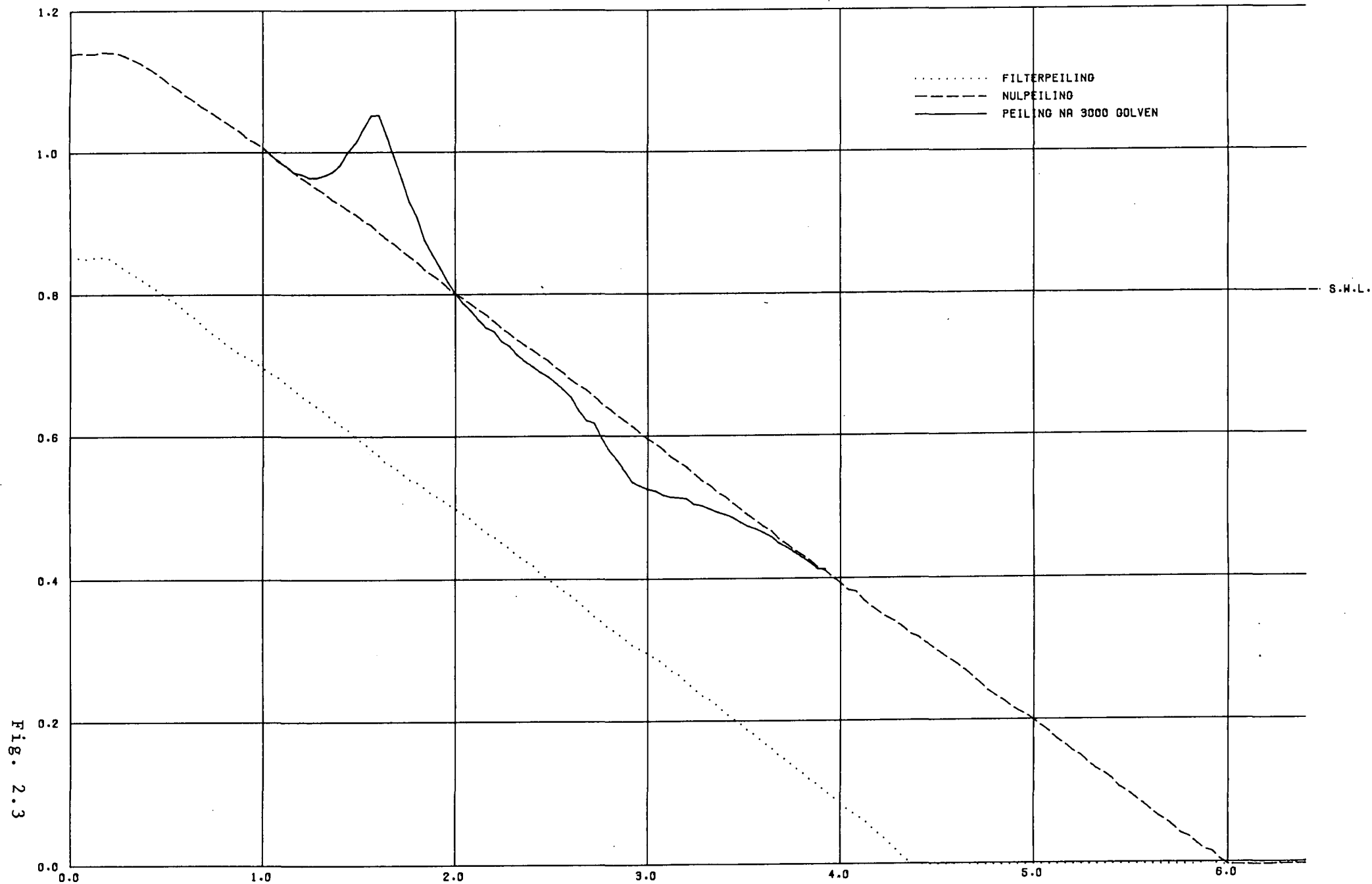


Fig. 2.4

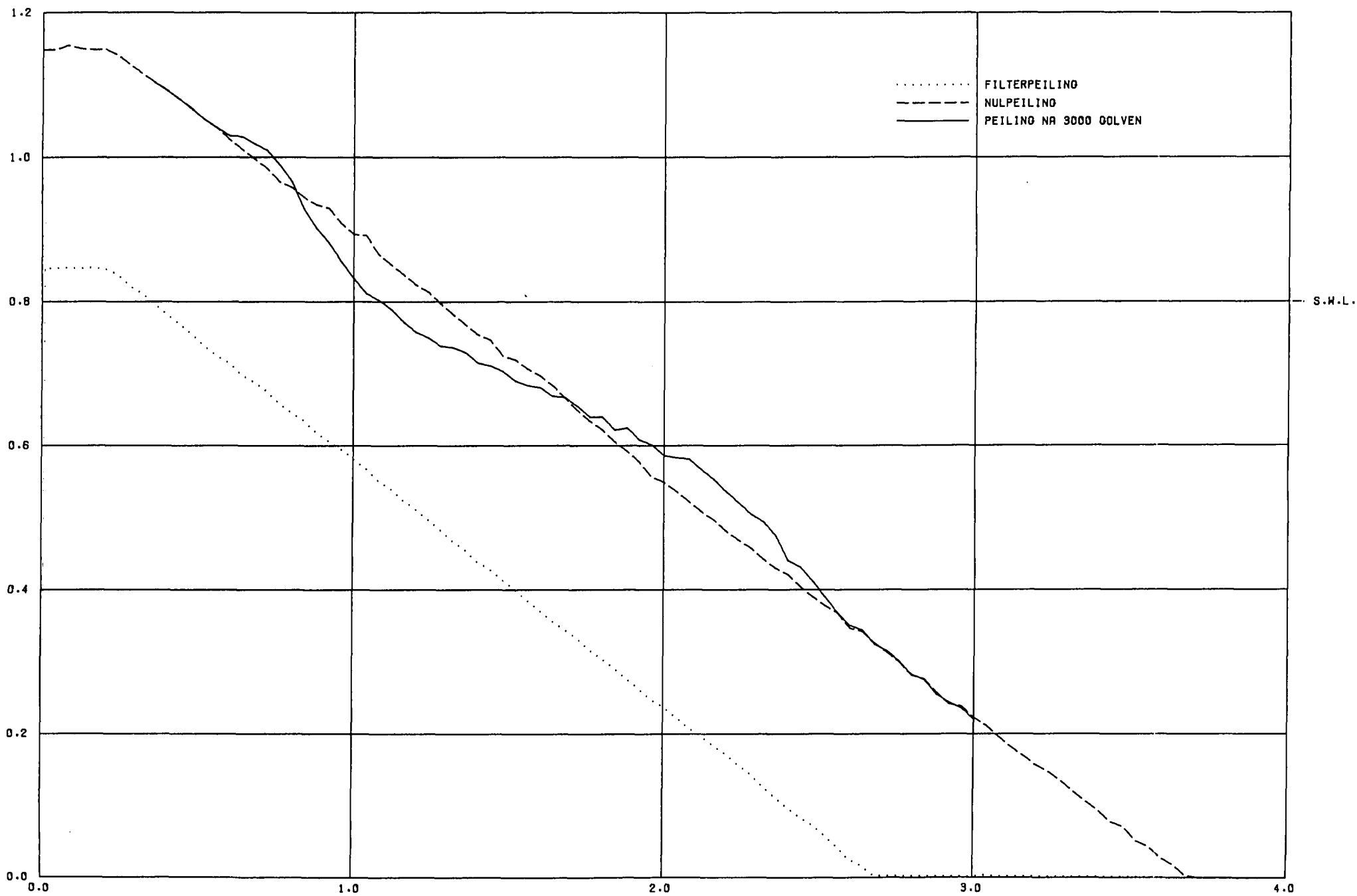


Fig. 2.5

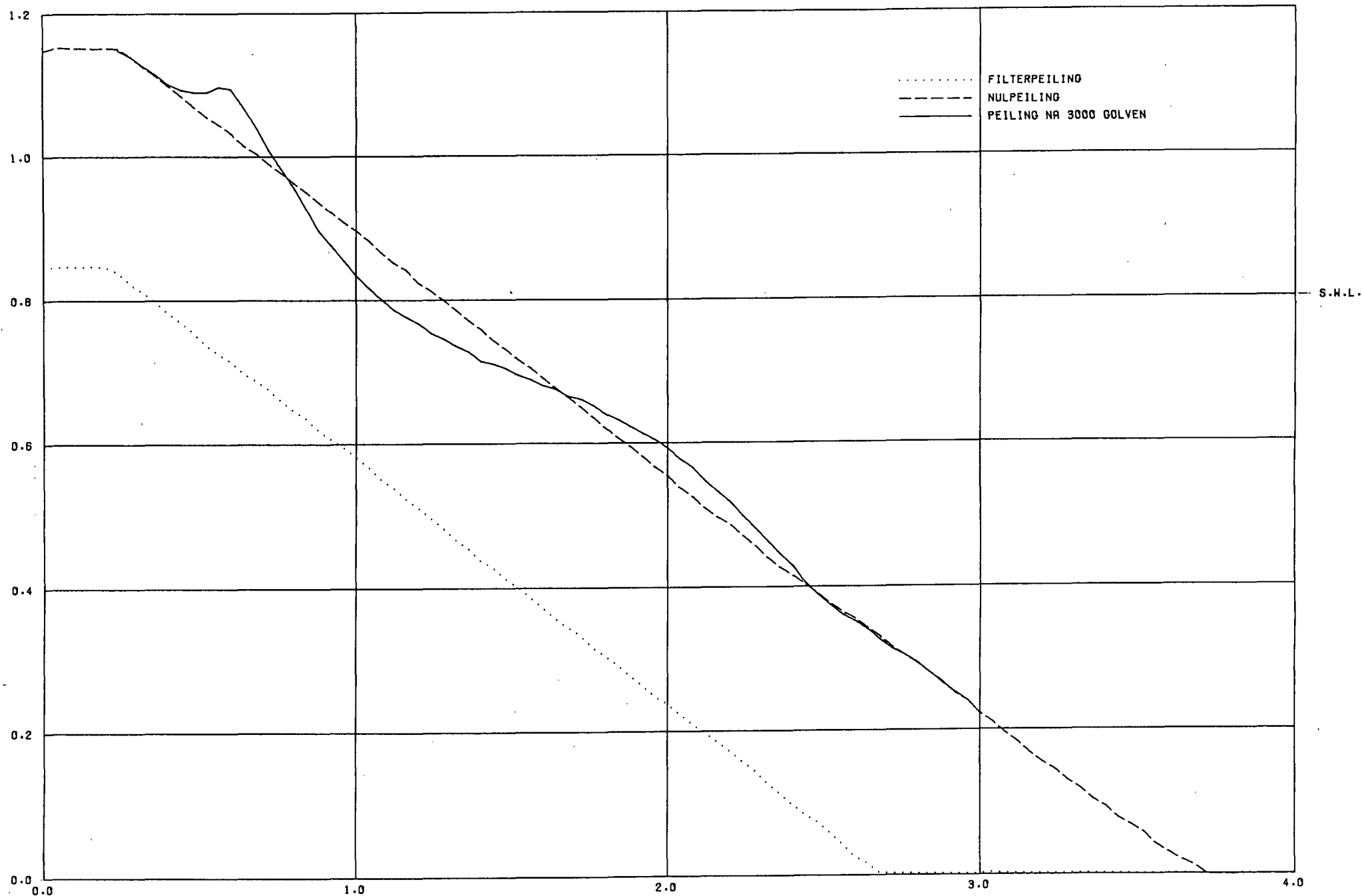


Fig. 2.6

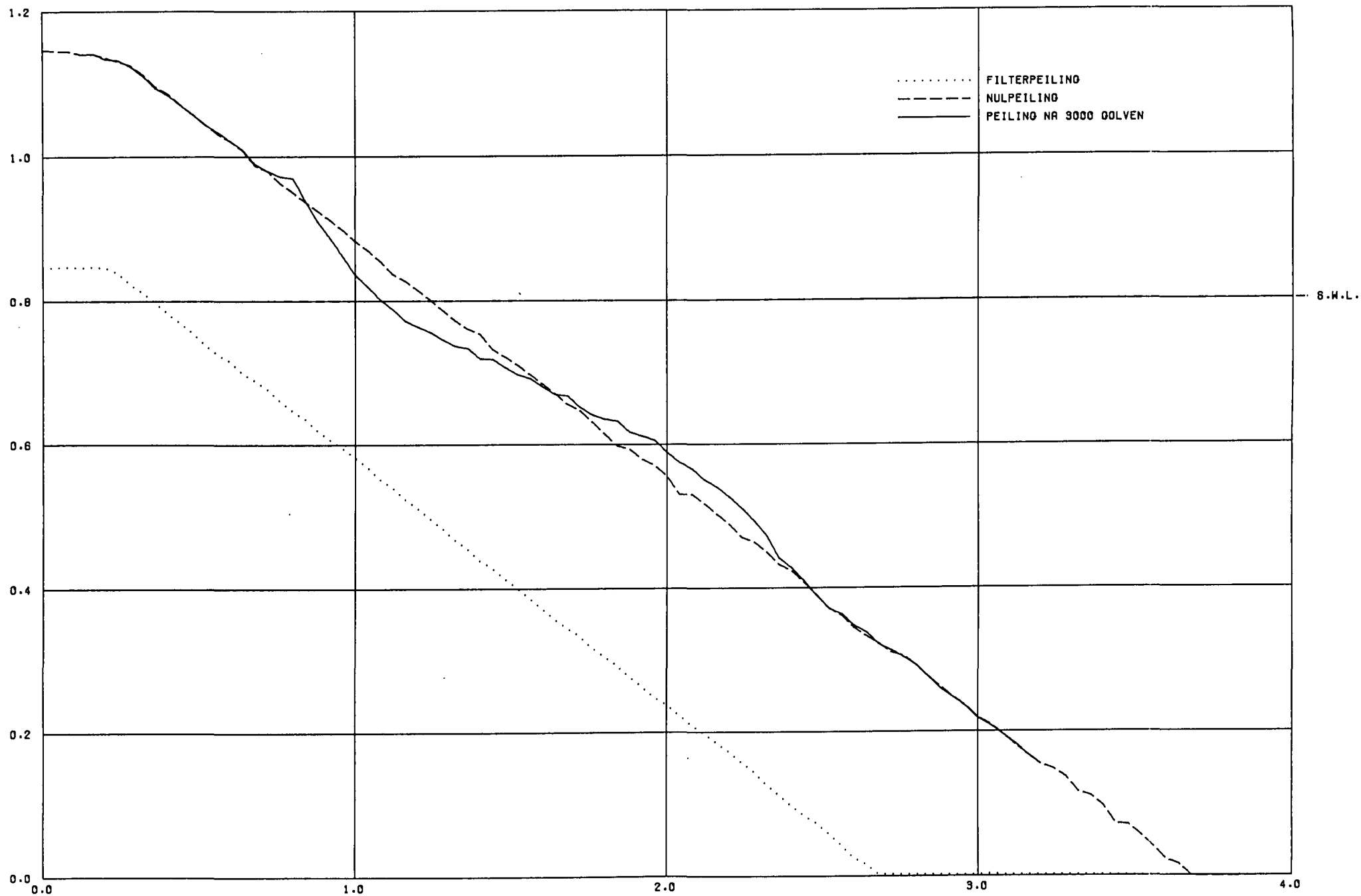


Fig. 2.7

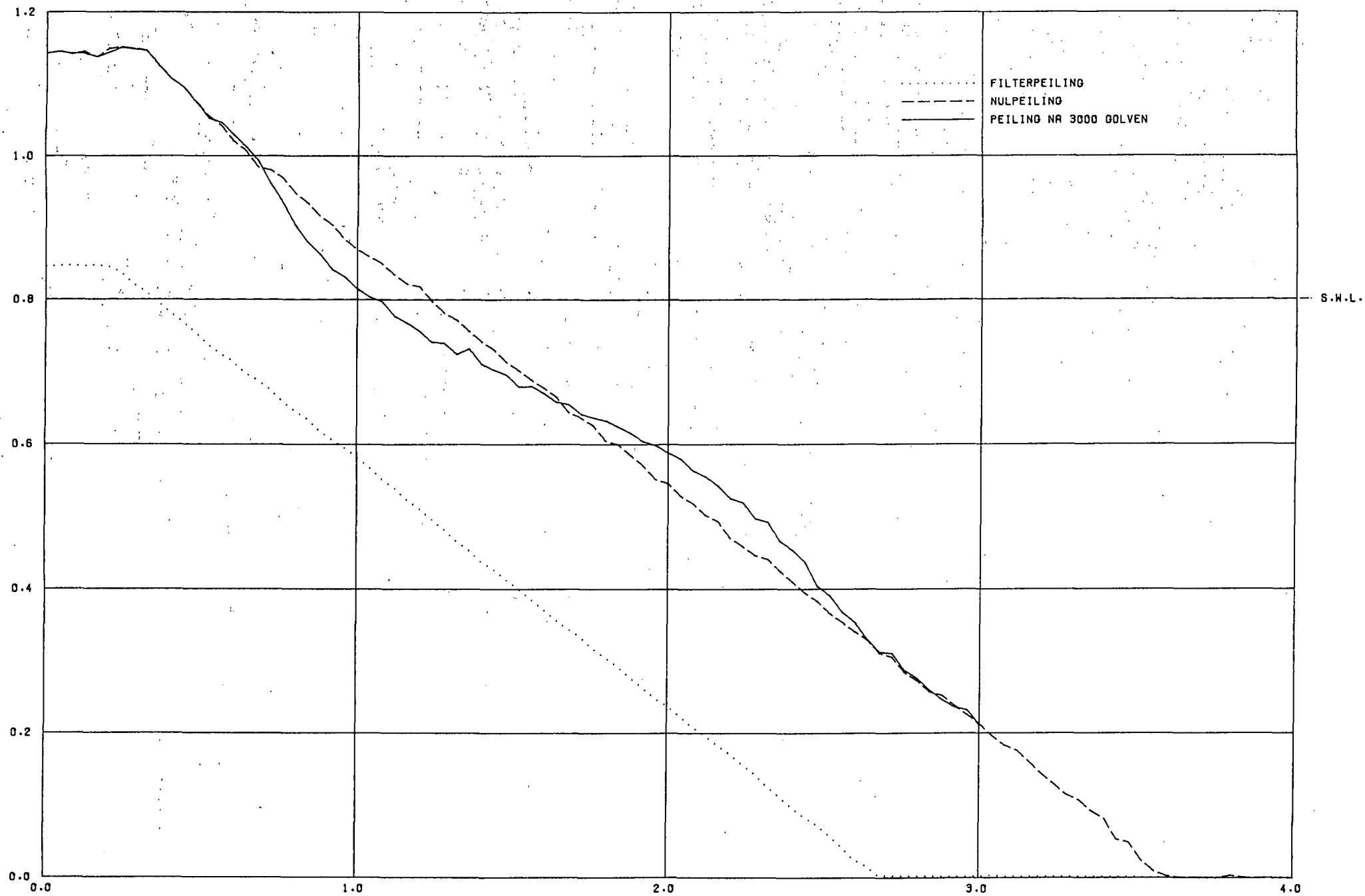


Fig. 2.8

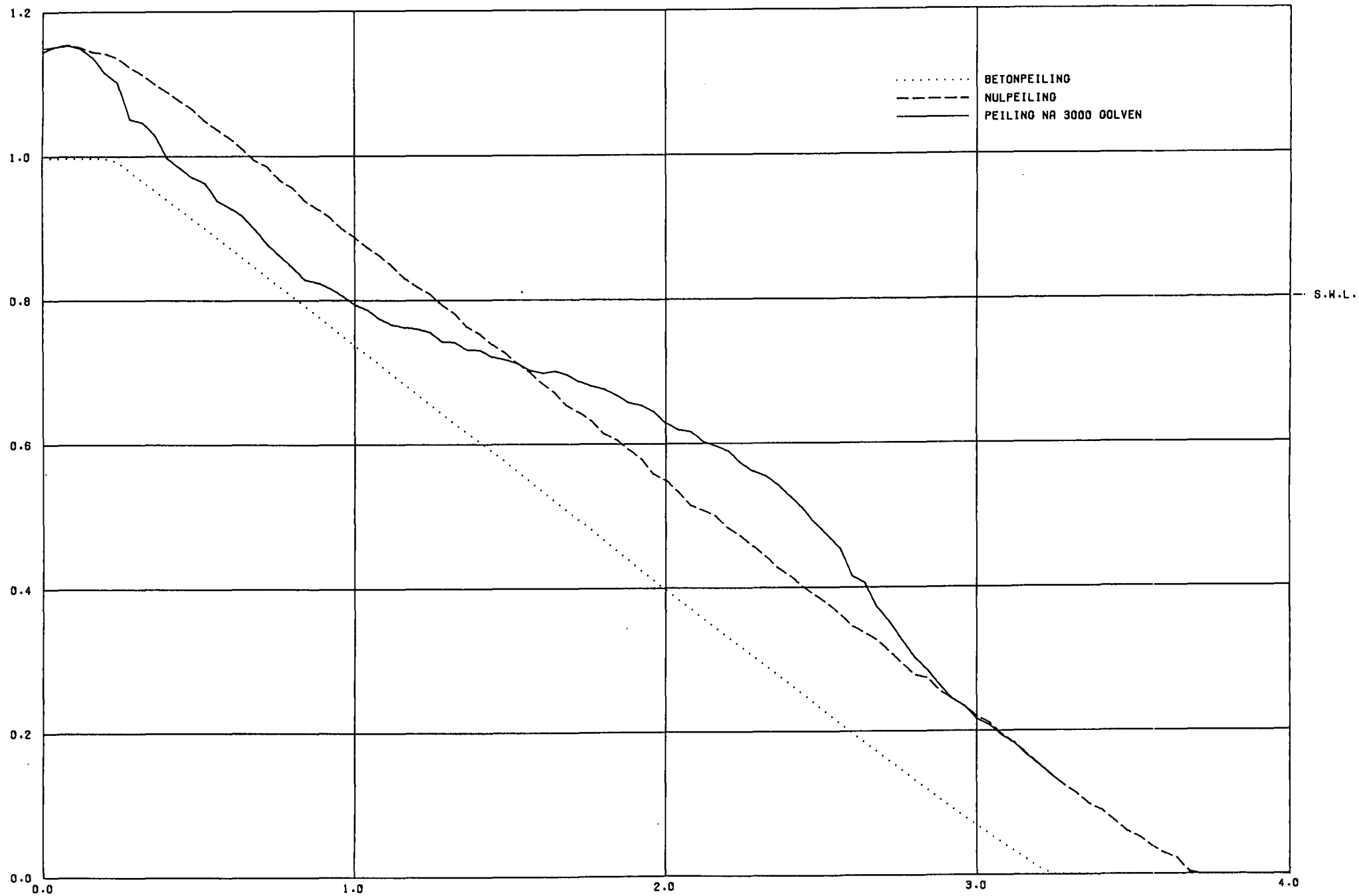


Fig. 2.9

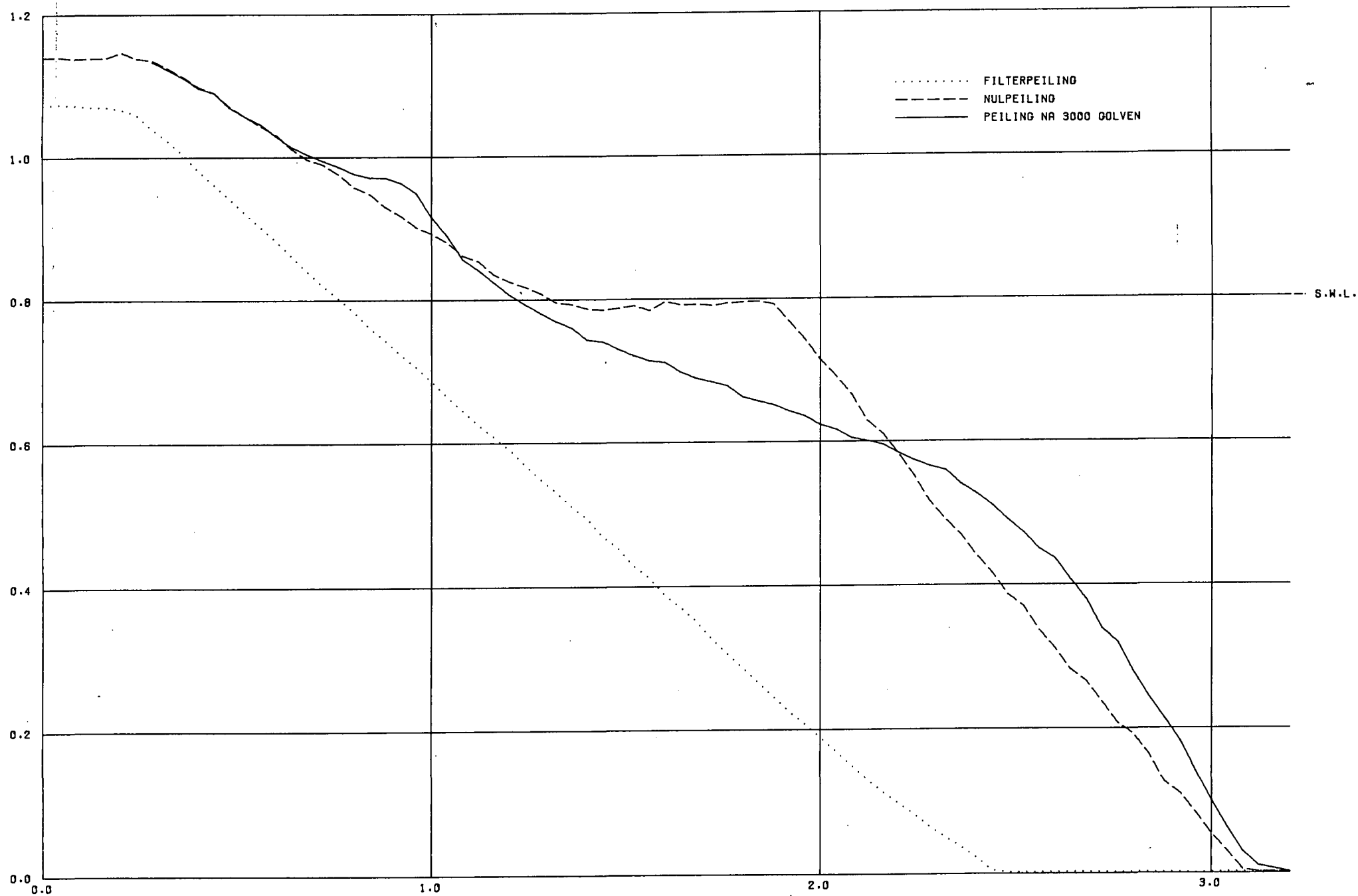


Fig. 2.10

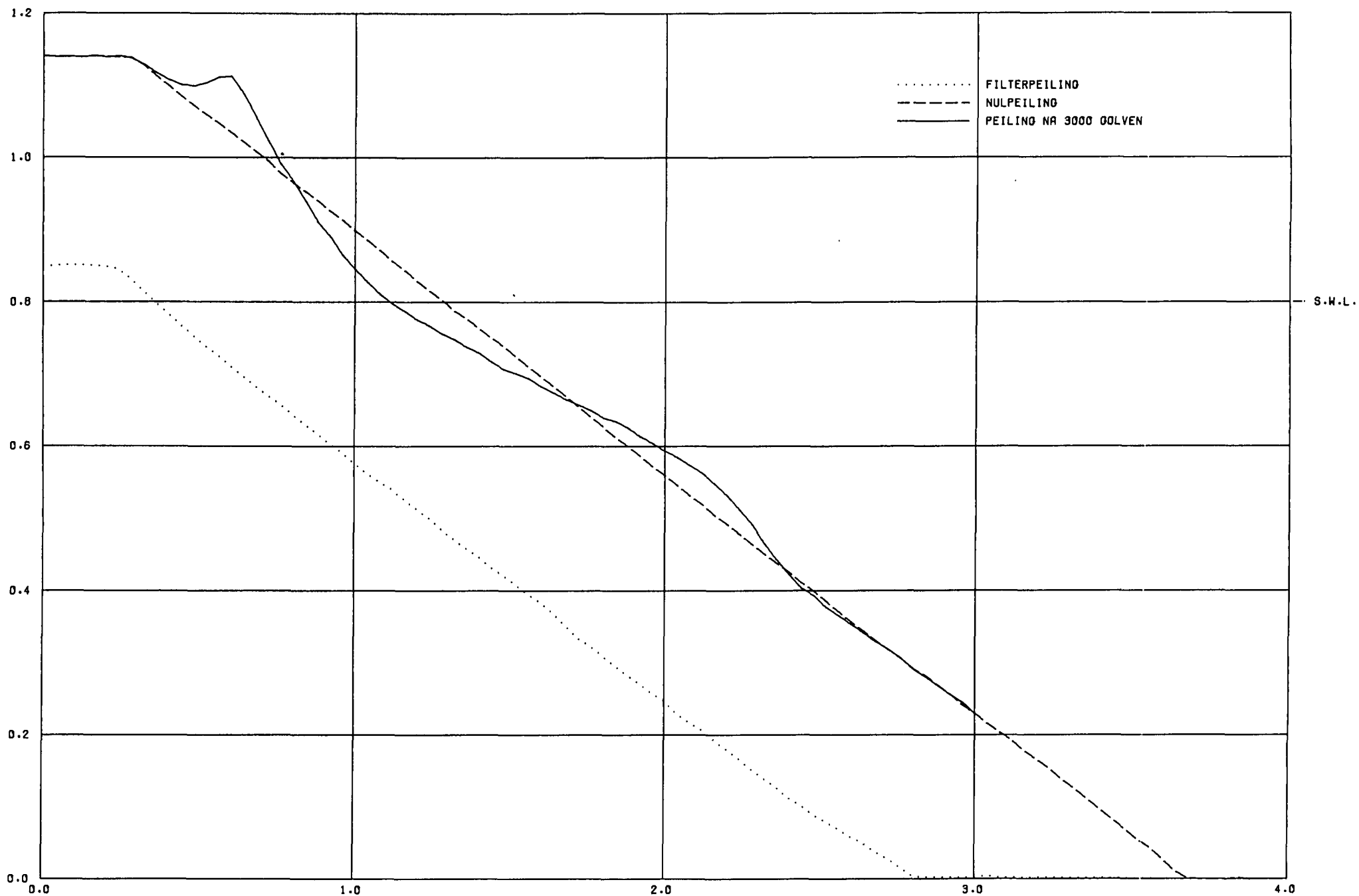


Fig. 2.11

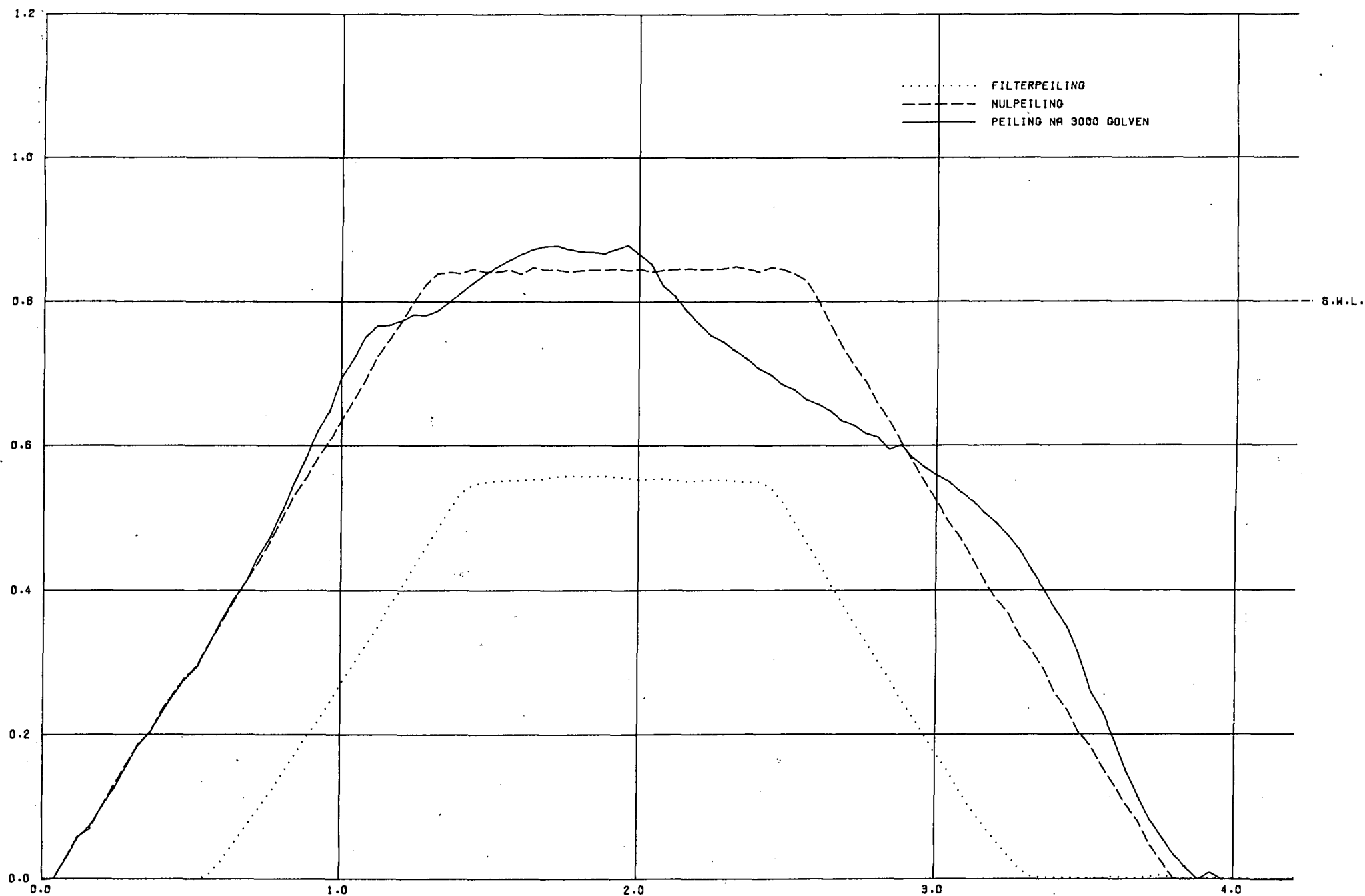
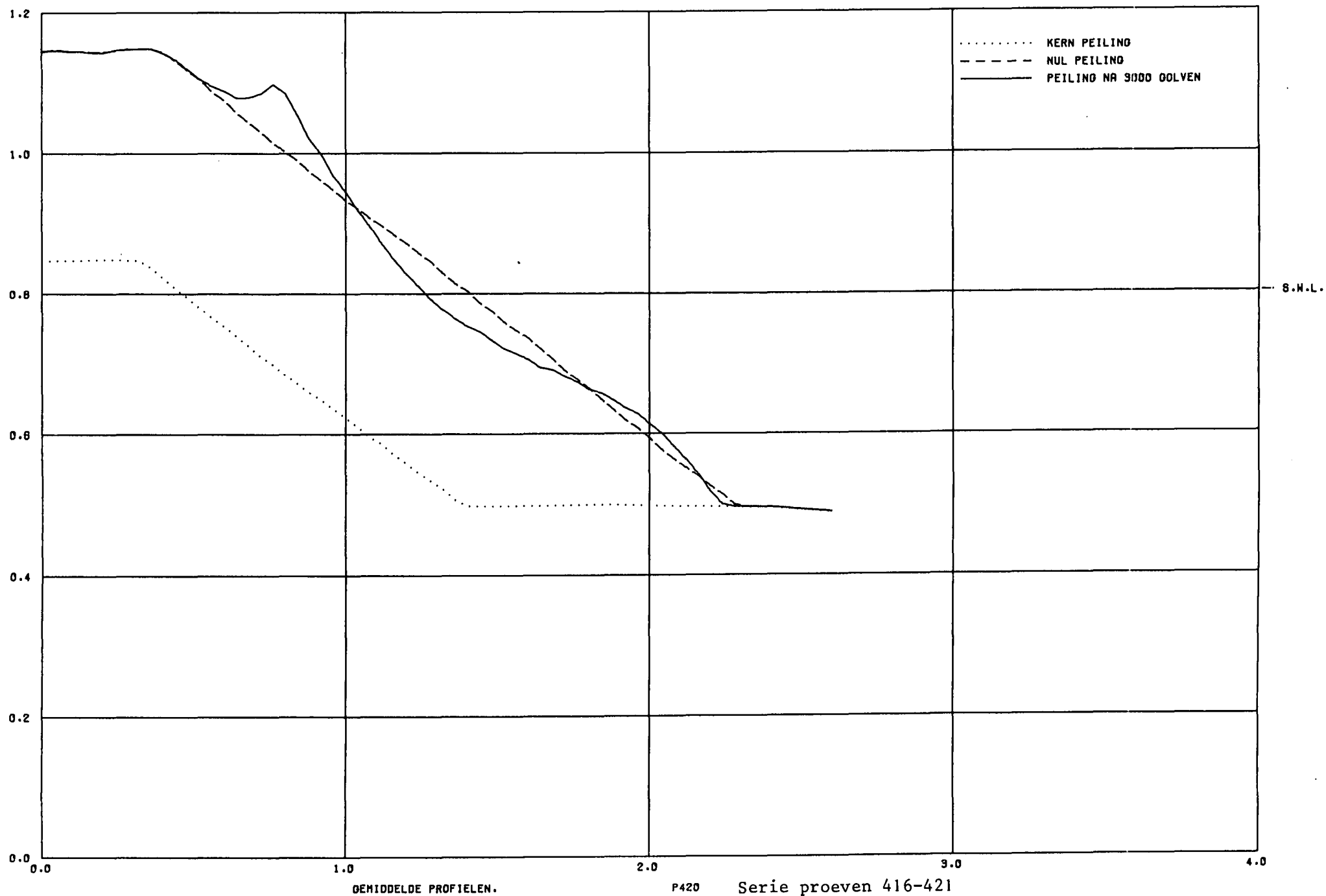
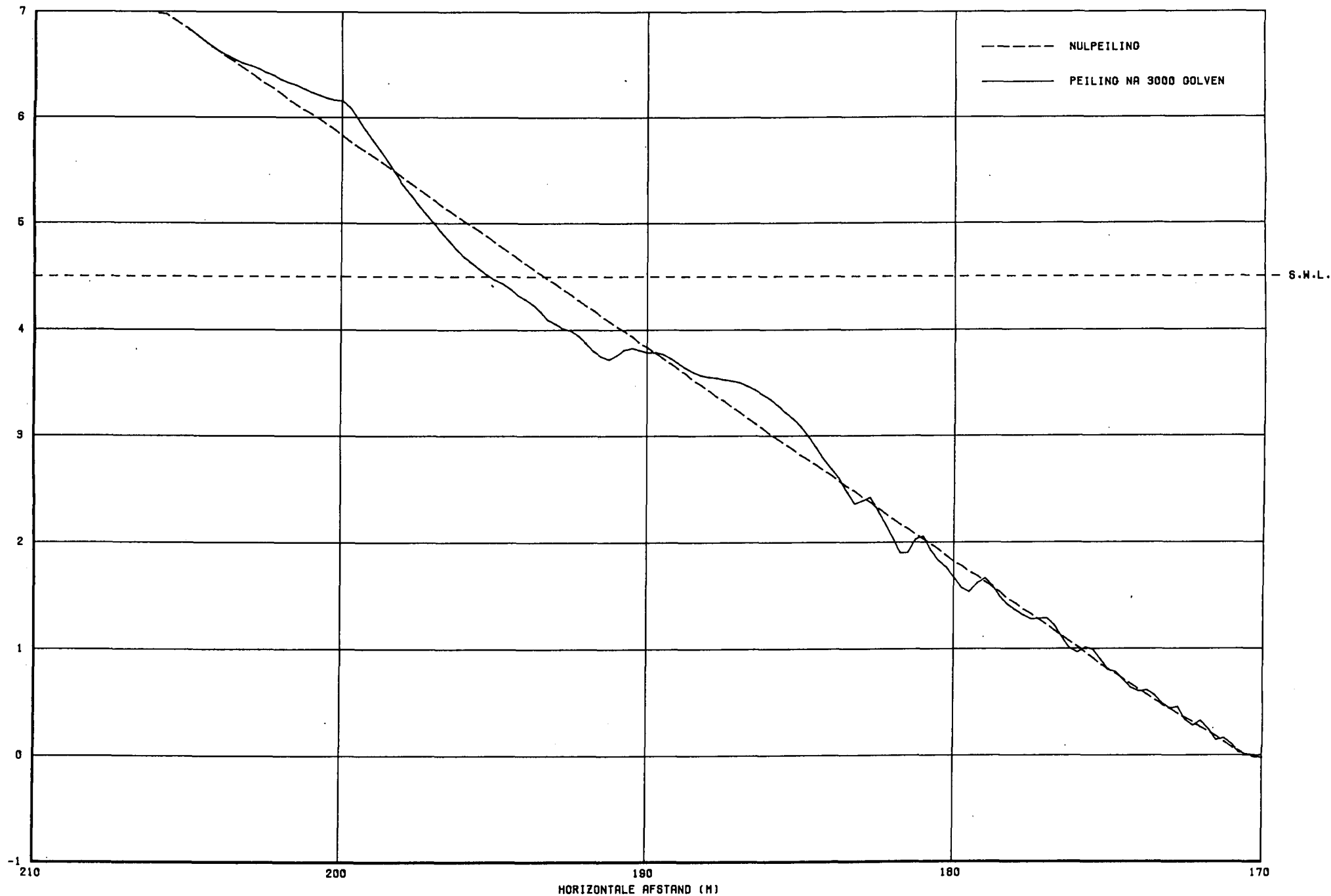


Fig. 2.12



VERTIKALE AFSTAND (M)

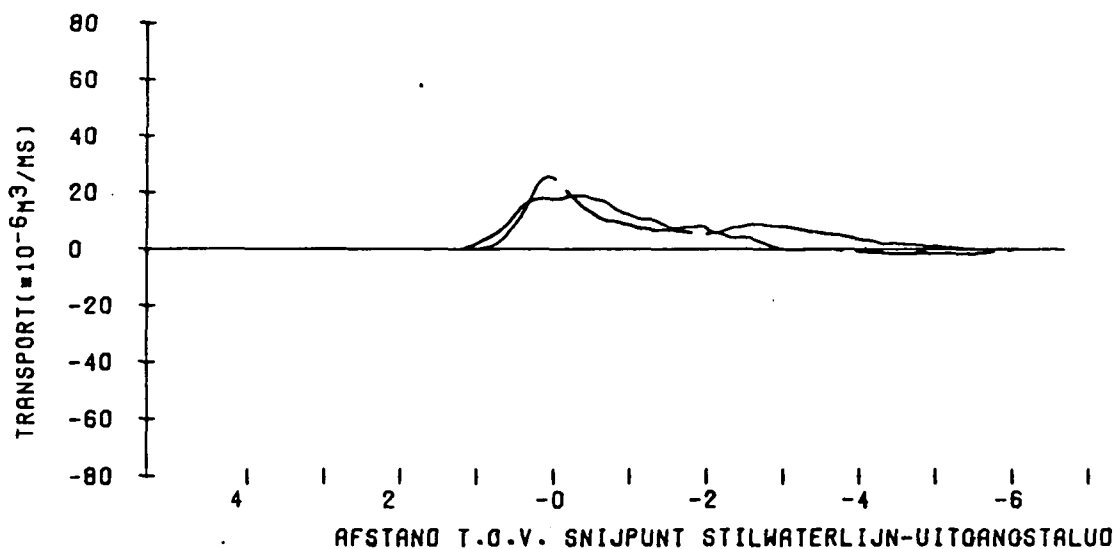
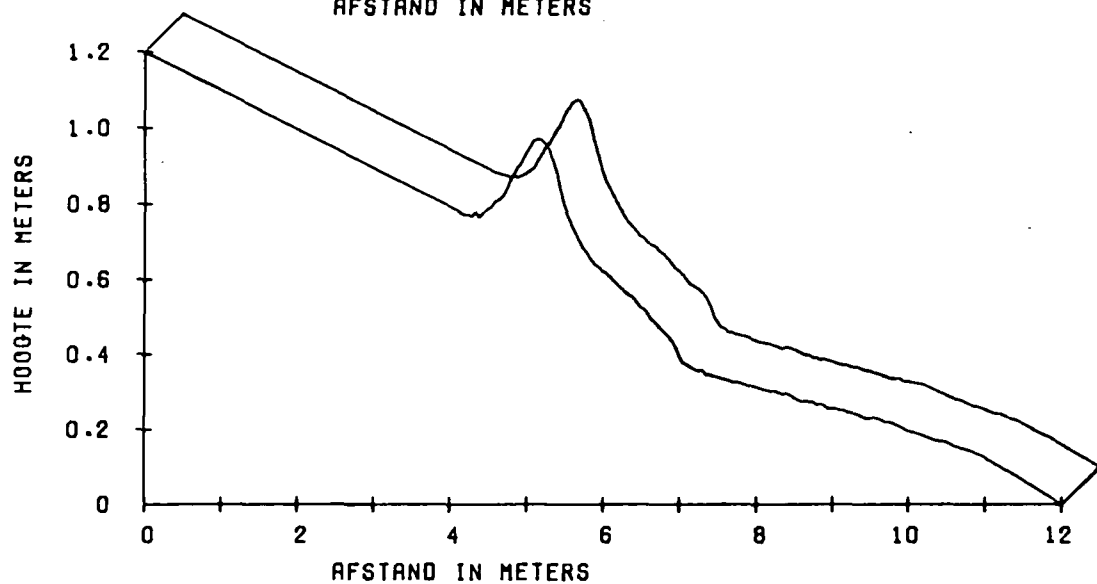
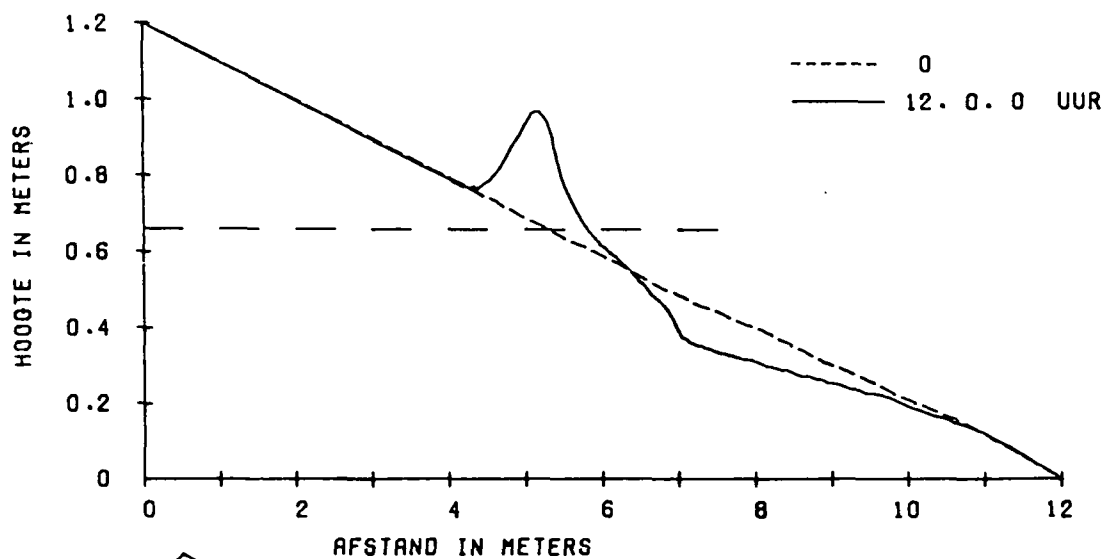
Fig. 2.13



GEMIDDELTE PROFIELEN DELTAGOOT

P05

Serie proeven 803-809 en 571-578



$H_s = 0.190 \text{ m}$ $T_s = 2.01 \text{ s}$ ——— 0.00 - 8.18 MIN.
 $H_{\text{MAX}} = 0.320 \text{ m}$ $T_0 = 1.88 \text{ s}$ ——— 8.18 - 24.55 MIN.

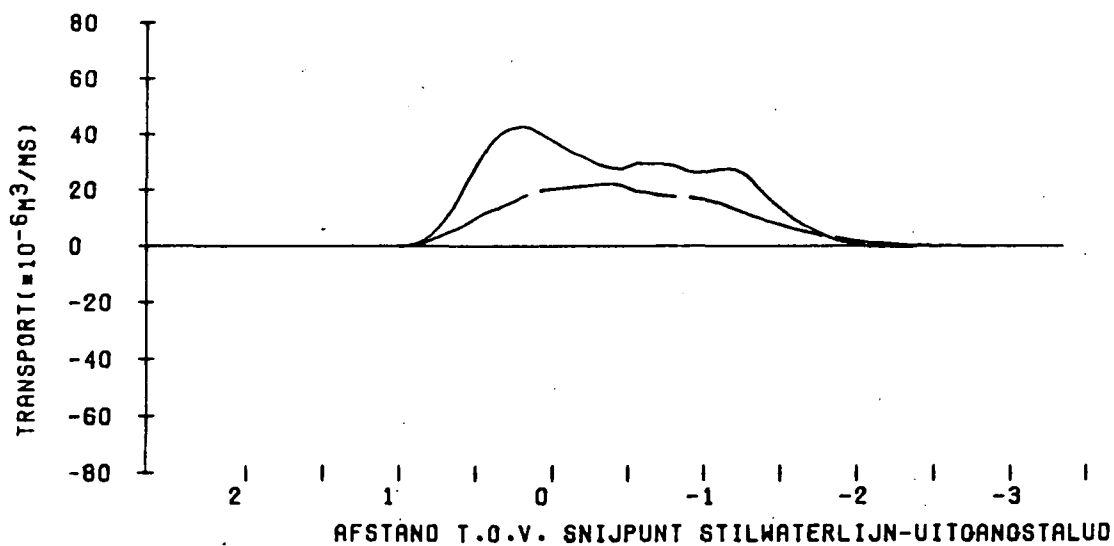
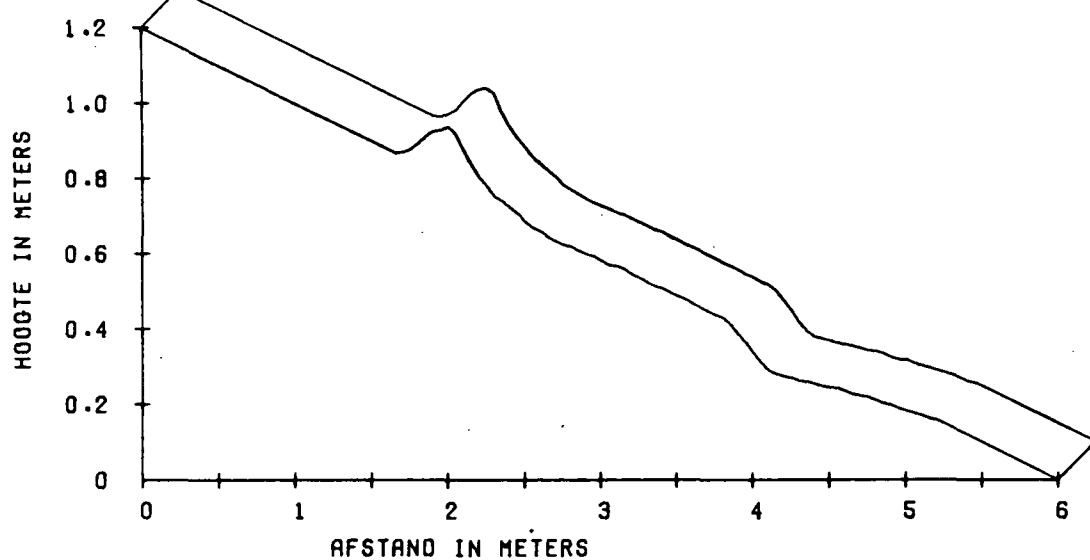
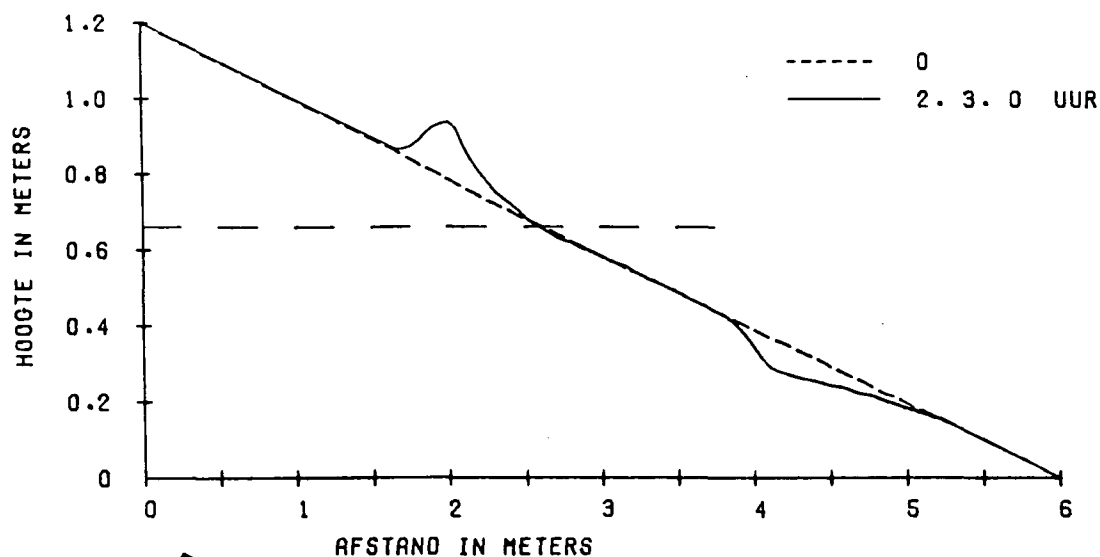
M 1216- TWEEDIMENSIONAAL, PROEVEN 501-504

T004

WATERLOOPKUNDIG LABORATORIUM

M 1983

FIG. 2.14



$H_s = 0,188 \text{ m}$ $T_s = 2,08 \text{ s}$ — 0.00-8.18 MIN.

$H_{max} = 0,350 \text{ m}$ $T_0 = 1,86 \text{ s}$ - - 8.18-24.55 MIN.

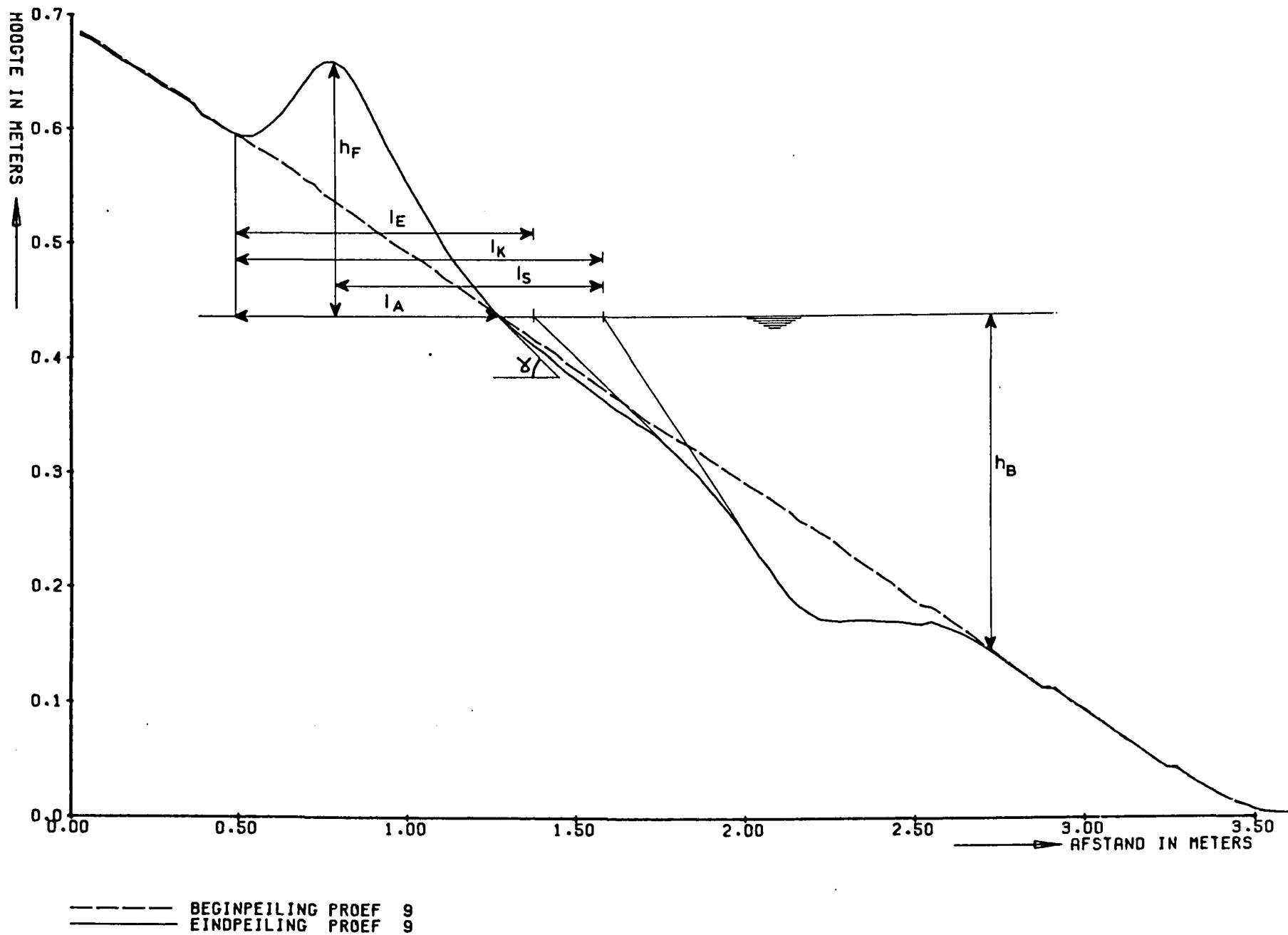
M 1216- TWEEDIMENSIONAAL, PROEVEN 506-533

T008

WATERLOOPKUNDIG LABORATORIUM

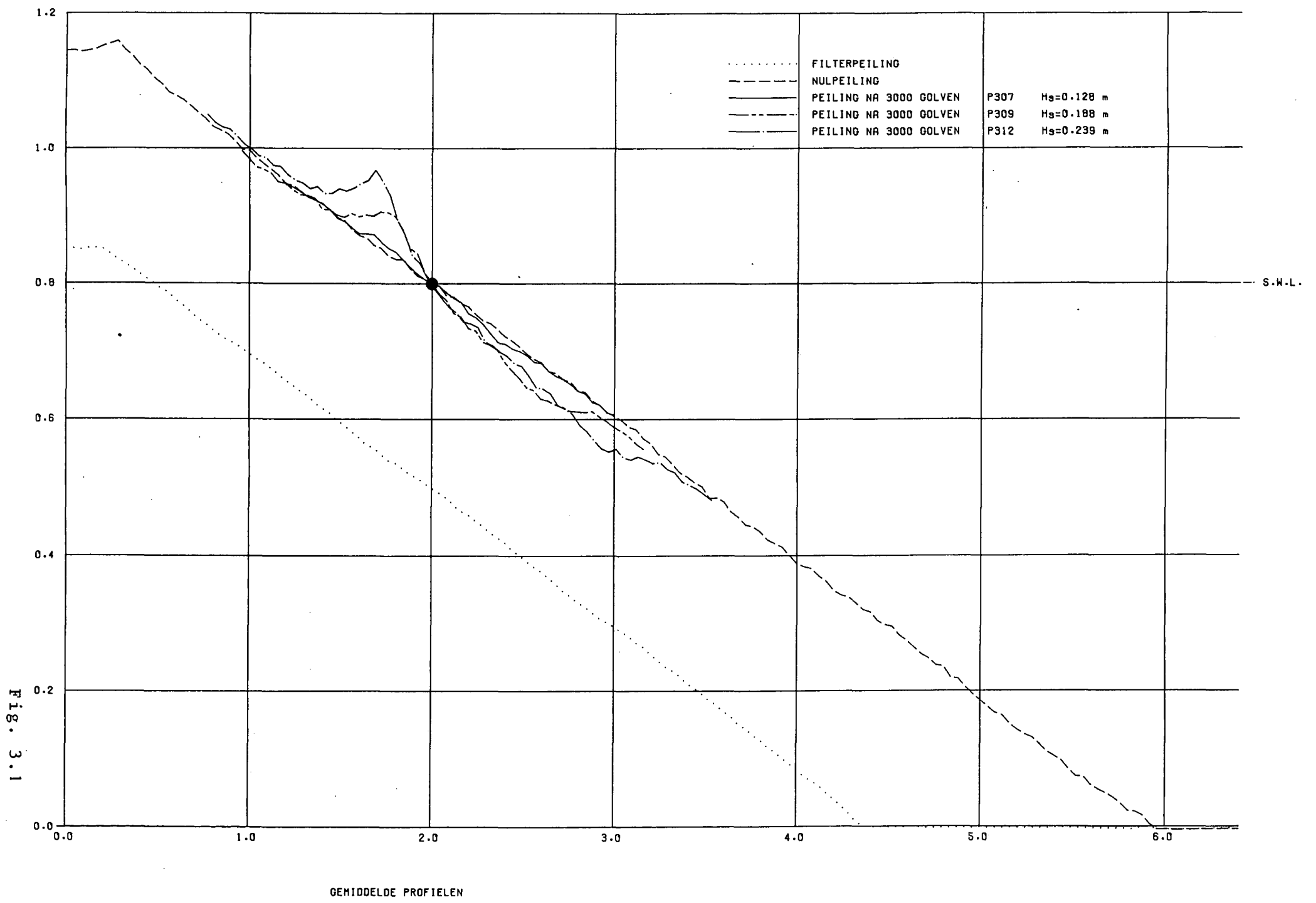
M 1983

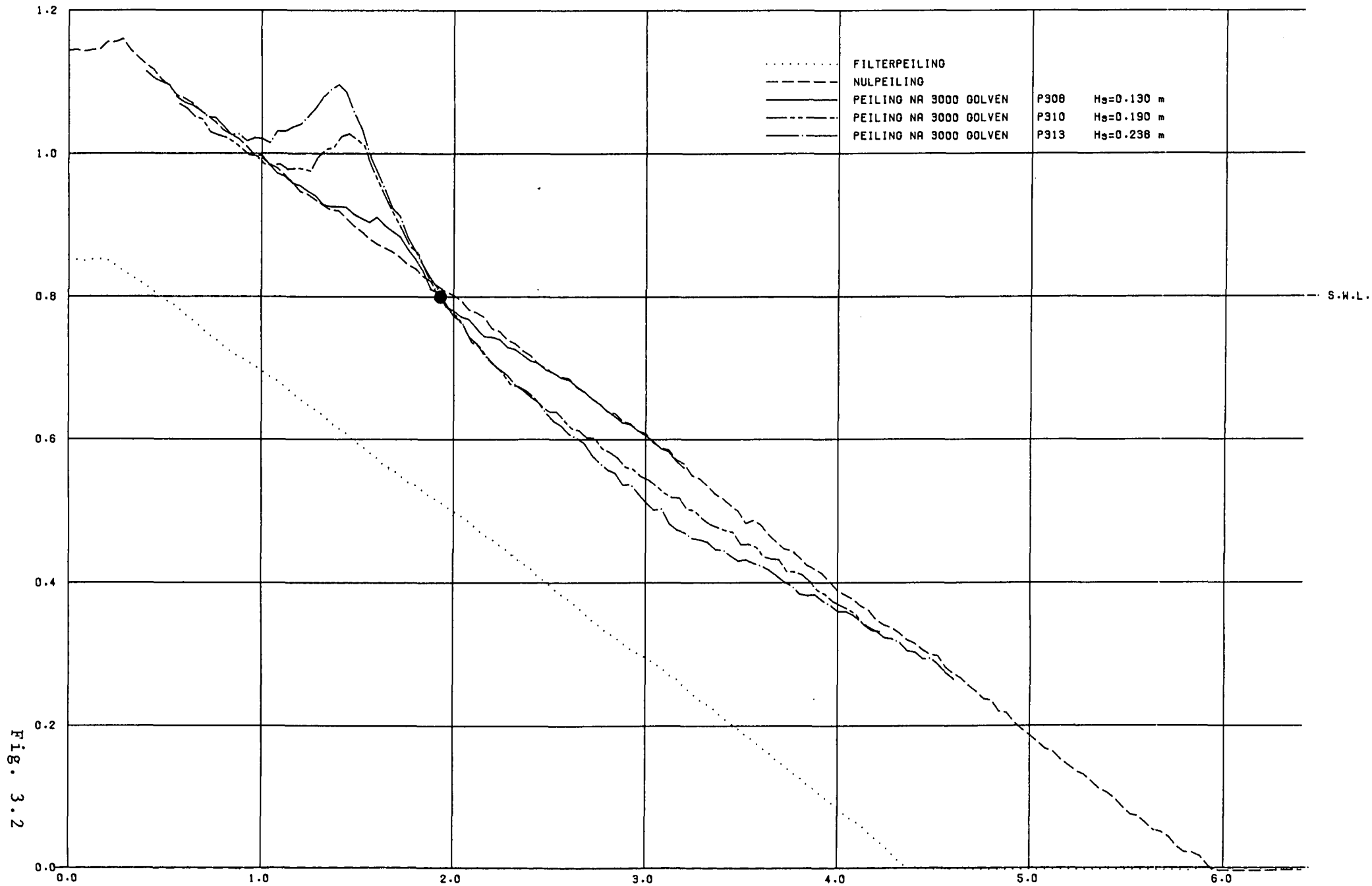
FIG. 2.15



3. Invloed golfhoogte

De profielen zijn zodanig langs de waterlijn verschoven, dat hetzelfde snijpunt ontstaat met de waterlijn





GEMIDDELOE PROFIELEN

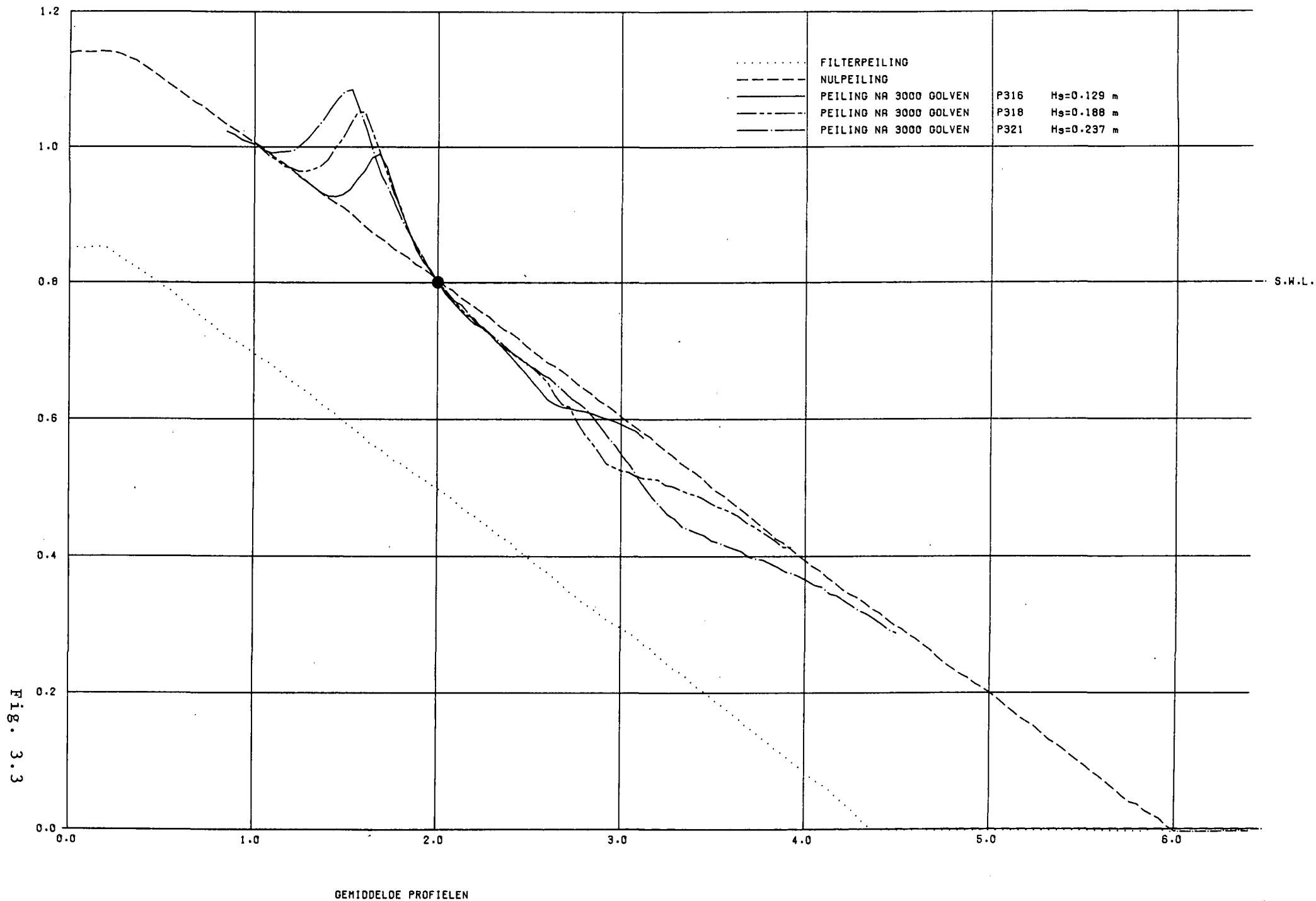
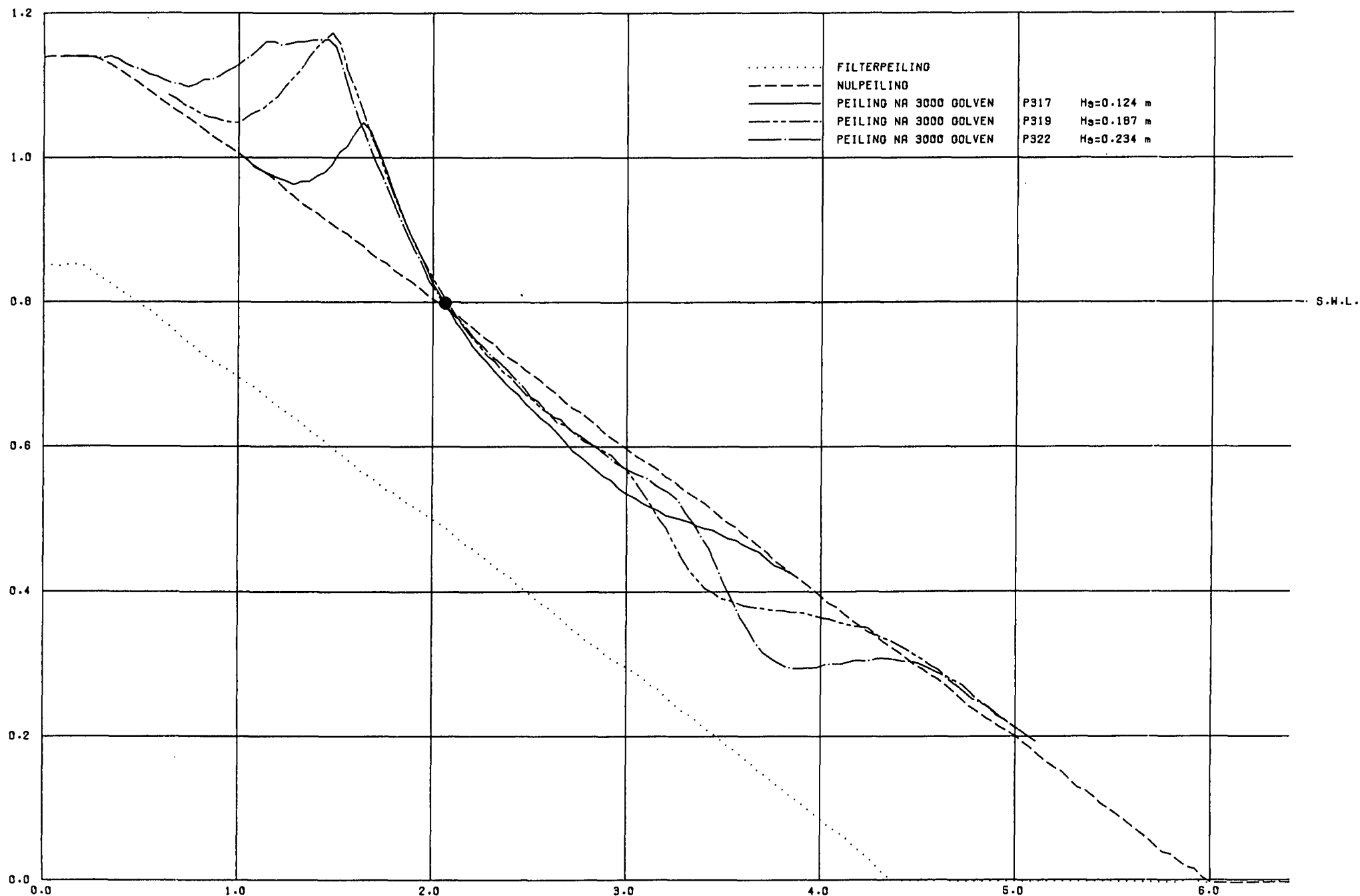


Fig. 3.4



GEMIDDELTE PROFIELEN

Fig. 3.5

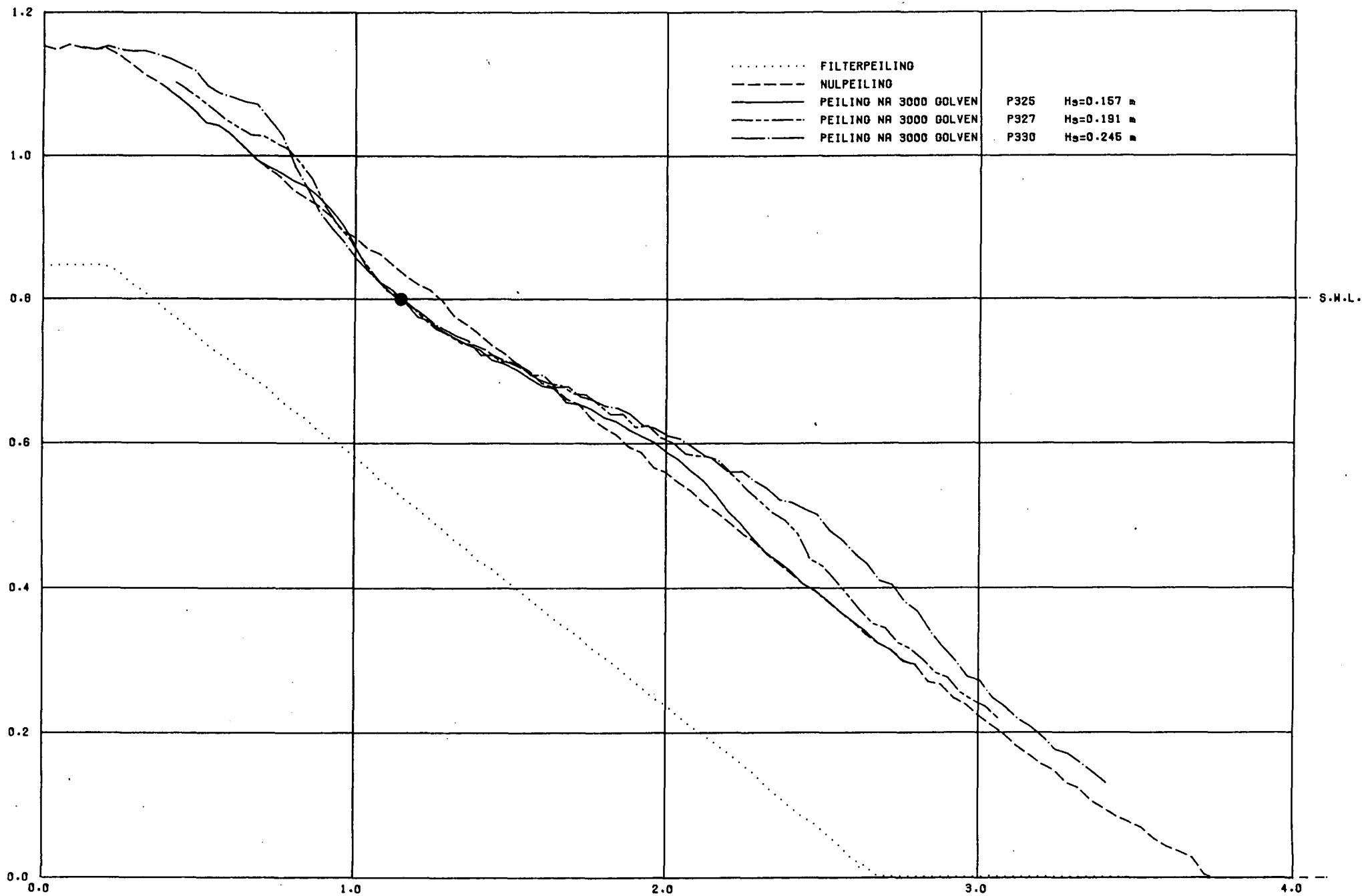
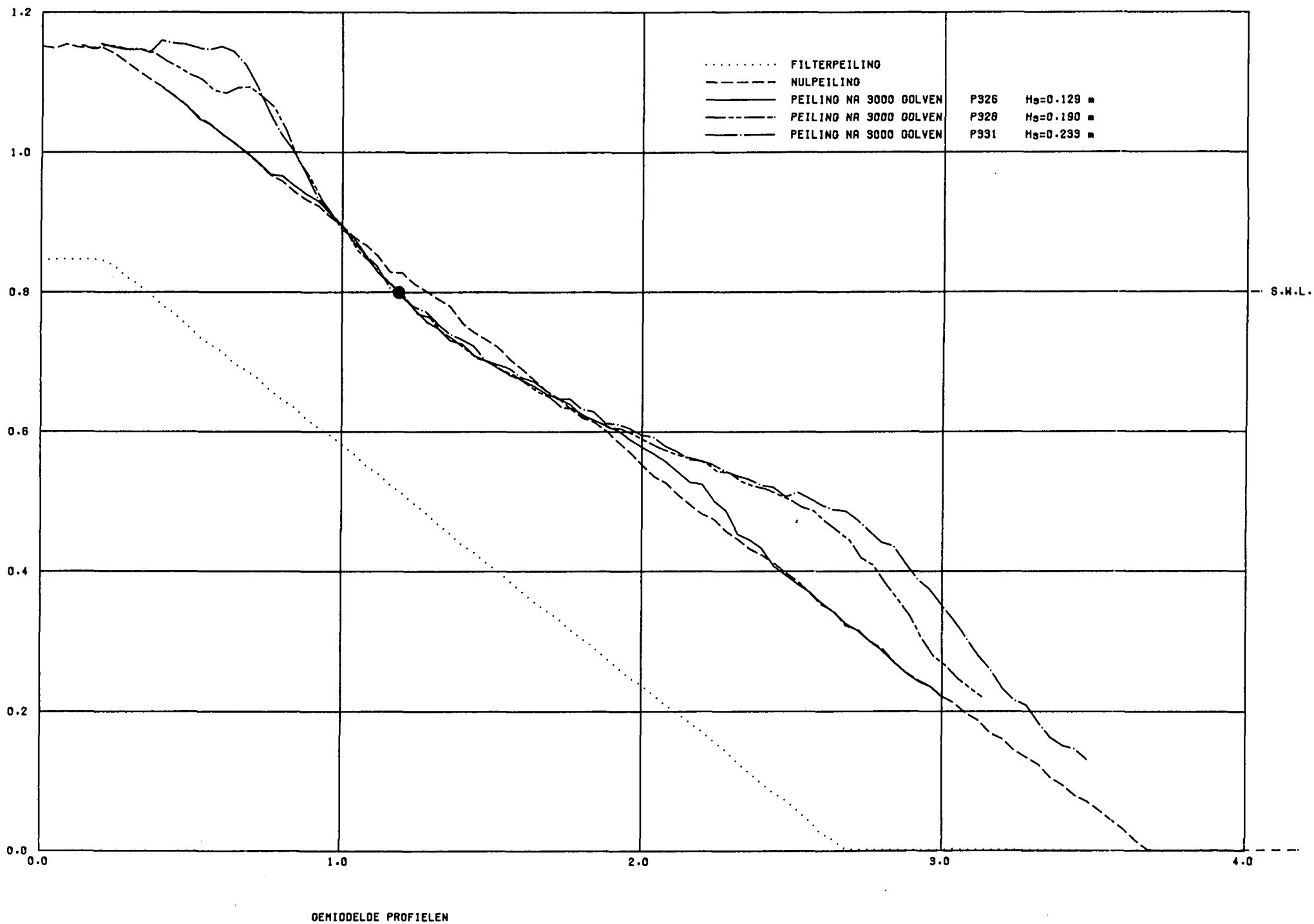


Fig. 3.6



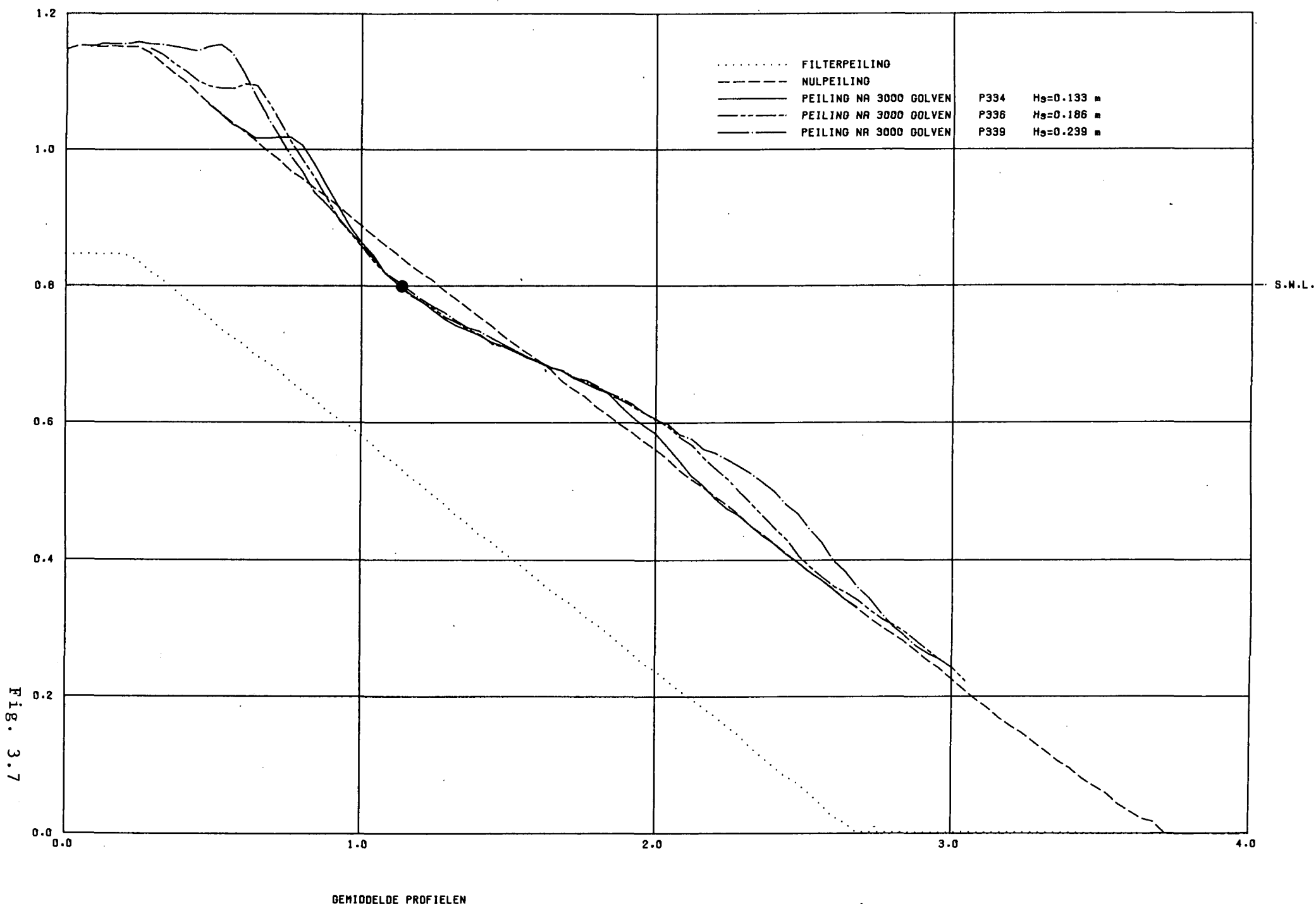
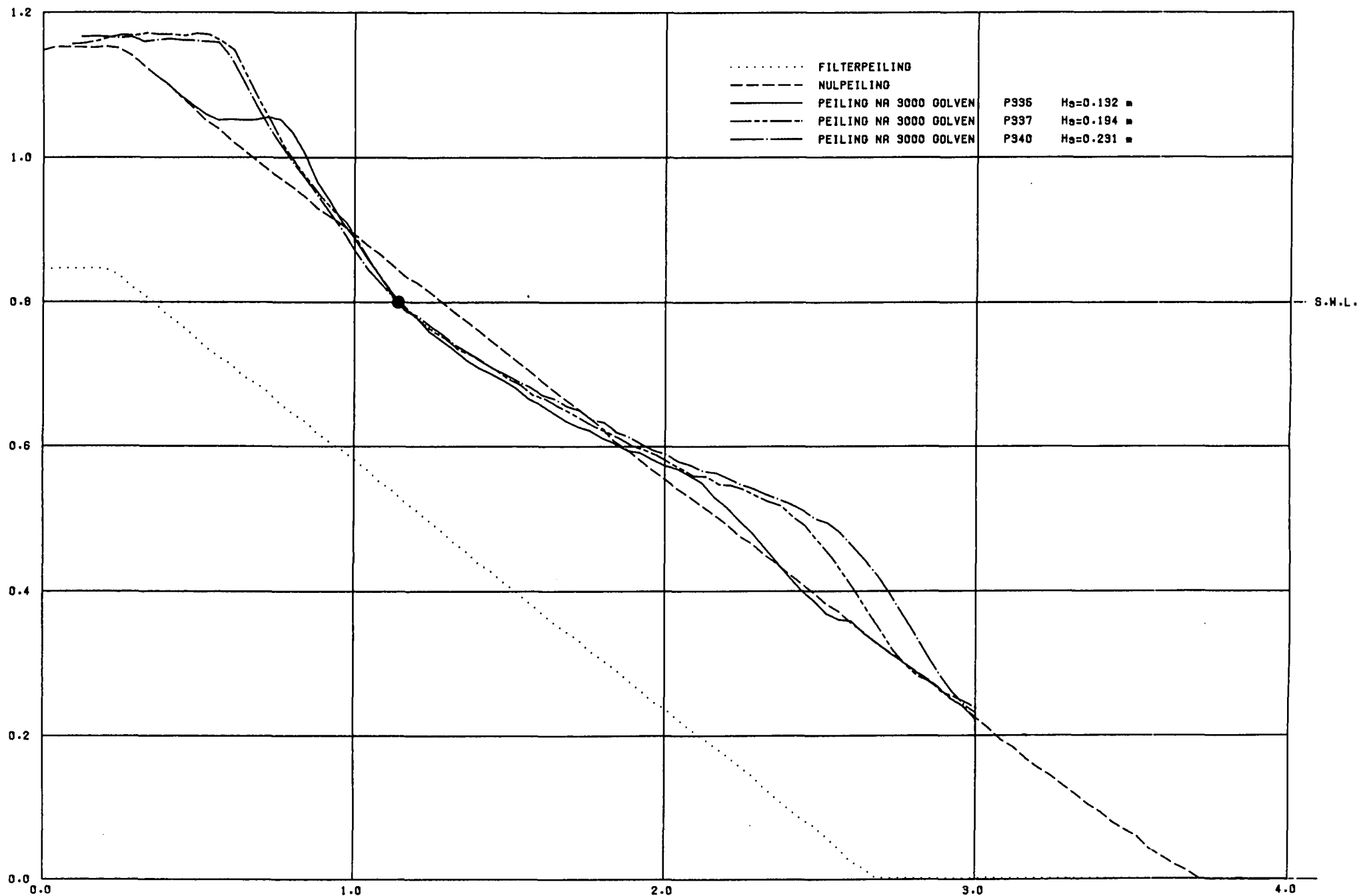


Fig. 3.8



OEMIDDELOE PROFIELEN

4. Invloed golfperiode

De profielen zijn zodanig langs de waterlijn verschoven, dat hetzelfde snijpunt ontstaat met de waterlijn

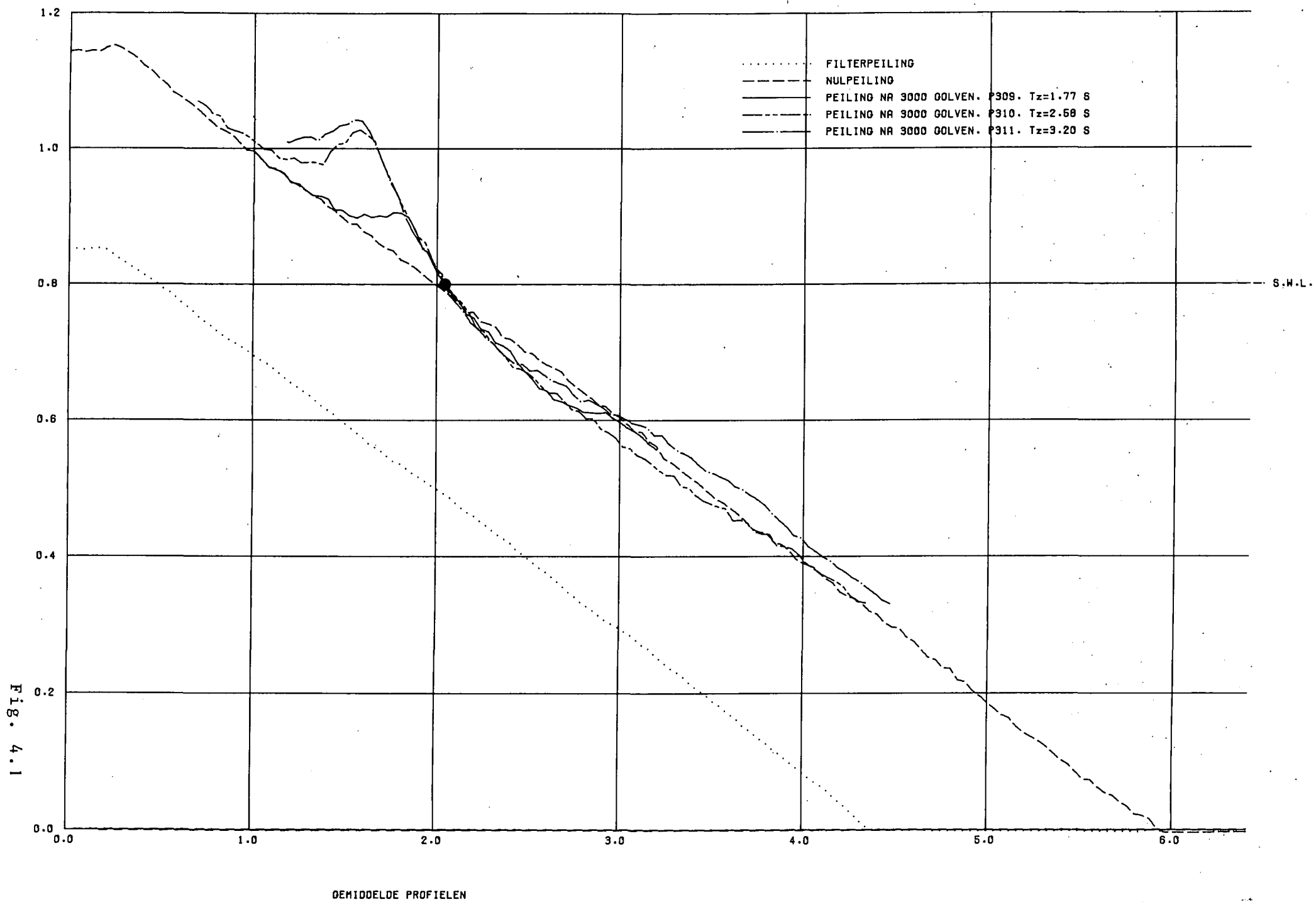
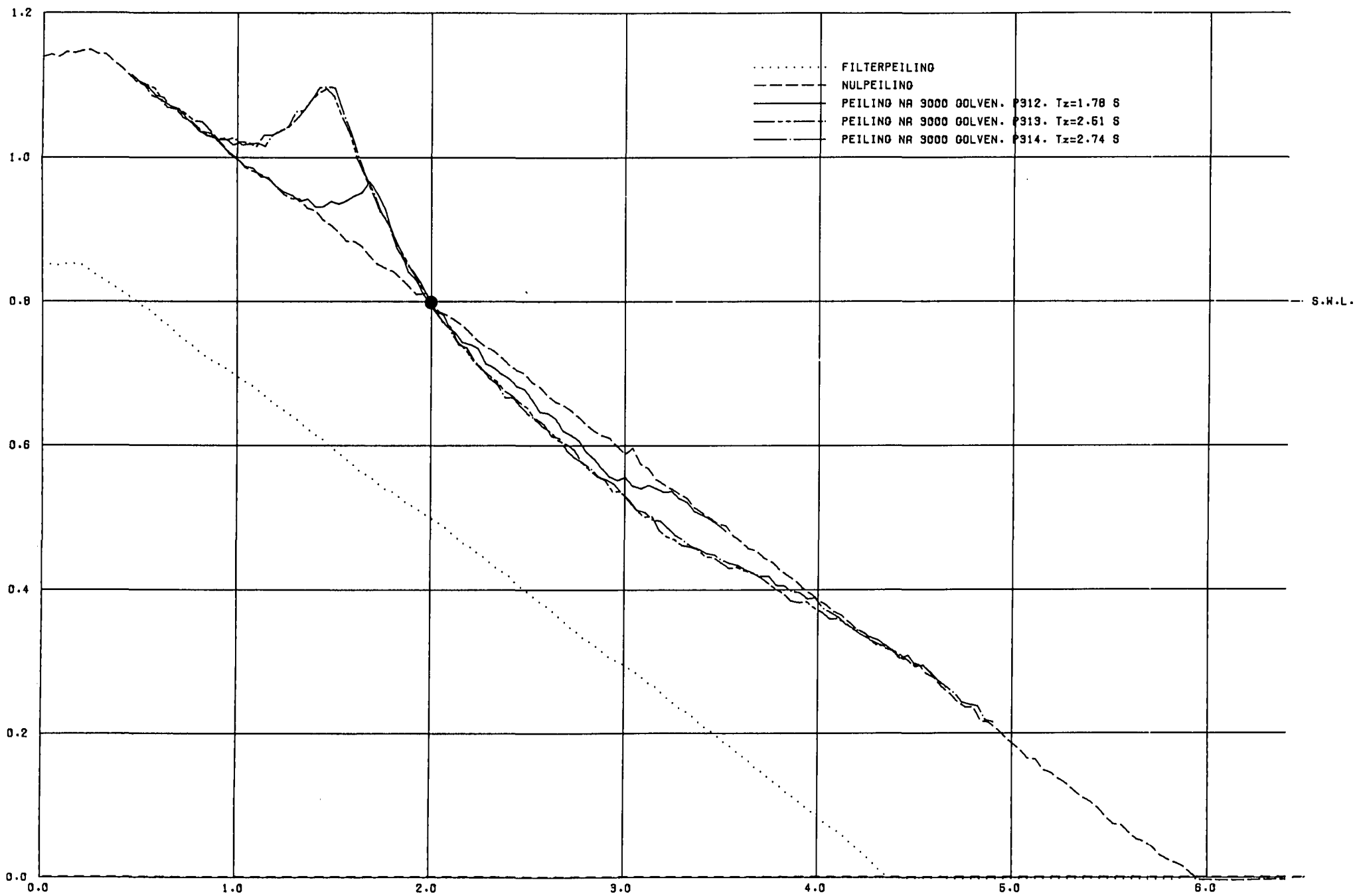
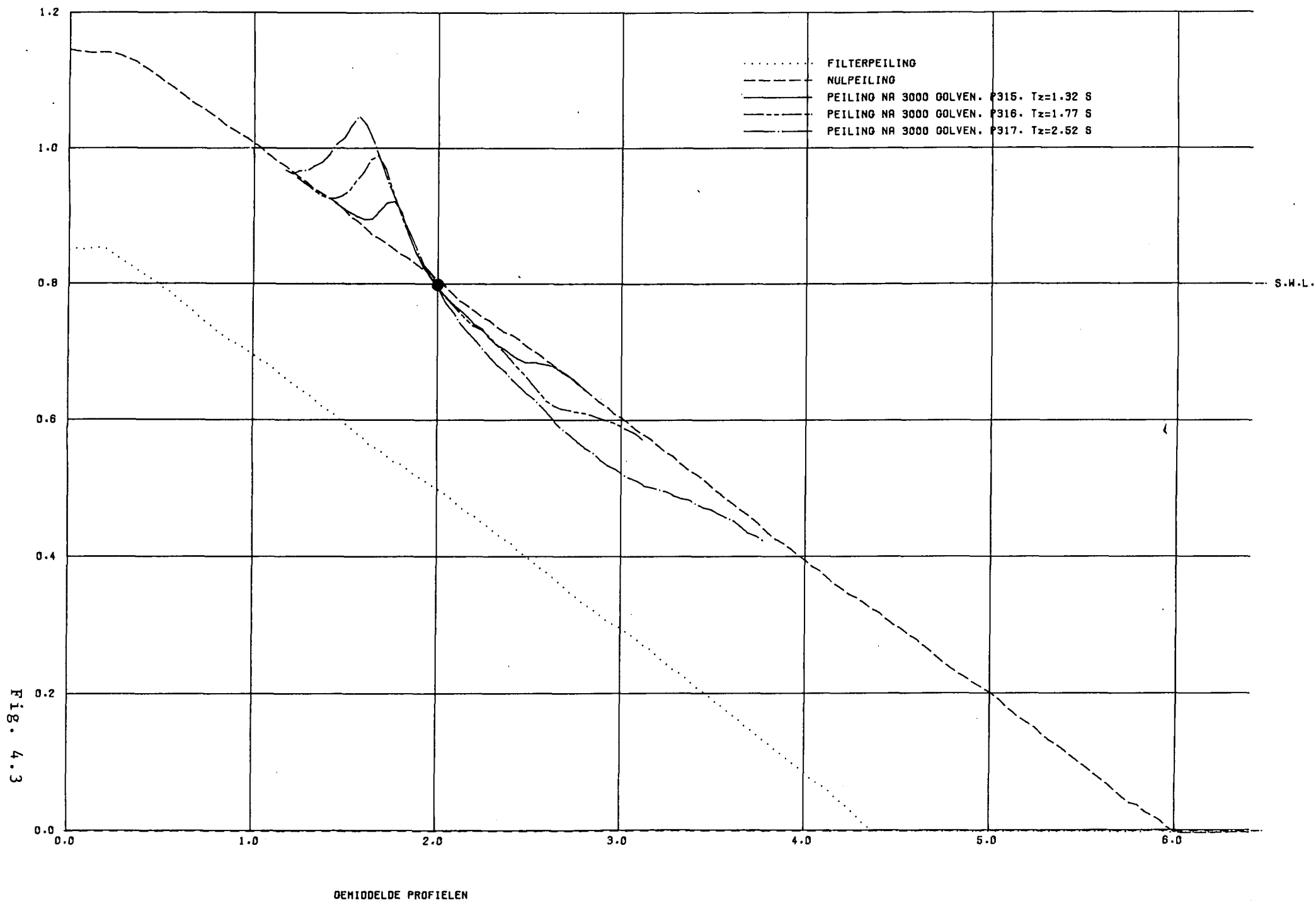


Fig. 4.2



OEMIDDEELDE PROFIELEN



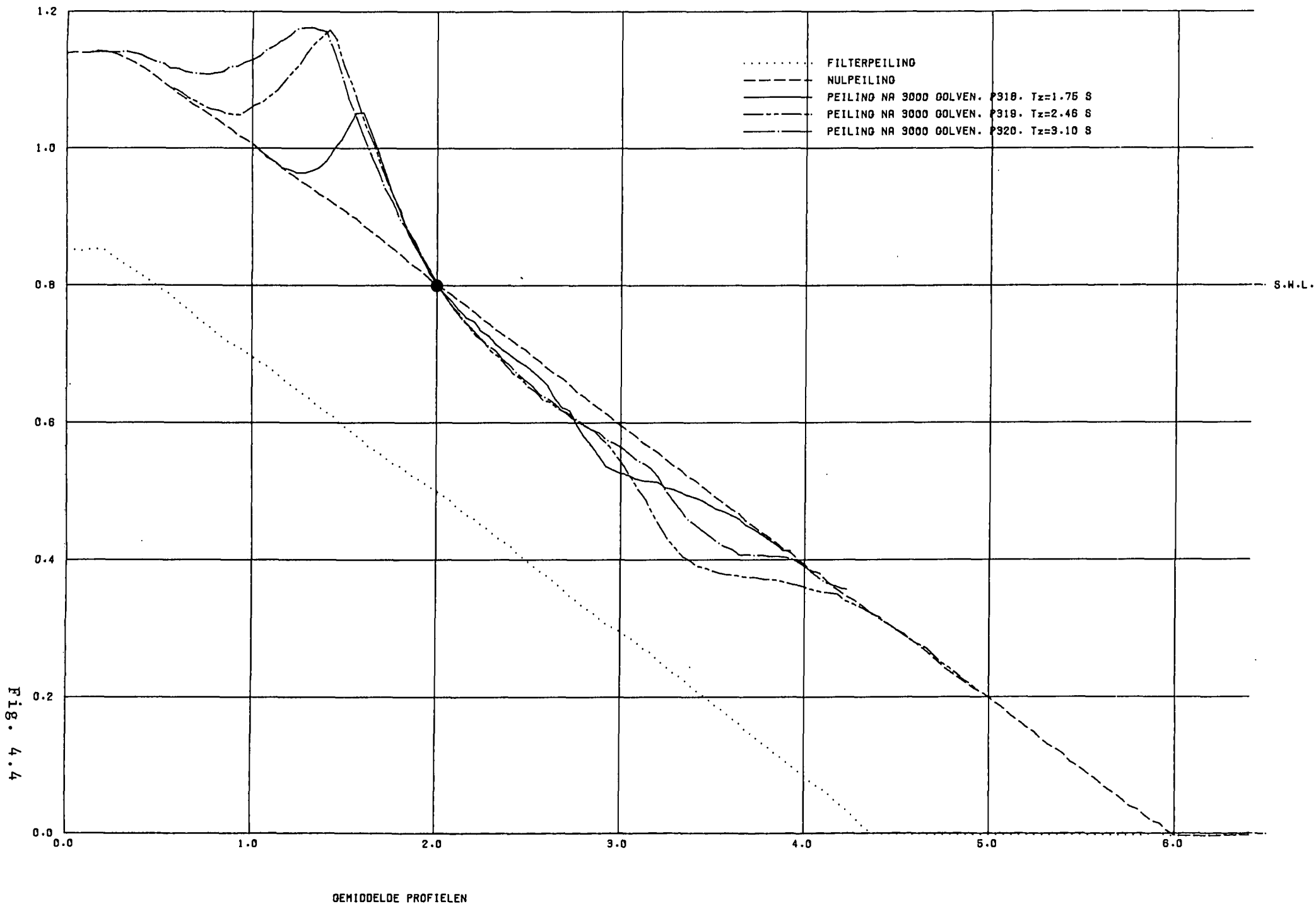


Fig. 4.5

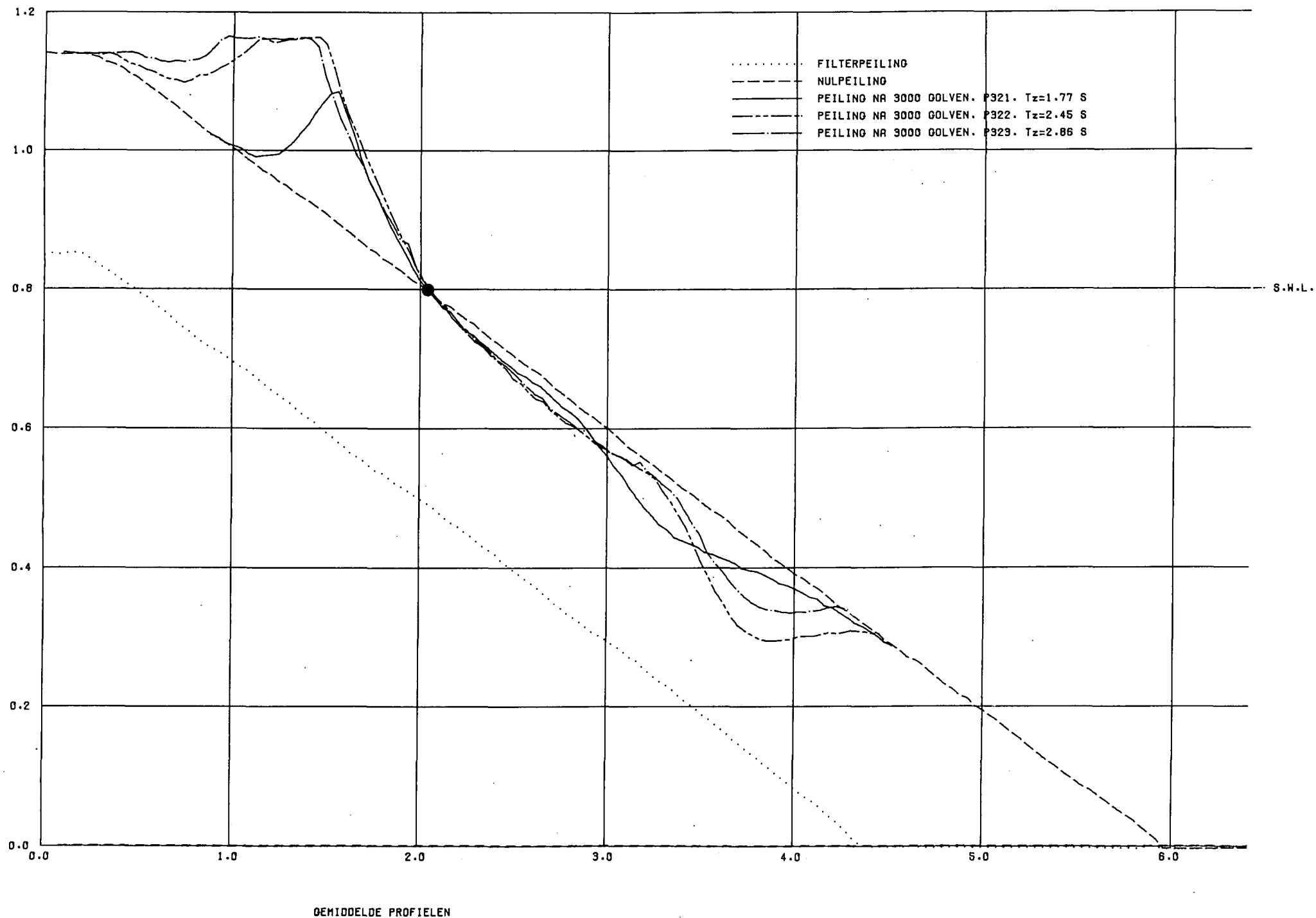
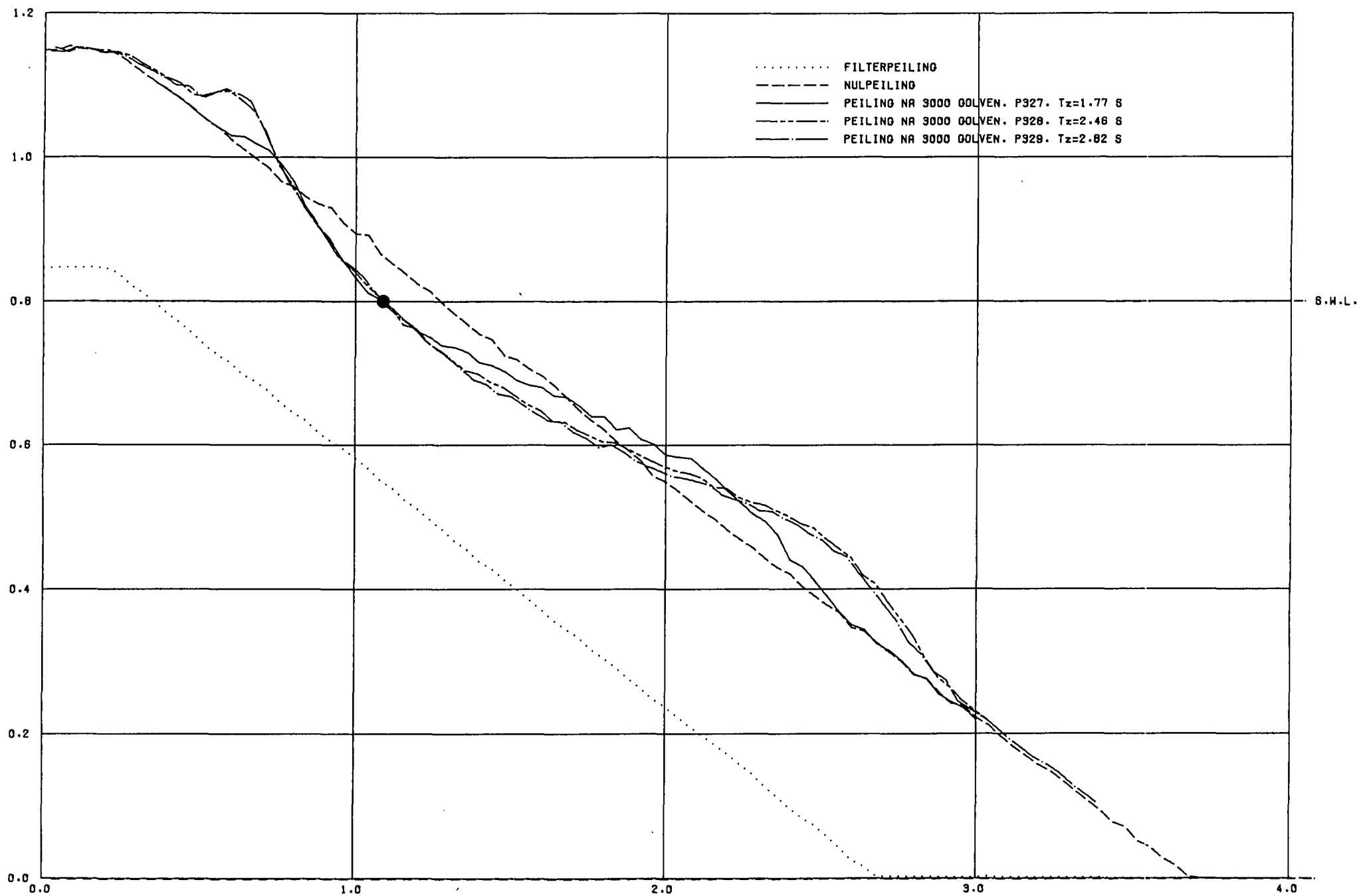


Fig. 4.6



GEMIDDELOE PROFIELEN

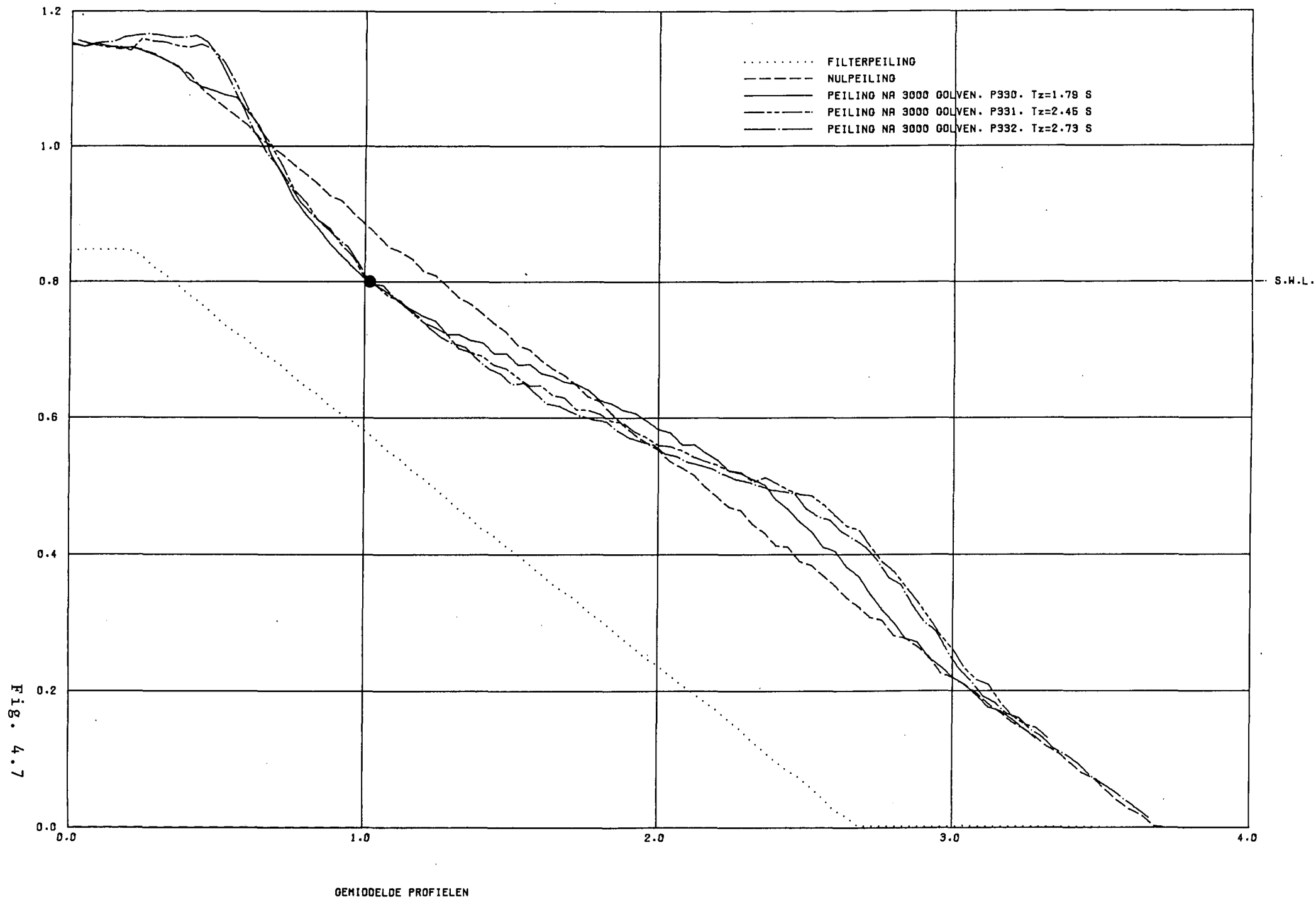
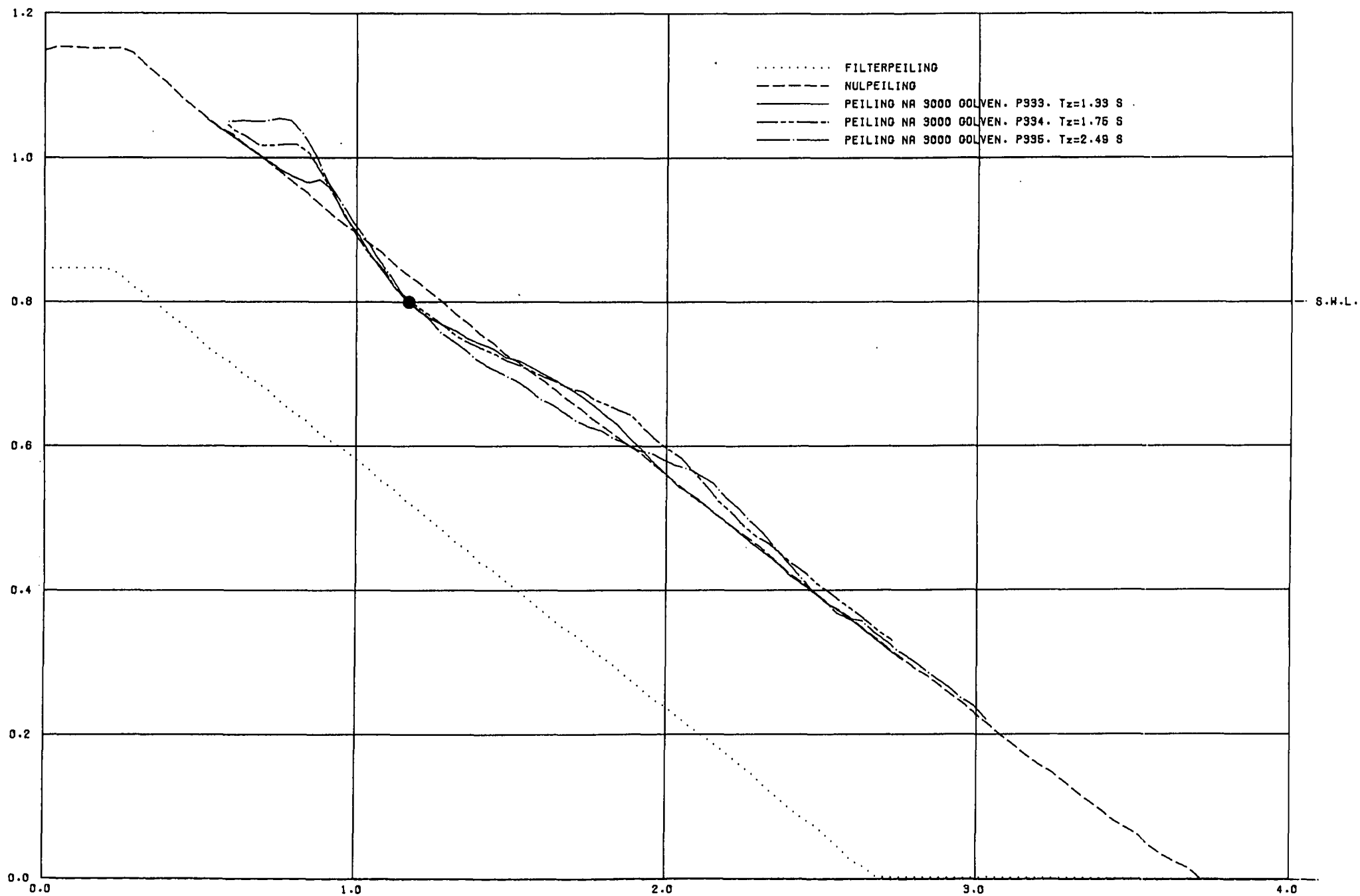


Fig. 4.8



OEMIDDELE PROFIELEN

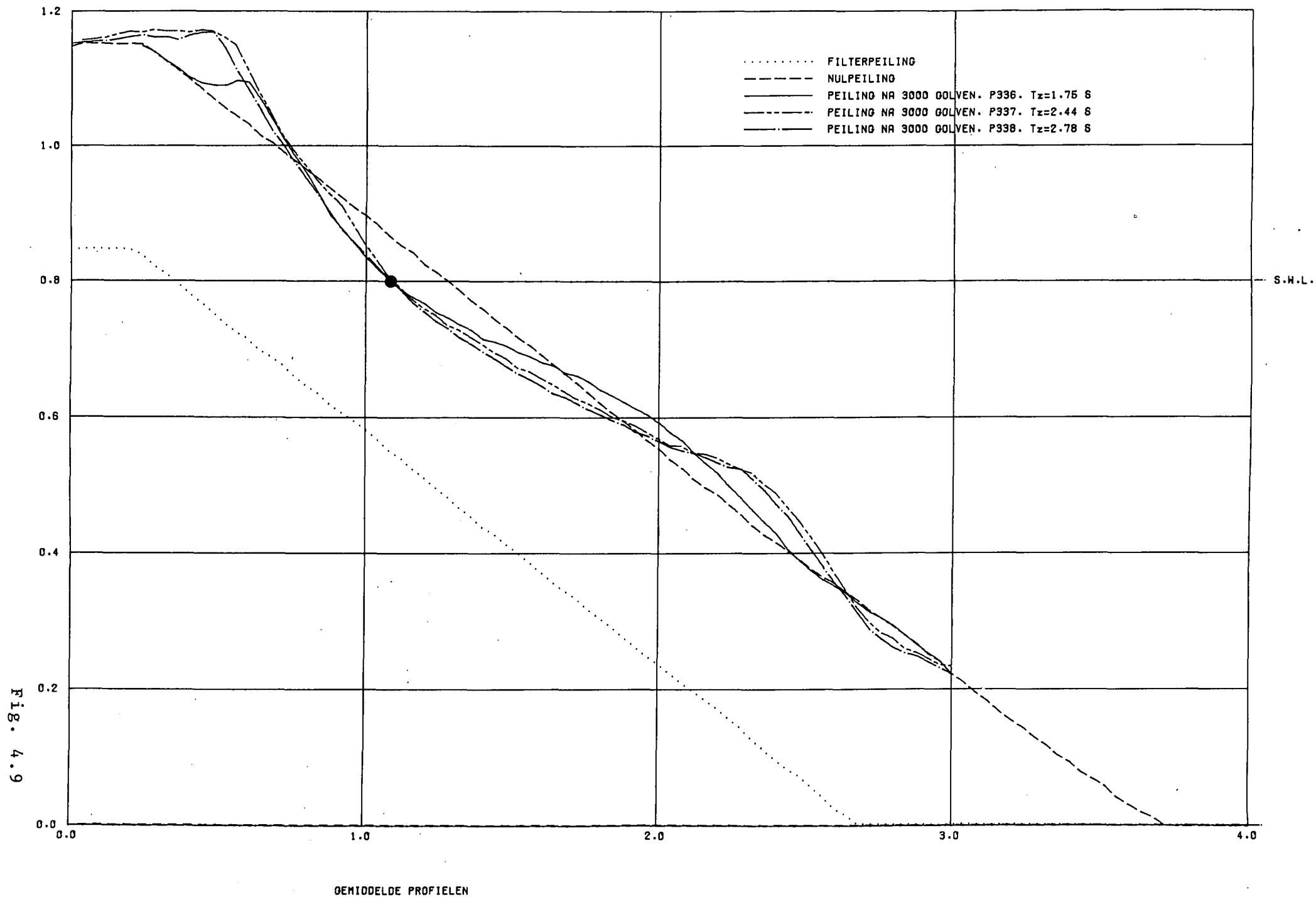
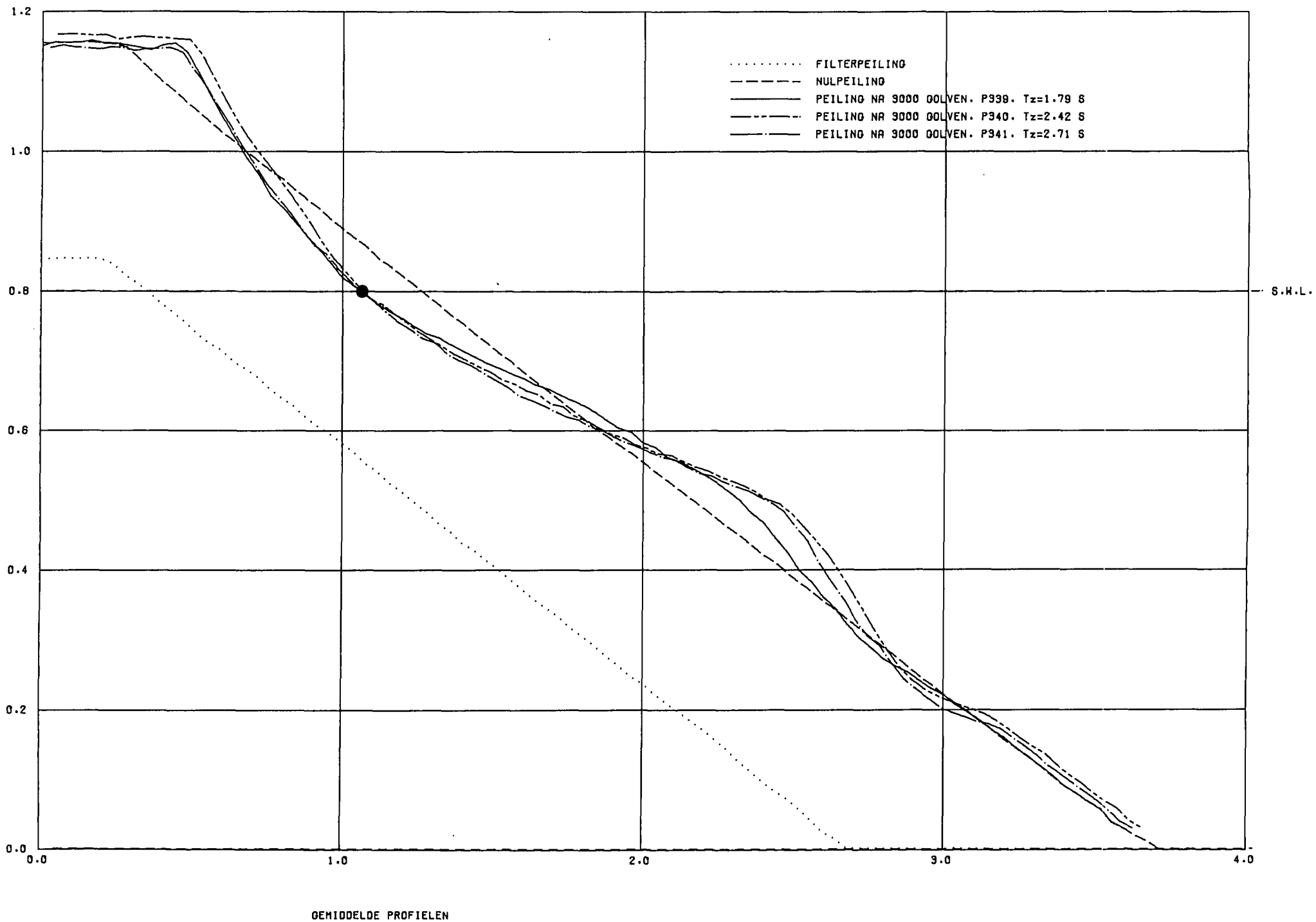


Fig. 4.10



5. Invloed aantal golven (stormduur)

De profielen zijn niet langs de waterlijn verschoven

Fig. 5.1

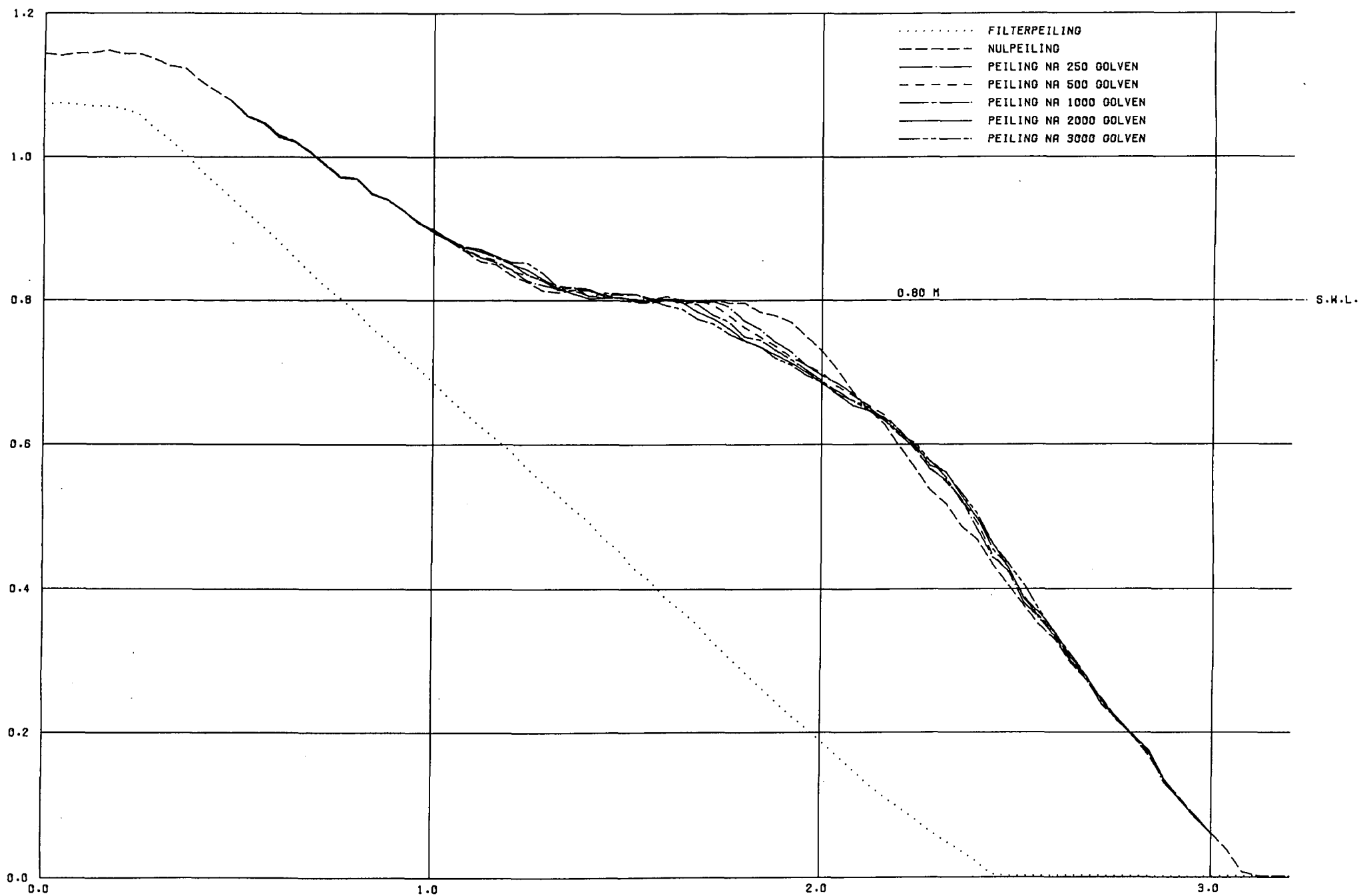


Fig. 5.2

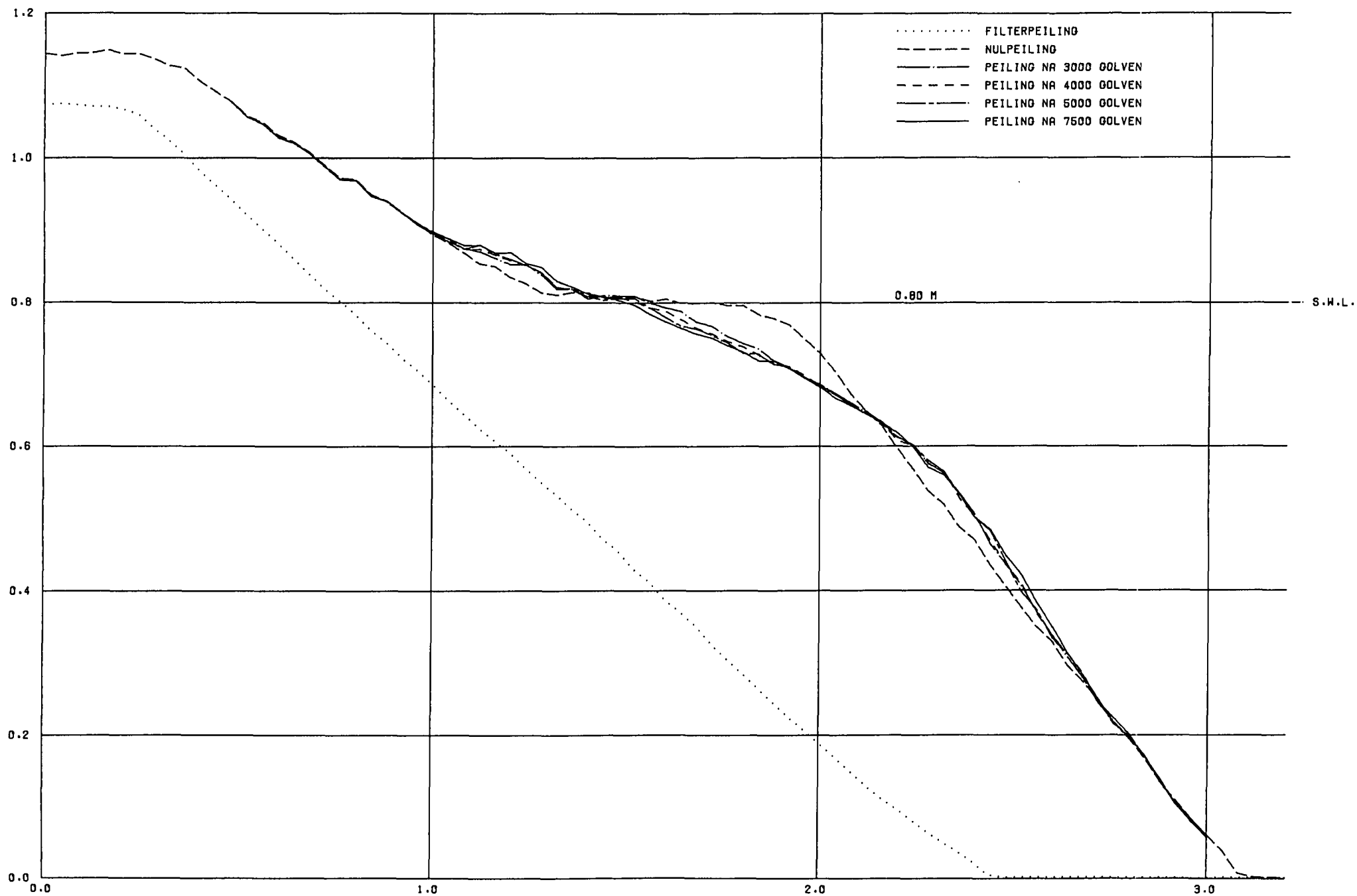


Fig. 5.3

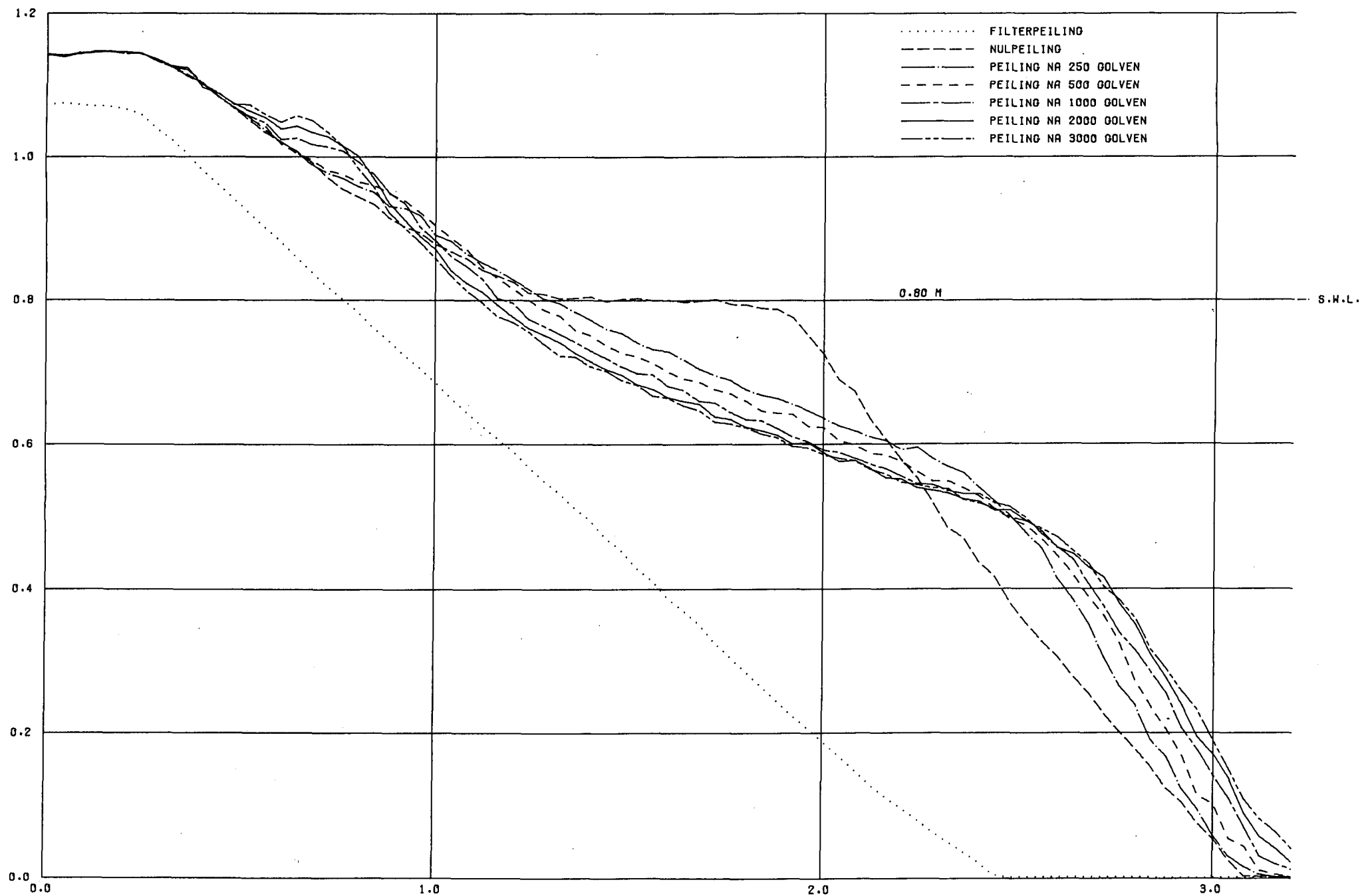
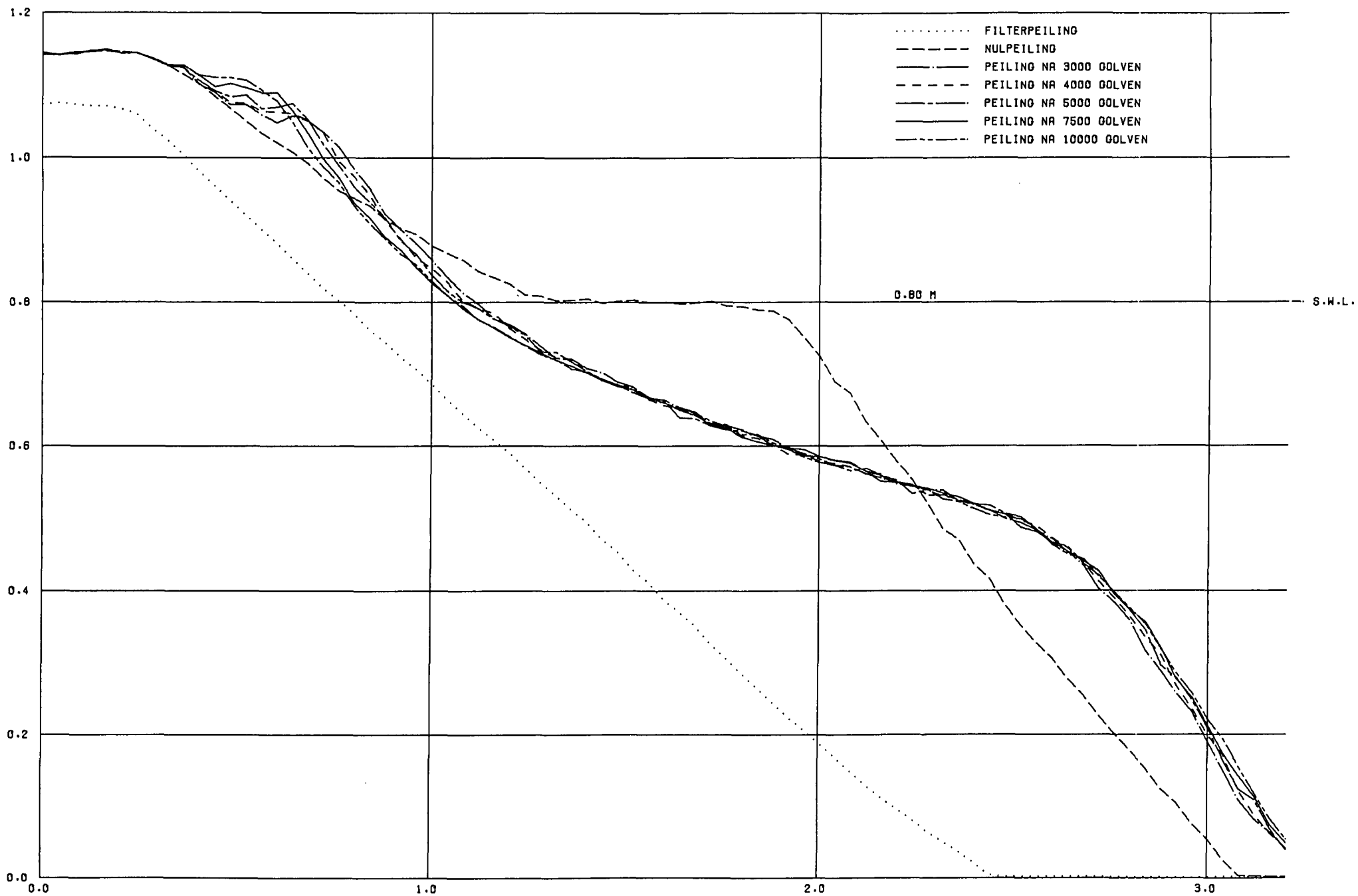


Fig. 5.4



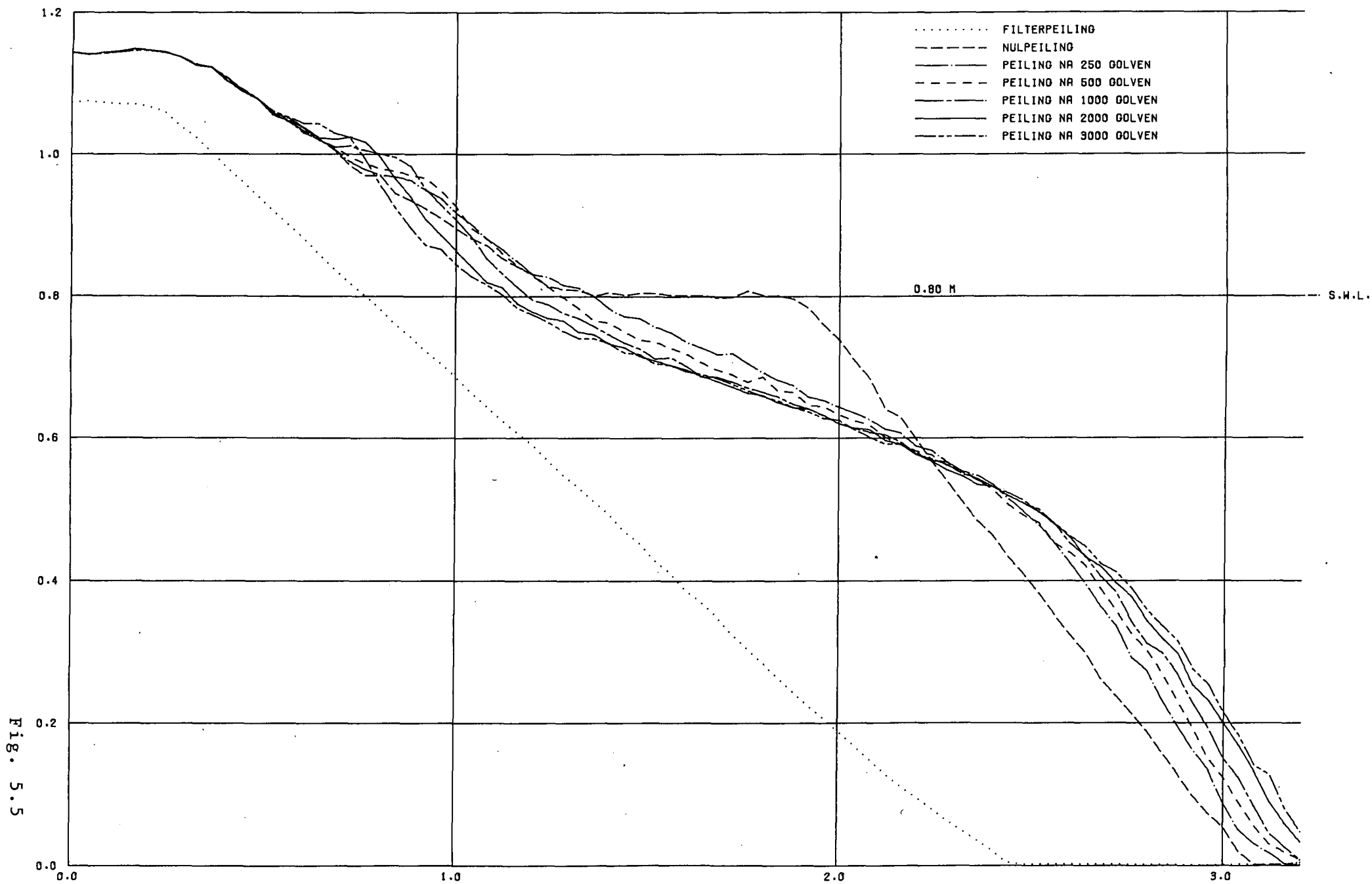


Fig. 5.6

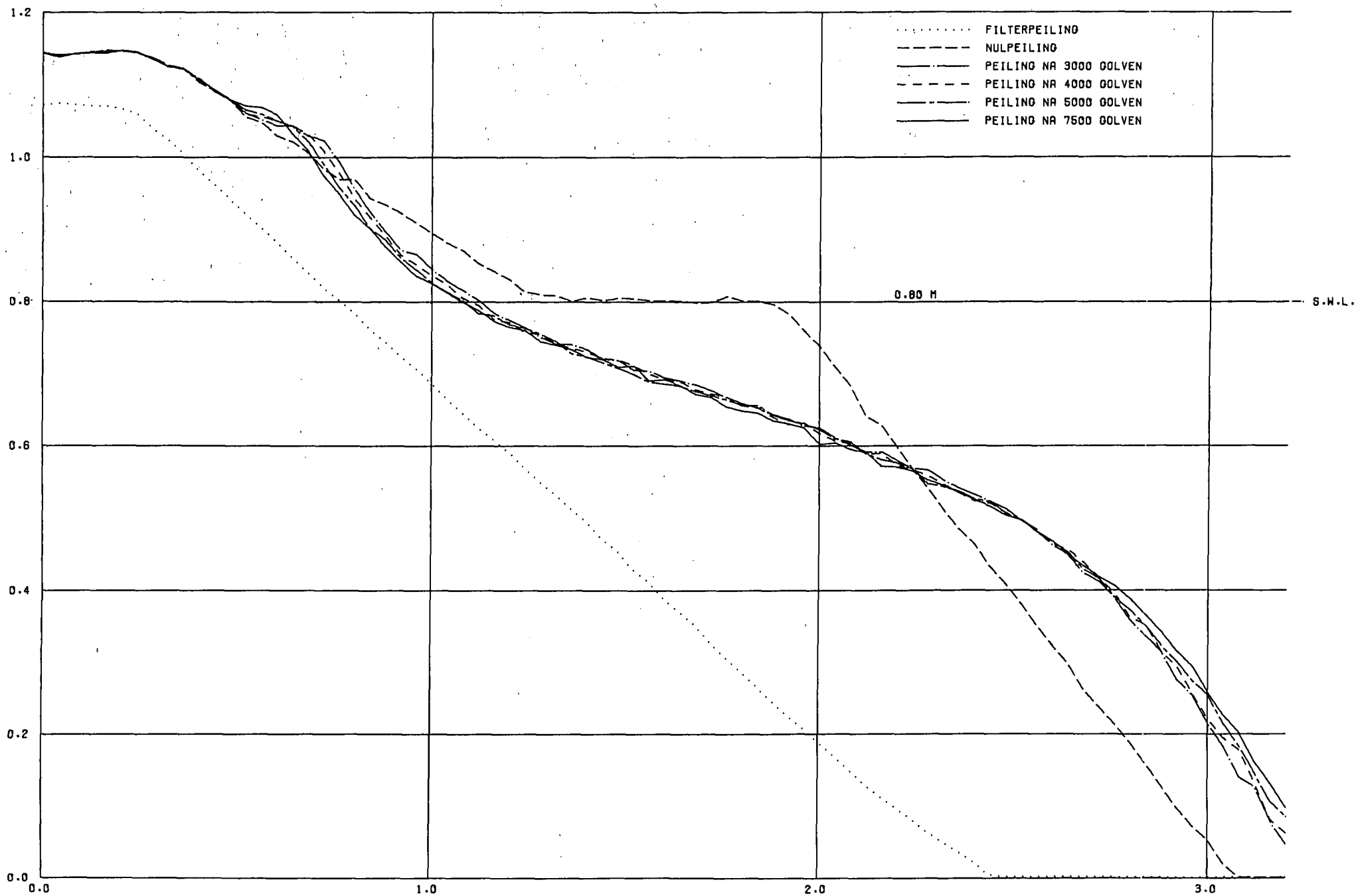


Fig. 5.7

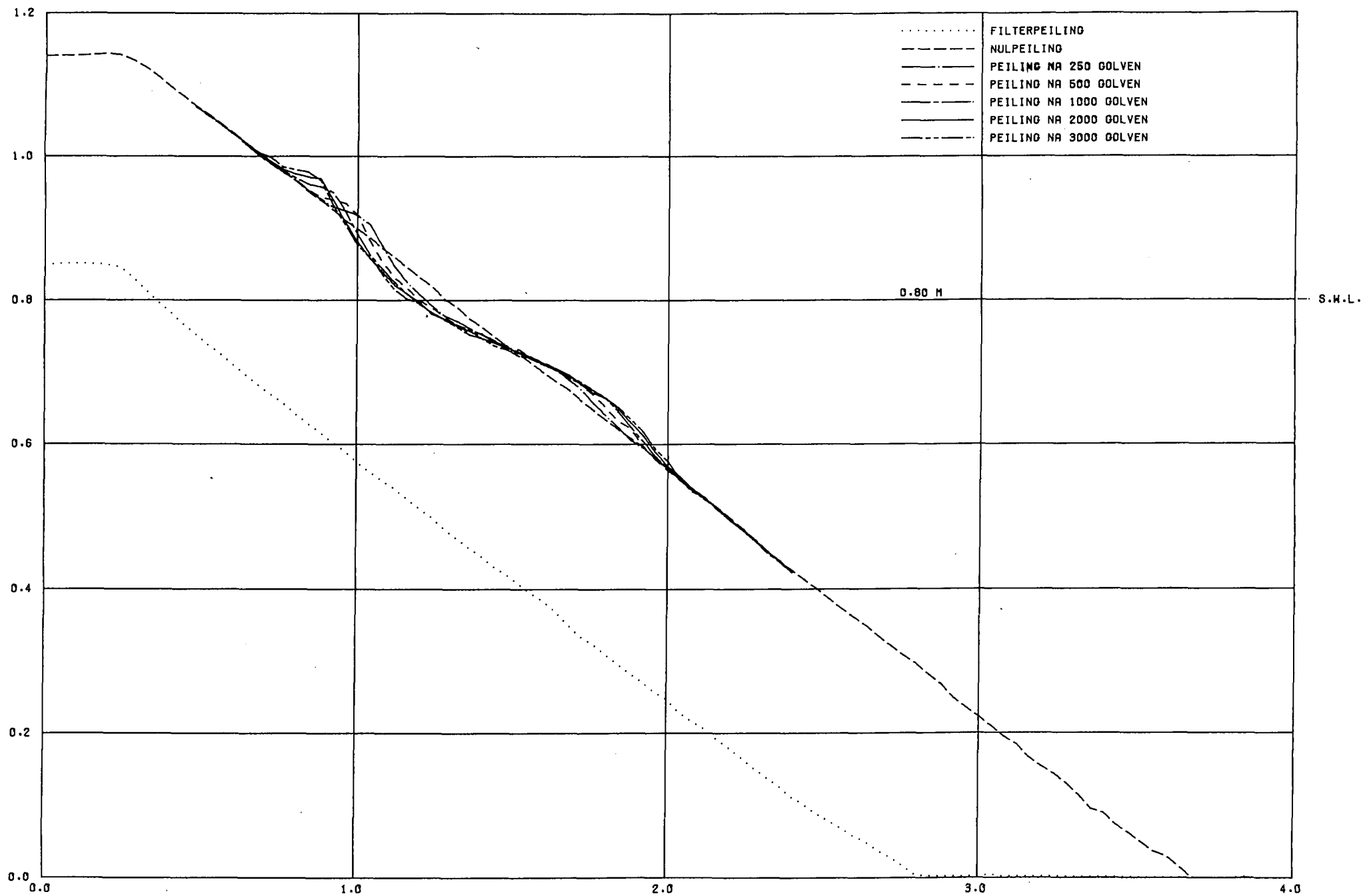
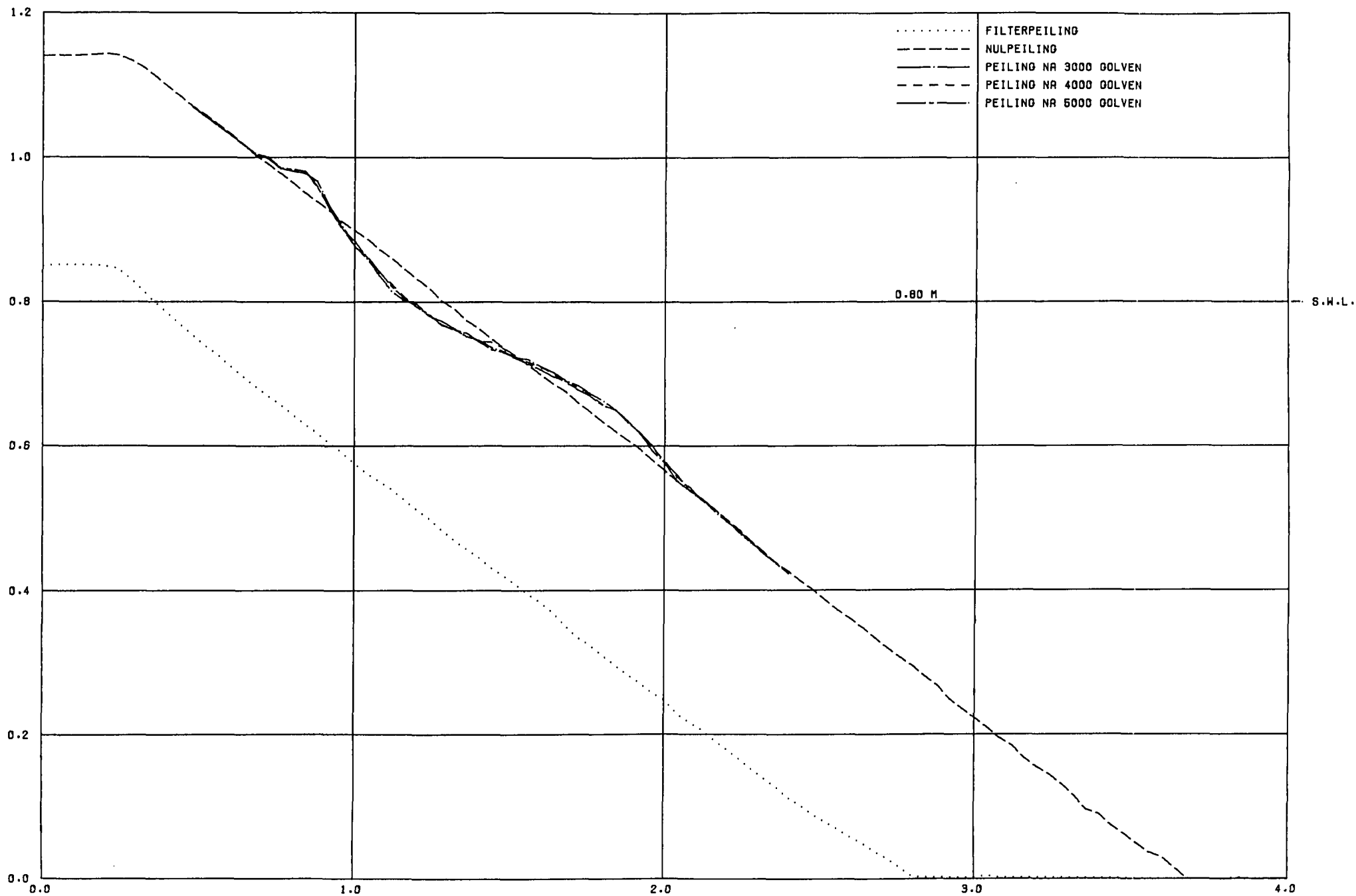


Fig. 5.8



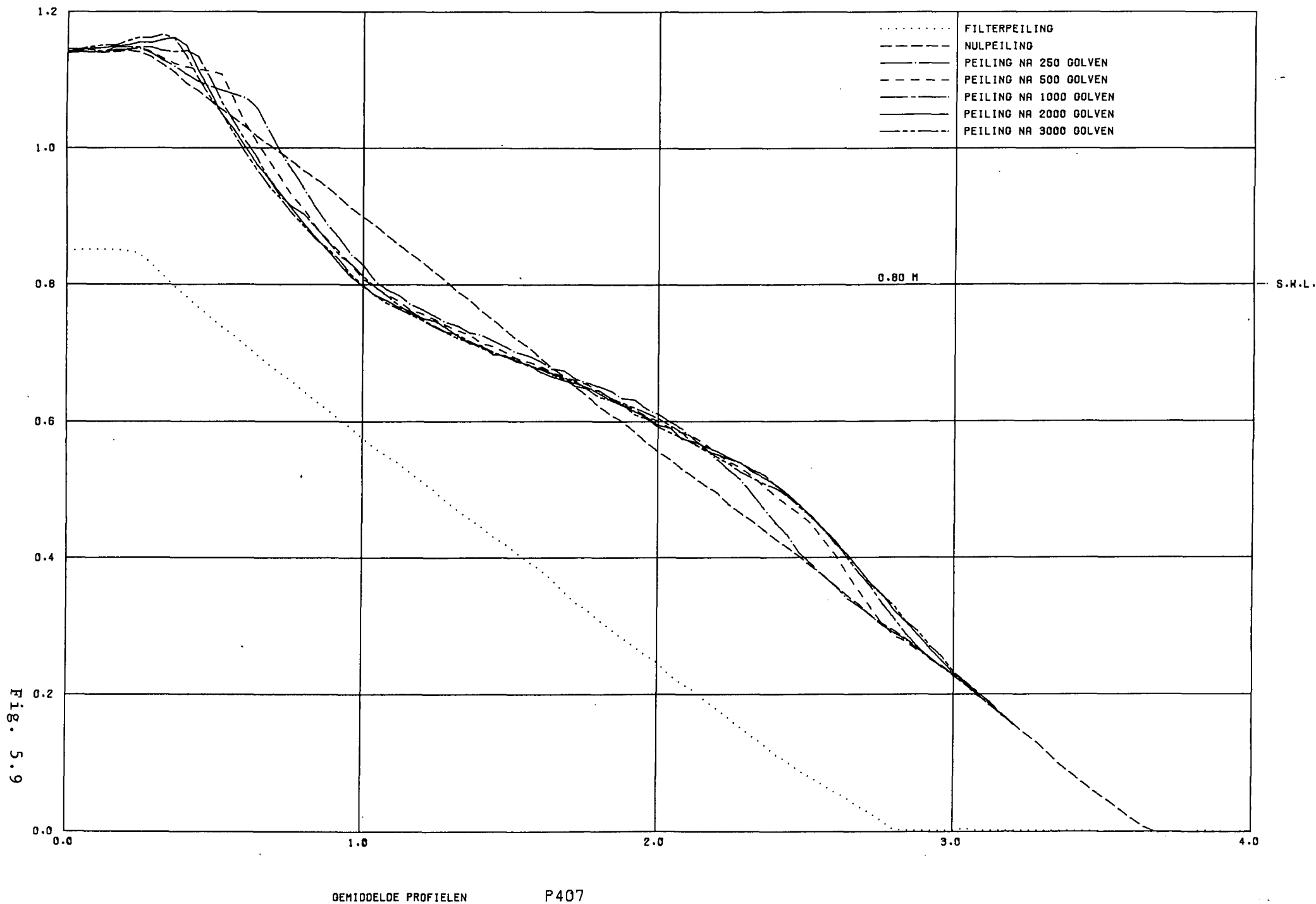
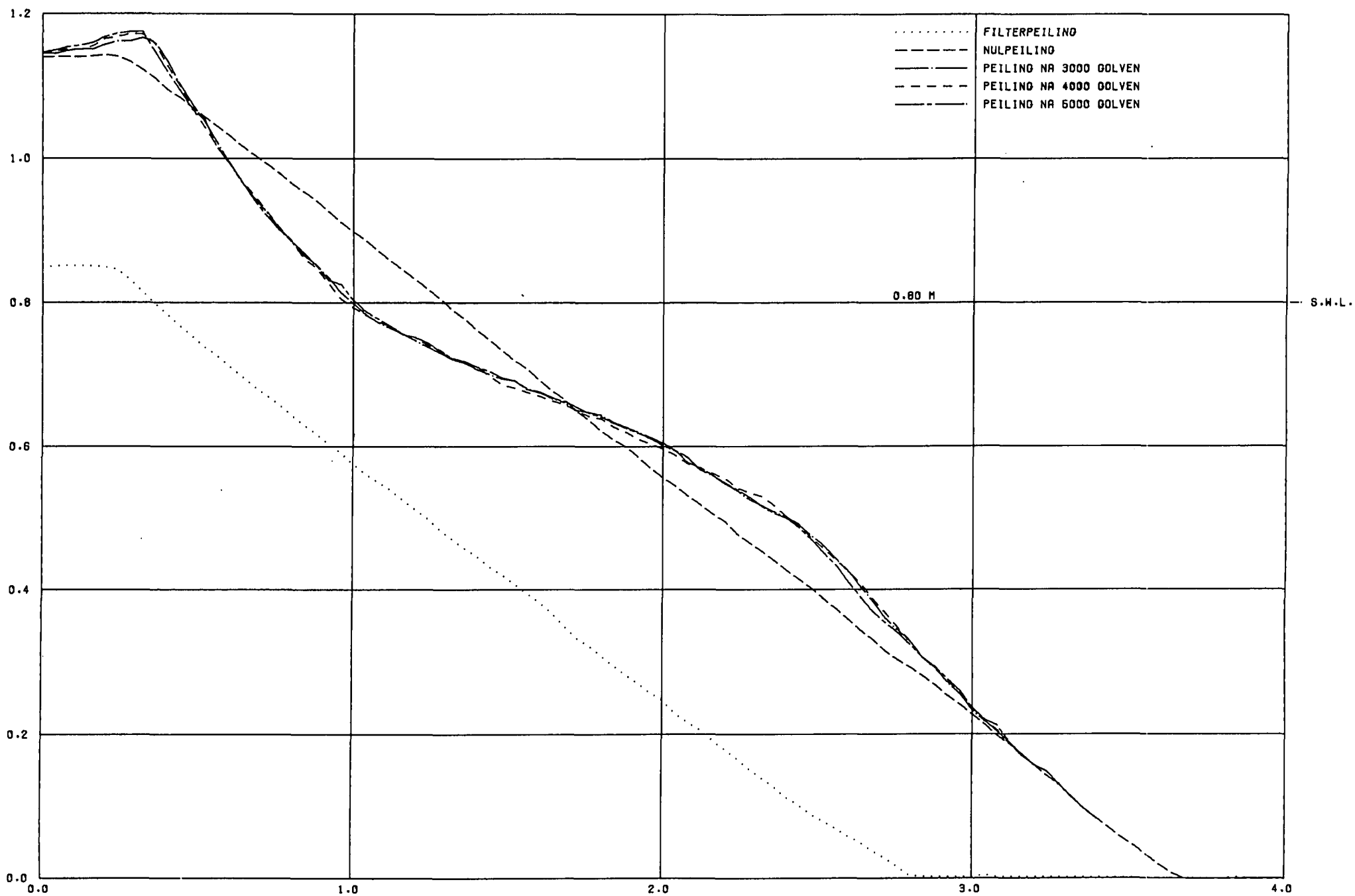


Fig. 5.10



6. Invloed spectrumvorm

De profielen zijn zodanig langs de waterlijn verschoven, dat hetzelfde snijpunt ontstaat met de waterlijn

Fig. 6.1

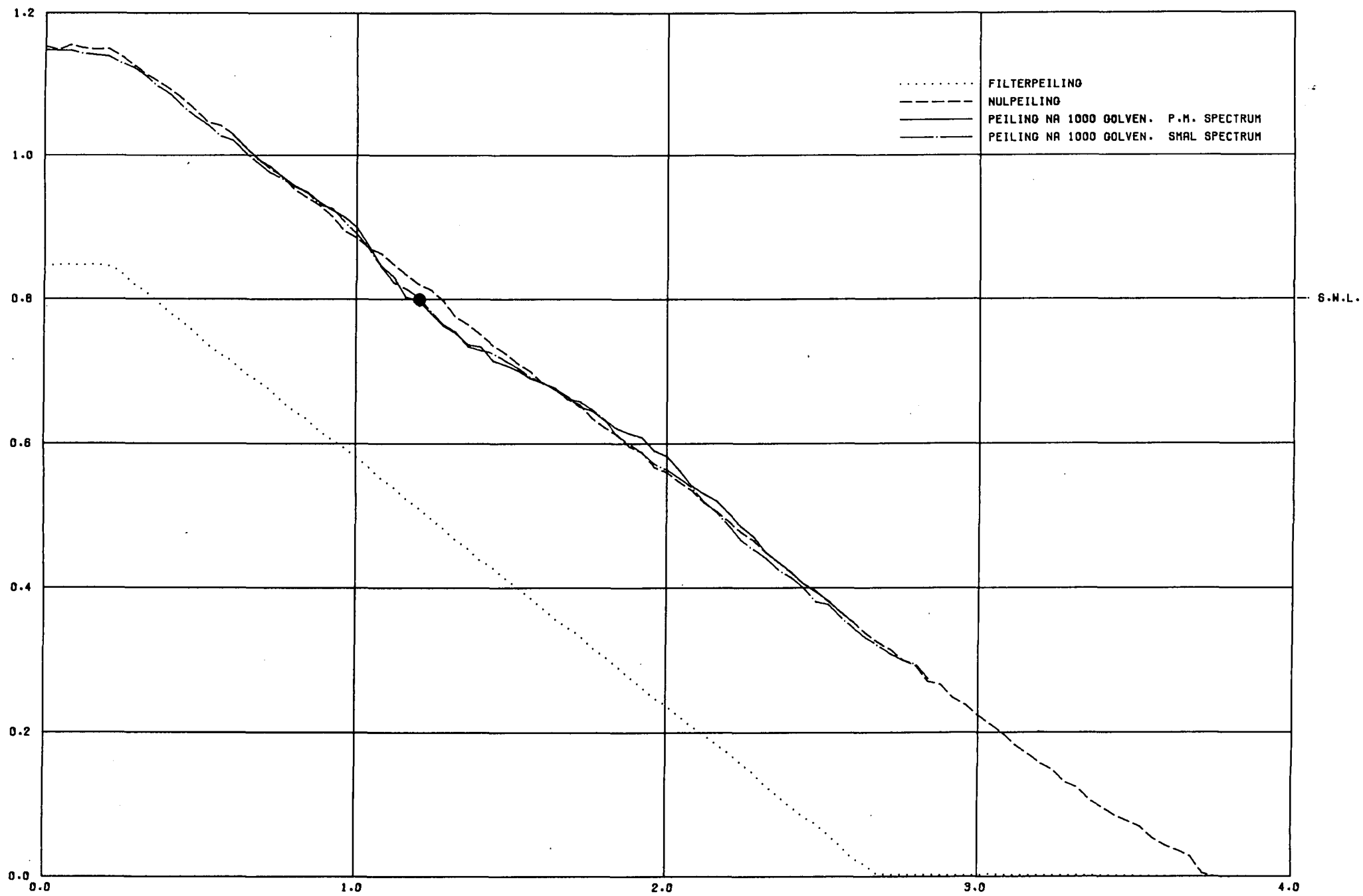


Fig. 6.2

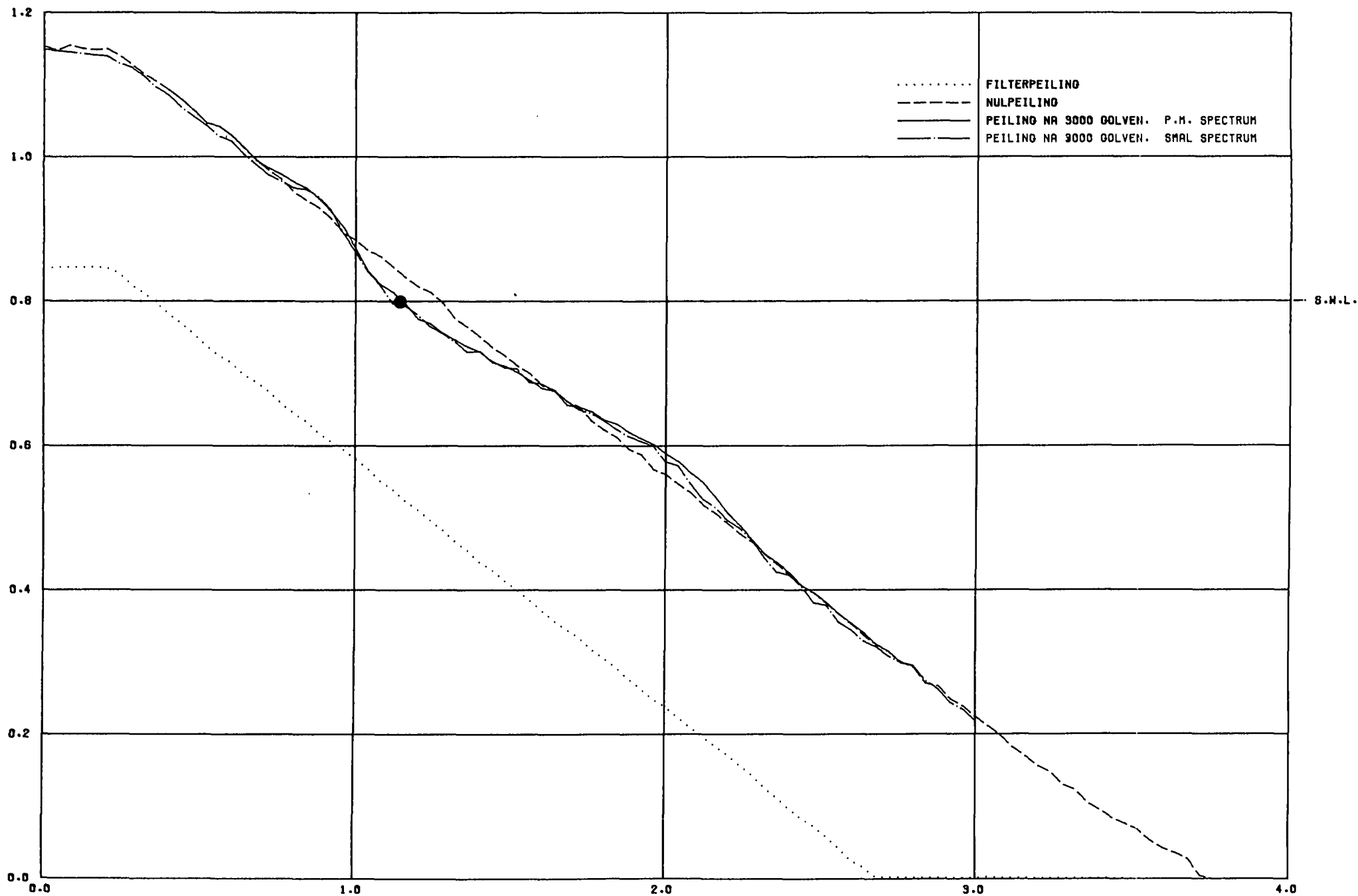


Fig. 6.3

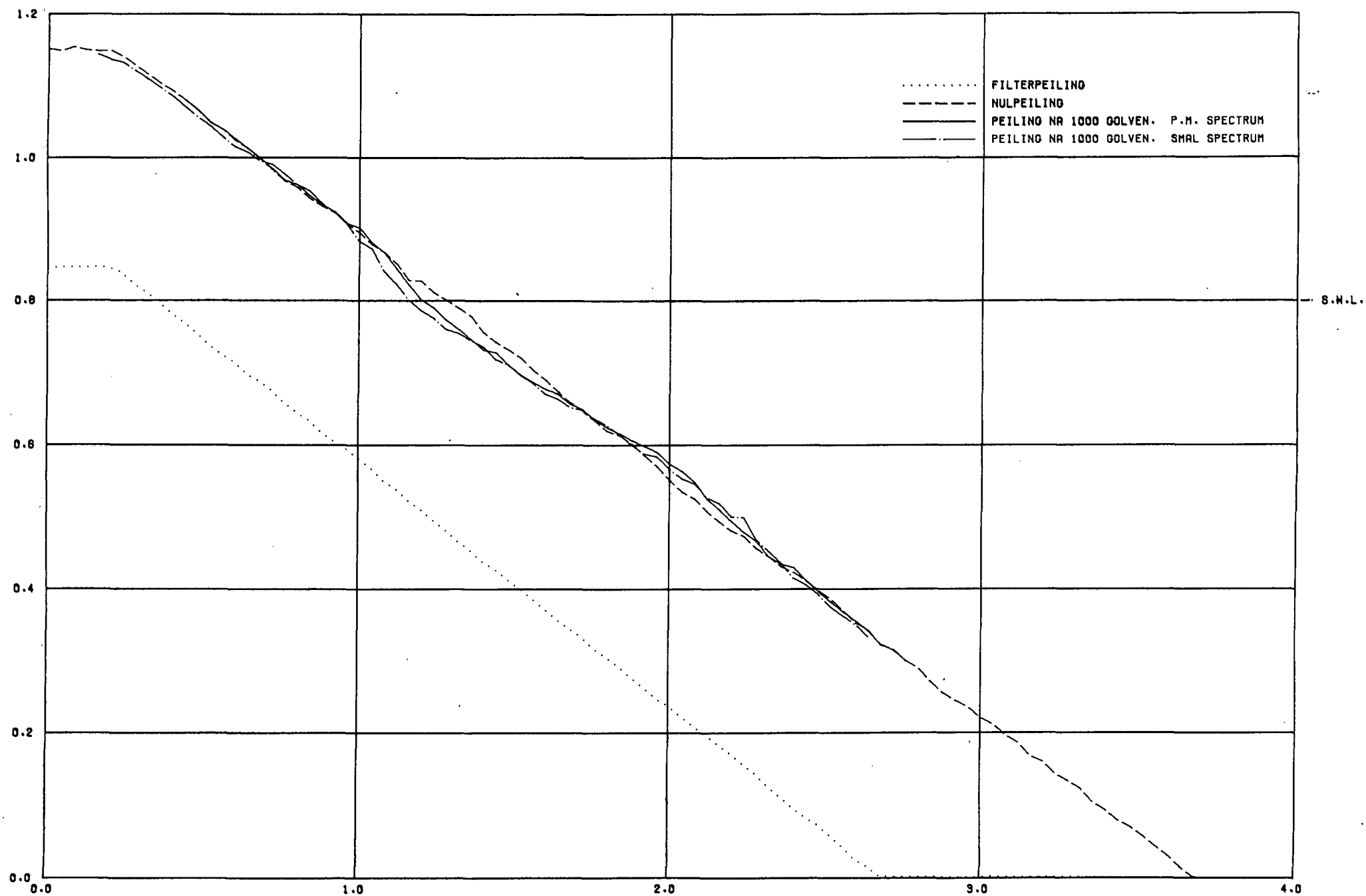


Fig. 6.4

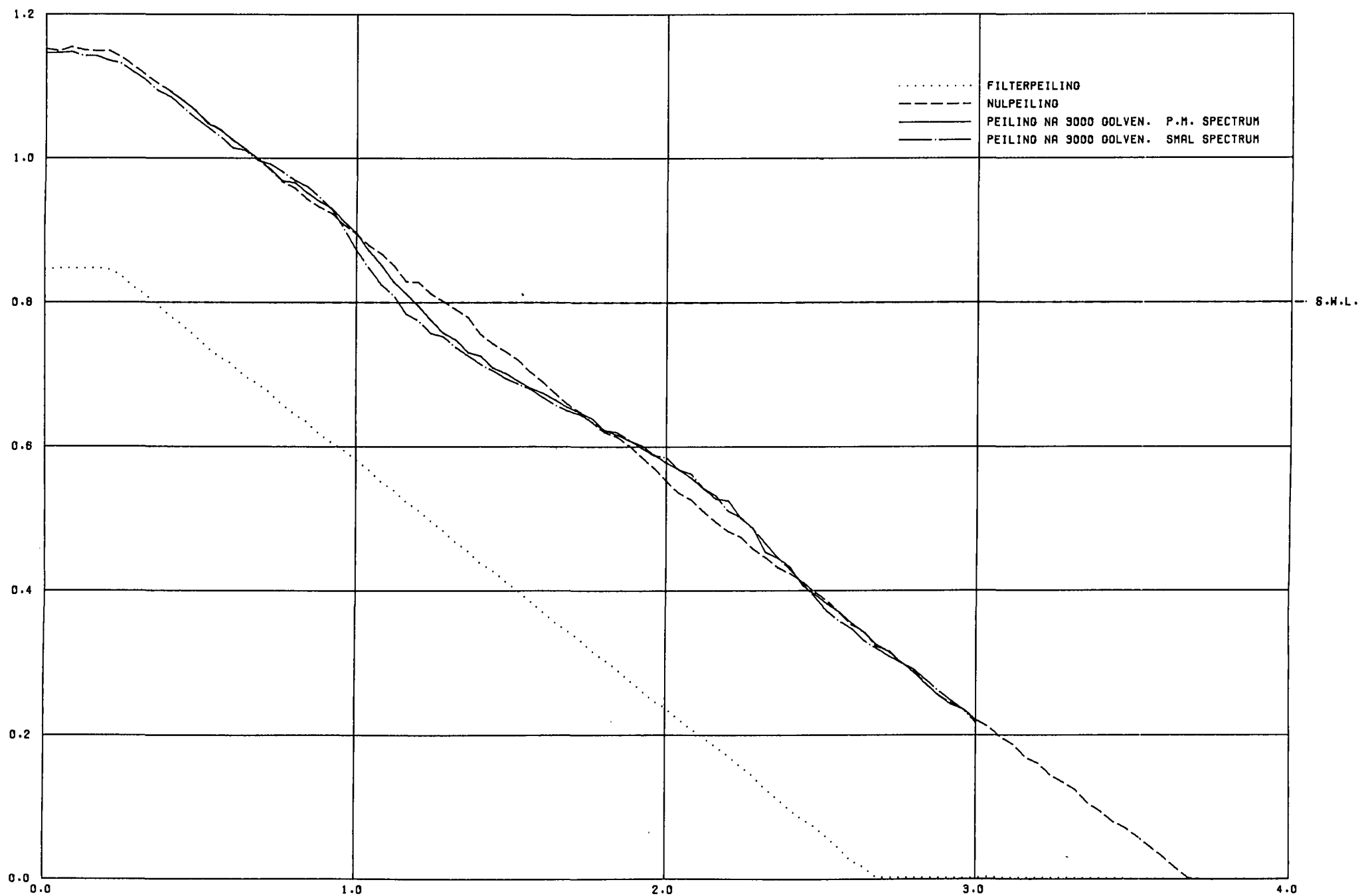


Fig. 6.5

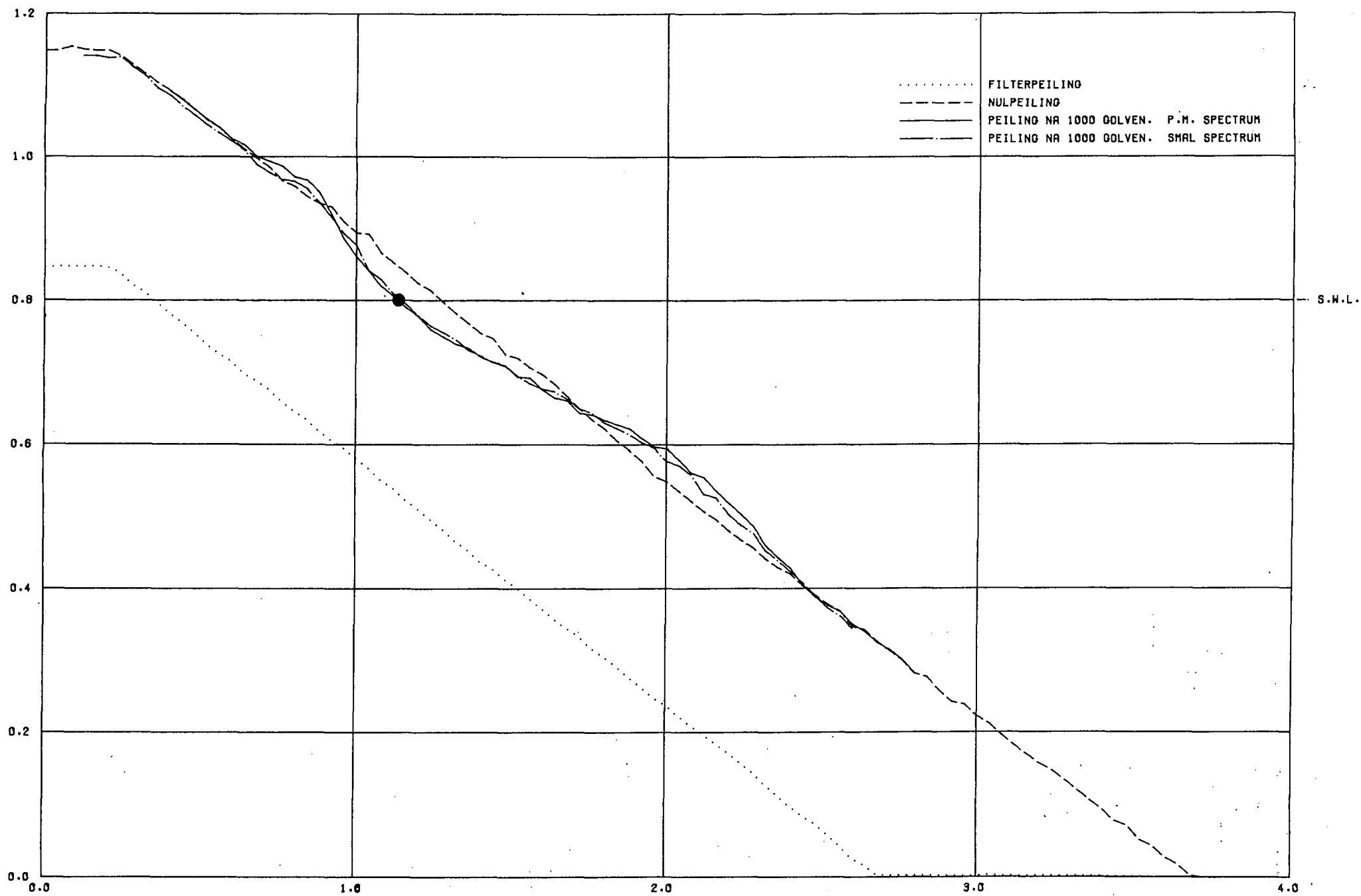
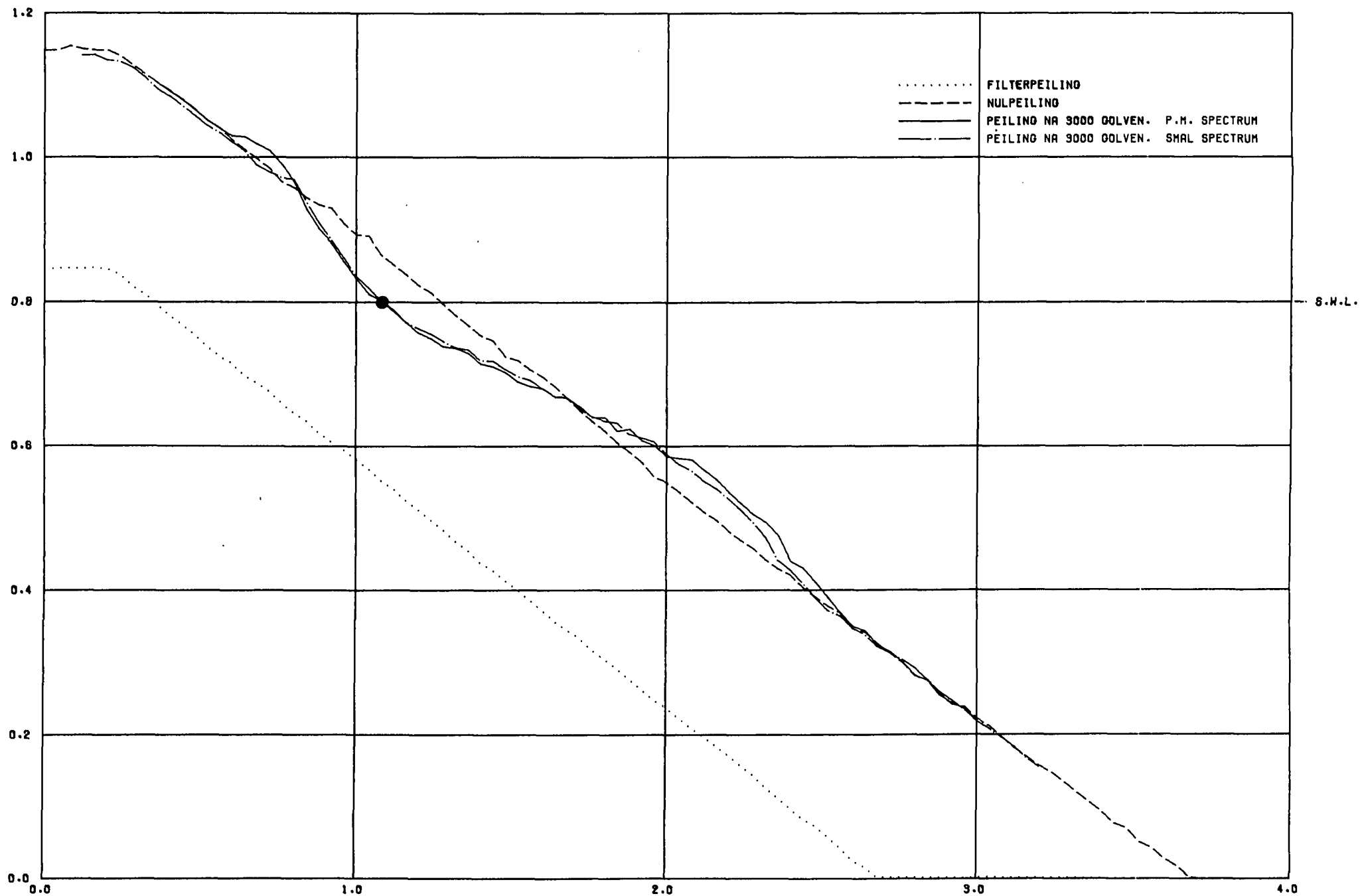


Fig. 6.6



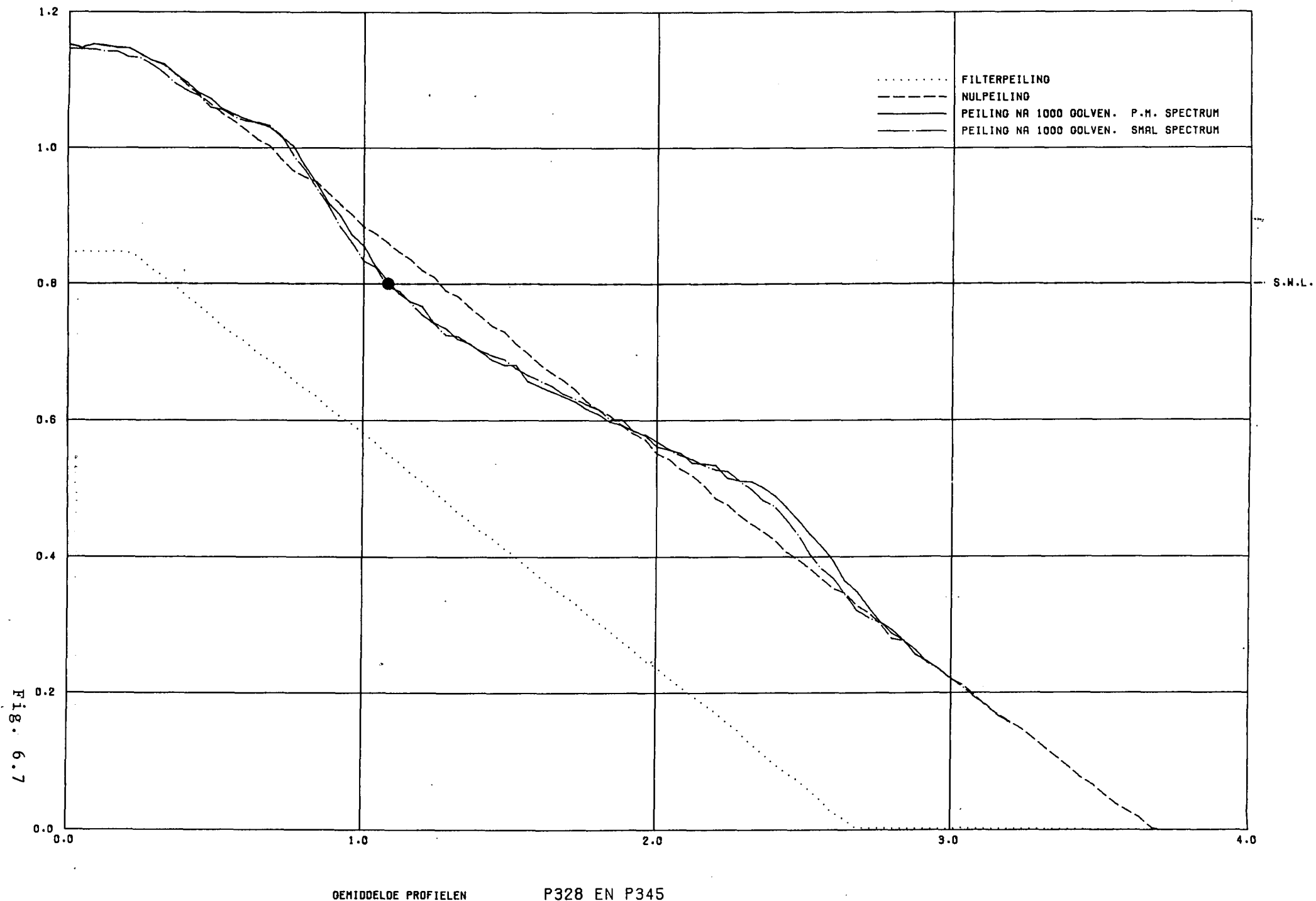
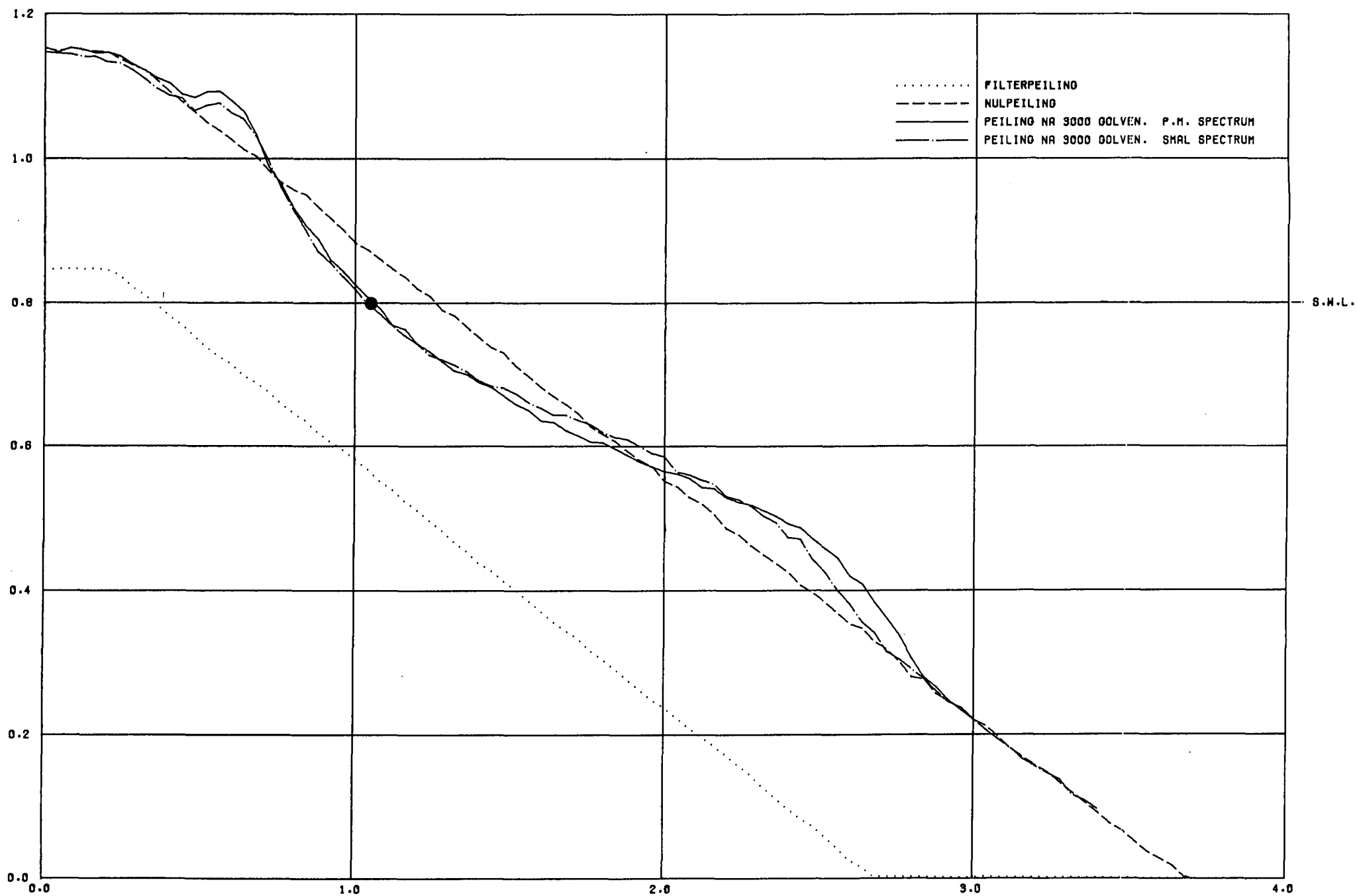


Fig. 6.8



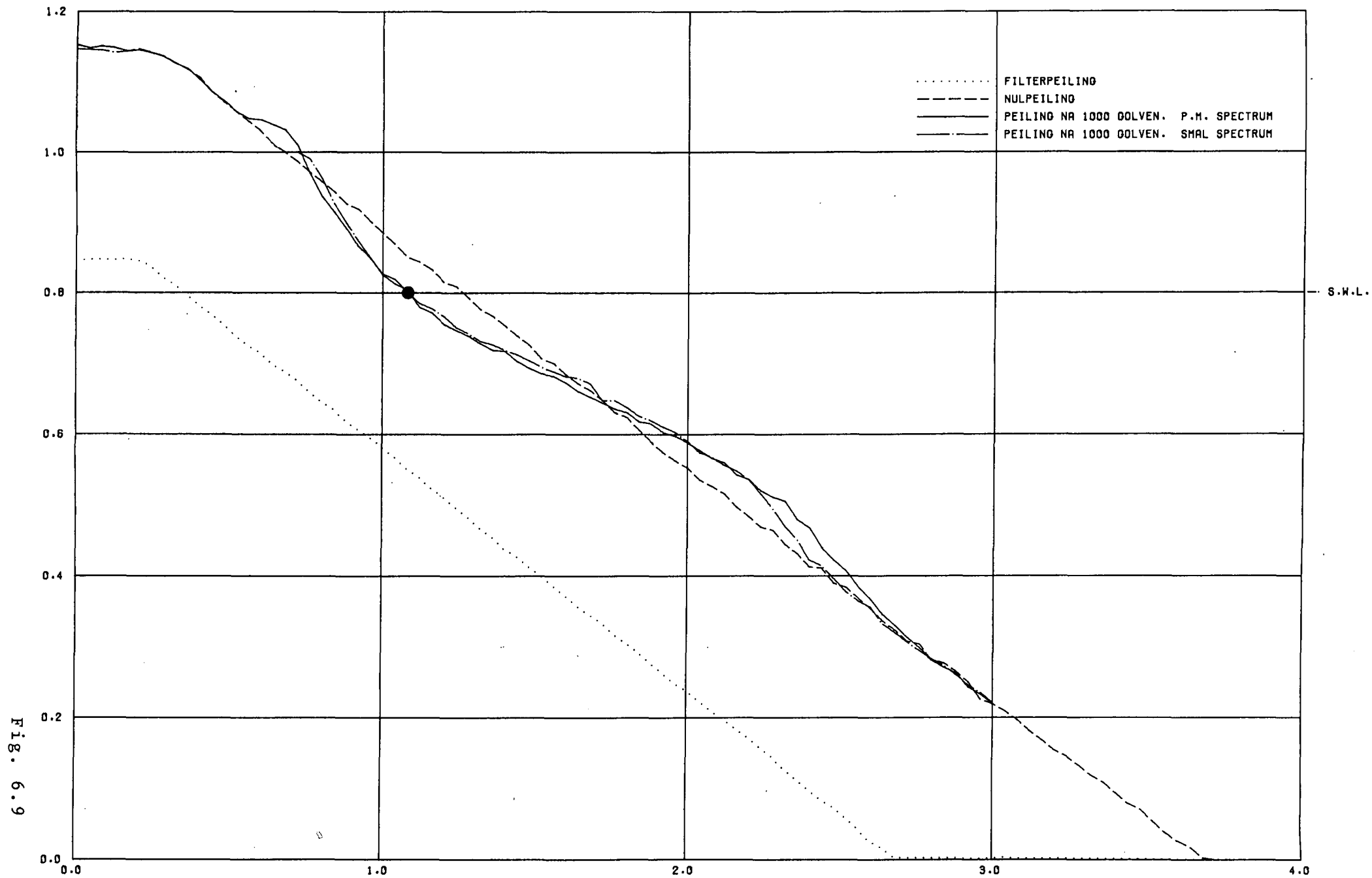


Fig. 6.9

Fig. 6.10

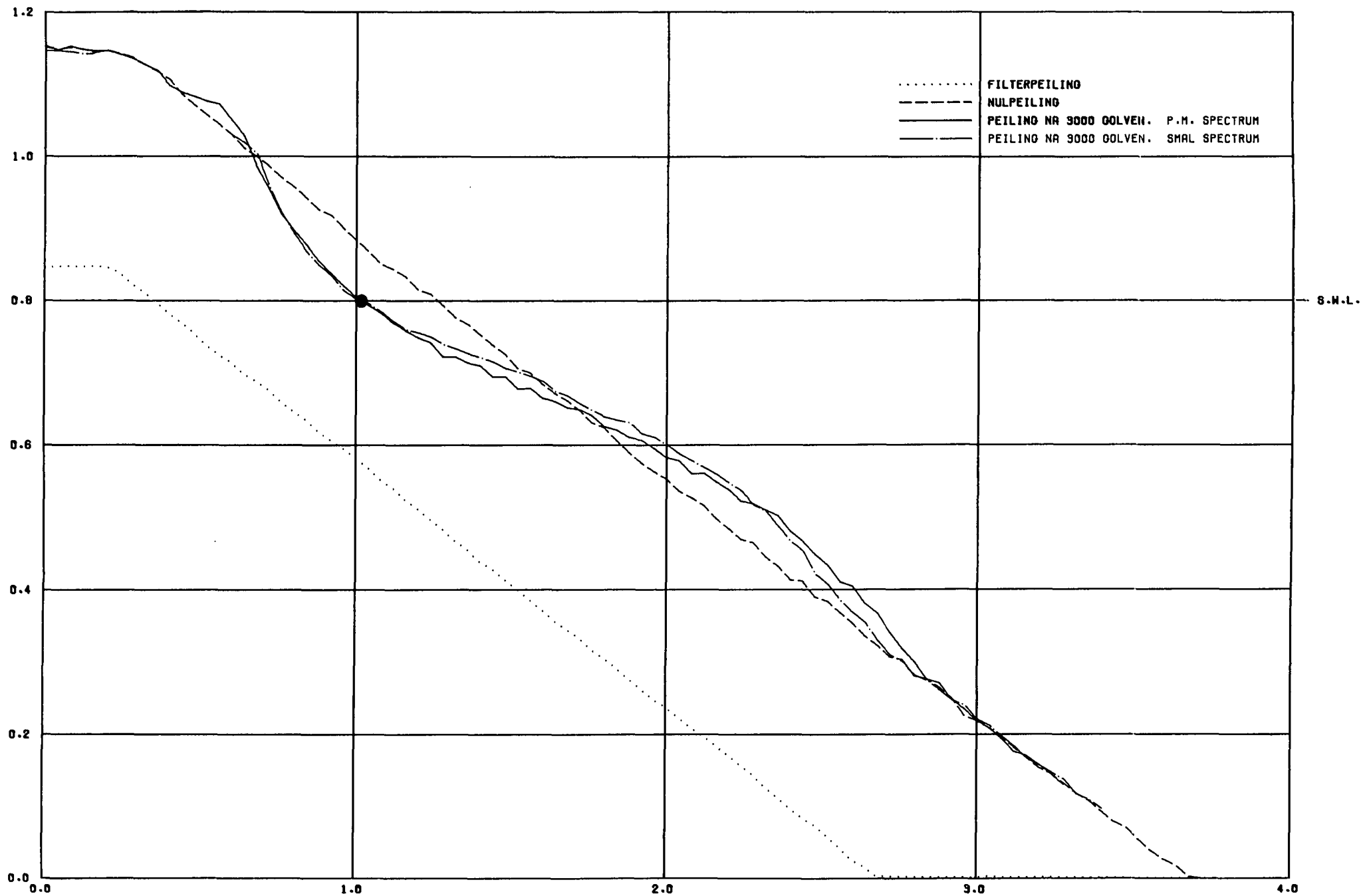


Fig. 6.11

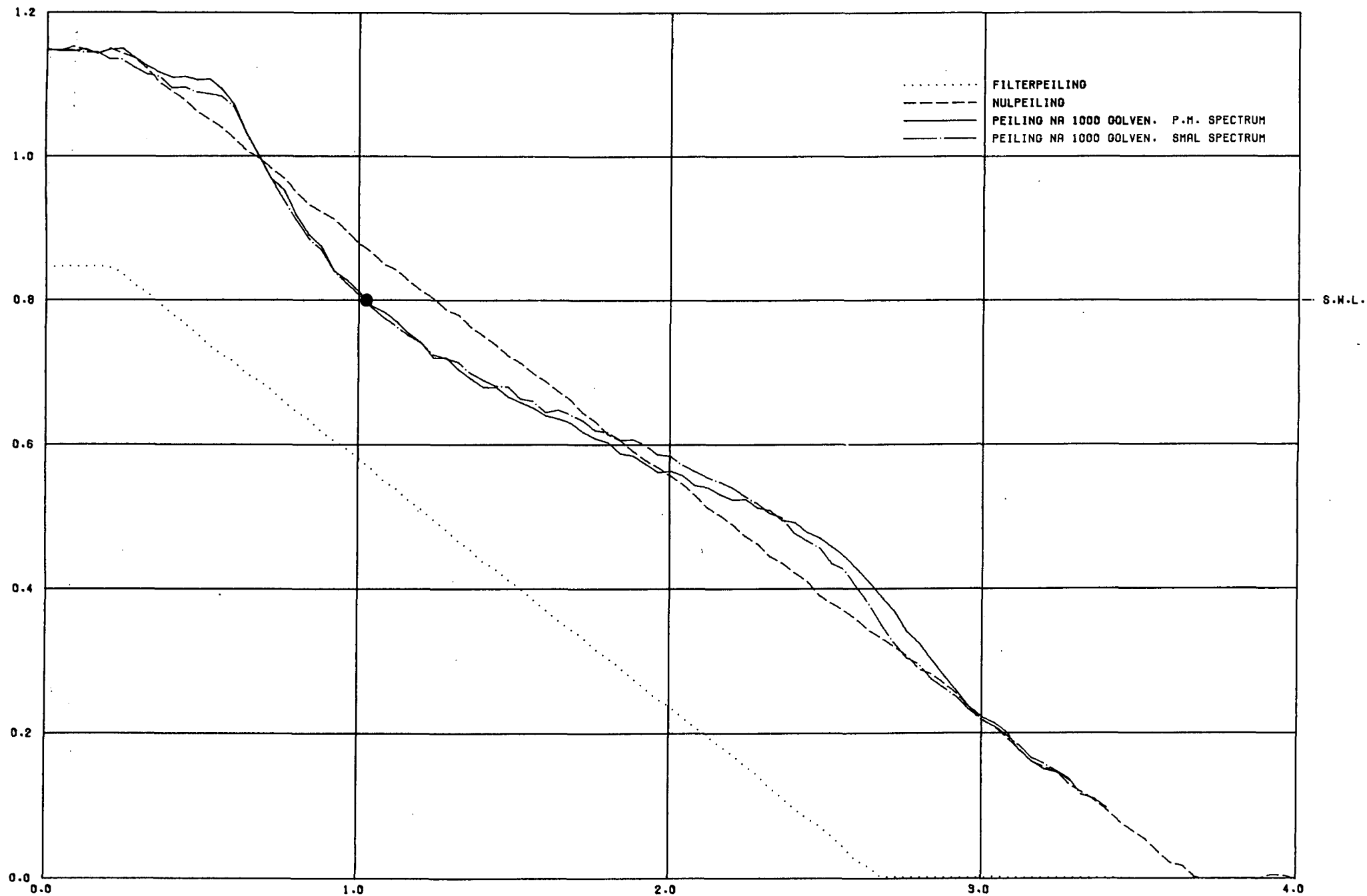
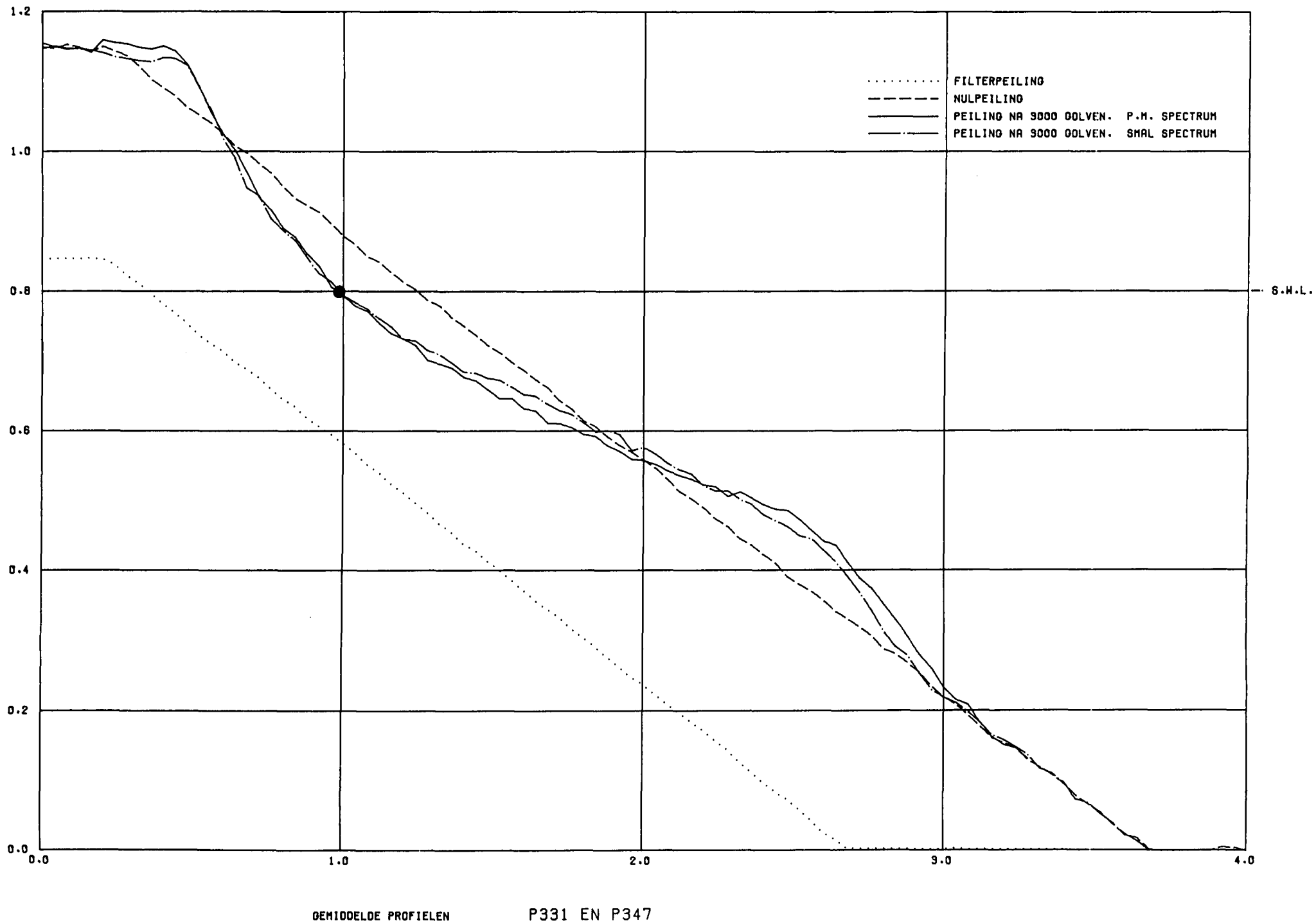


Fig. 6.12



7. Invloed diameter

De profielen zijn zodanig langs de waterlijn verschoven, dat hetzelfde snijpunt ontstaat met de waterlijn

Fig. 7.1

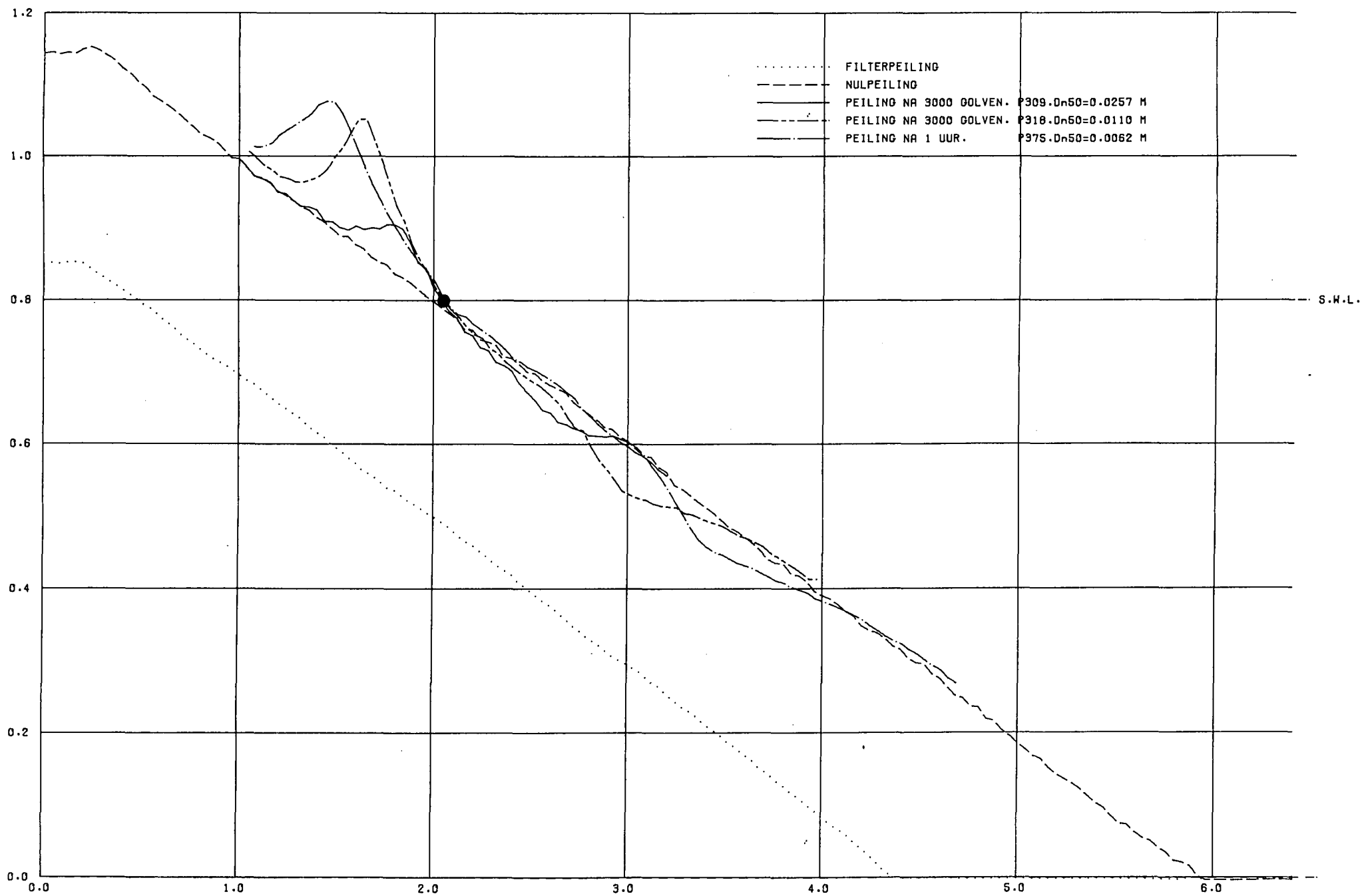
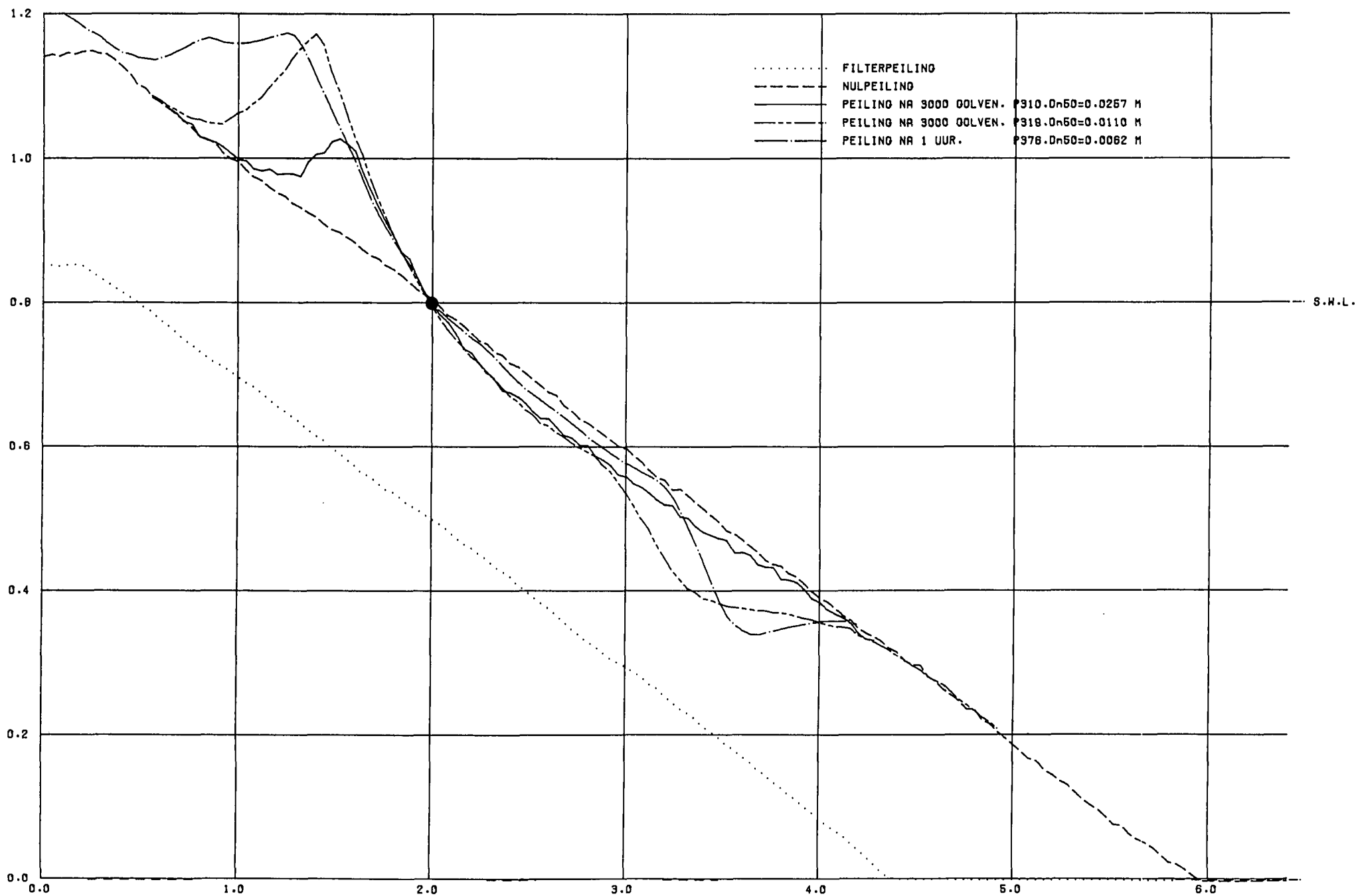


Fig. 7.2

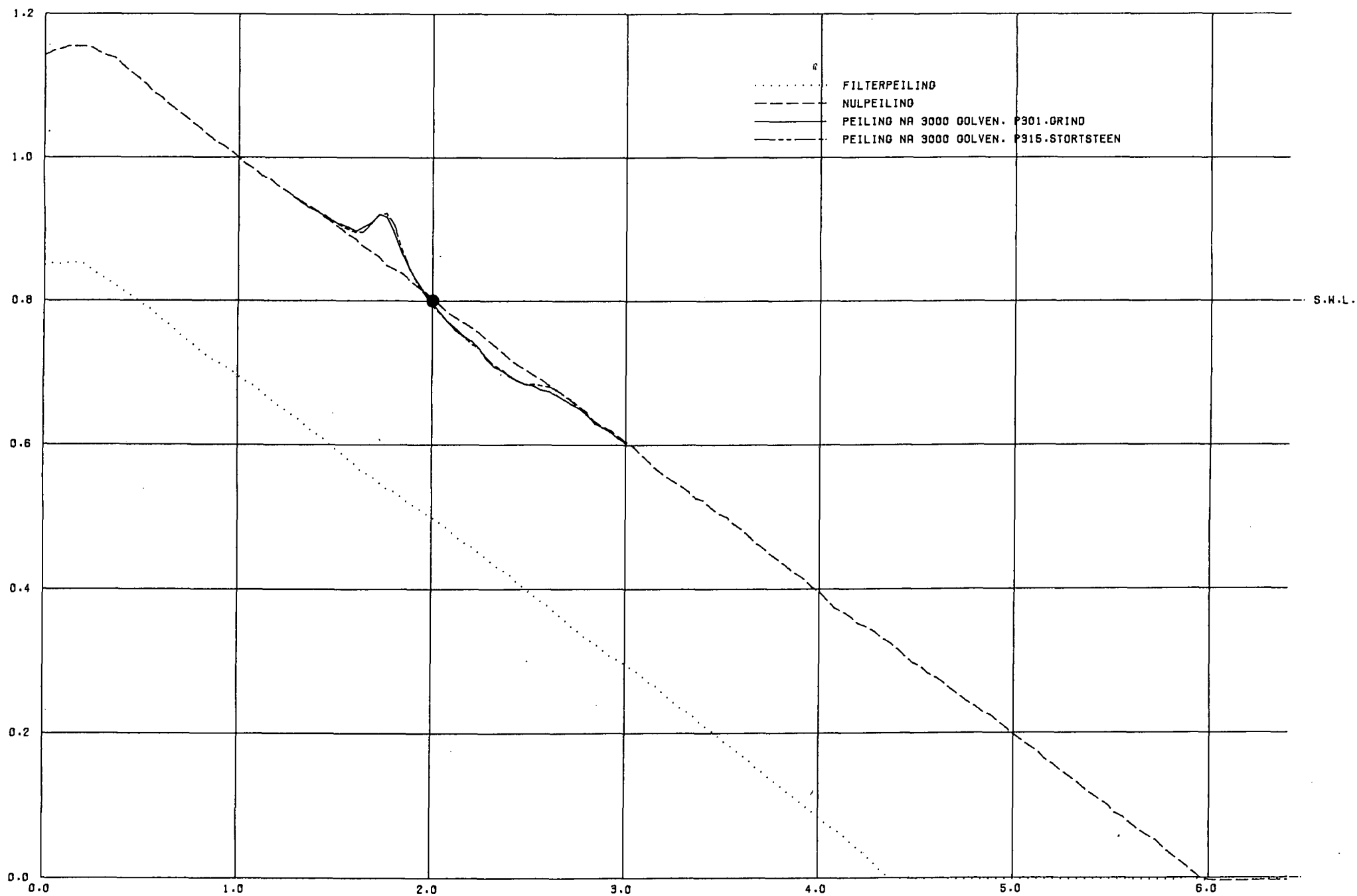


OEMIDDELTE PROFIELEN

8. Invloed korrelvorm

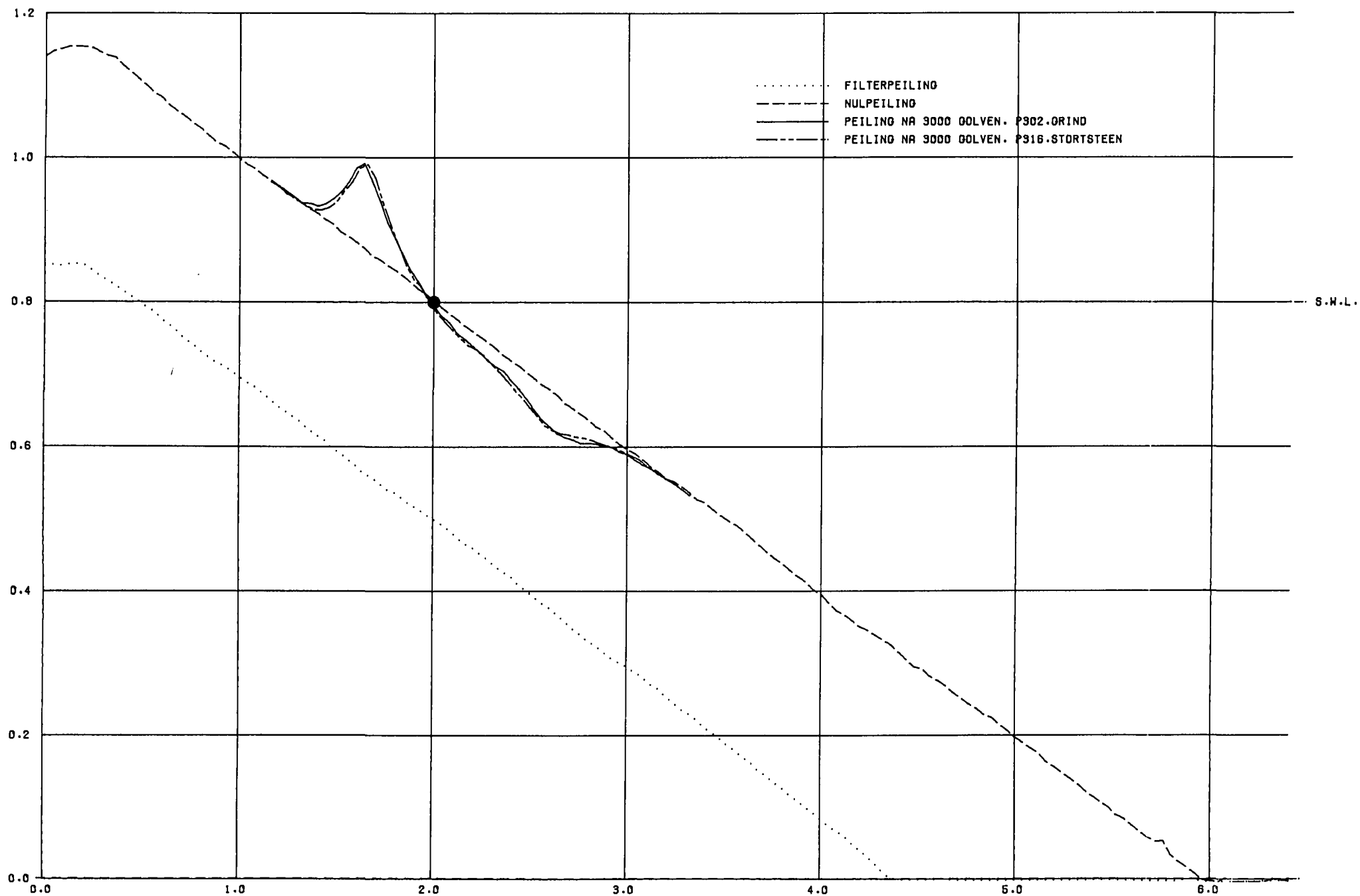
De profielen zijn zodanig langs de waterlijn verschoven, dat hetzelfde snijpunt ontstaat met de waterlijn

Fig. 8.1



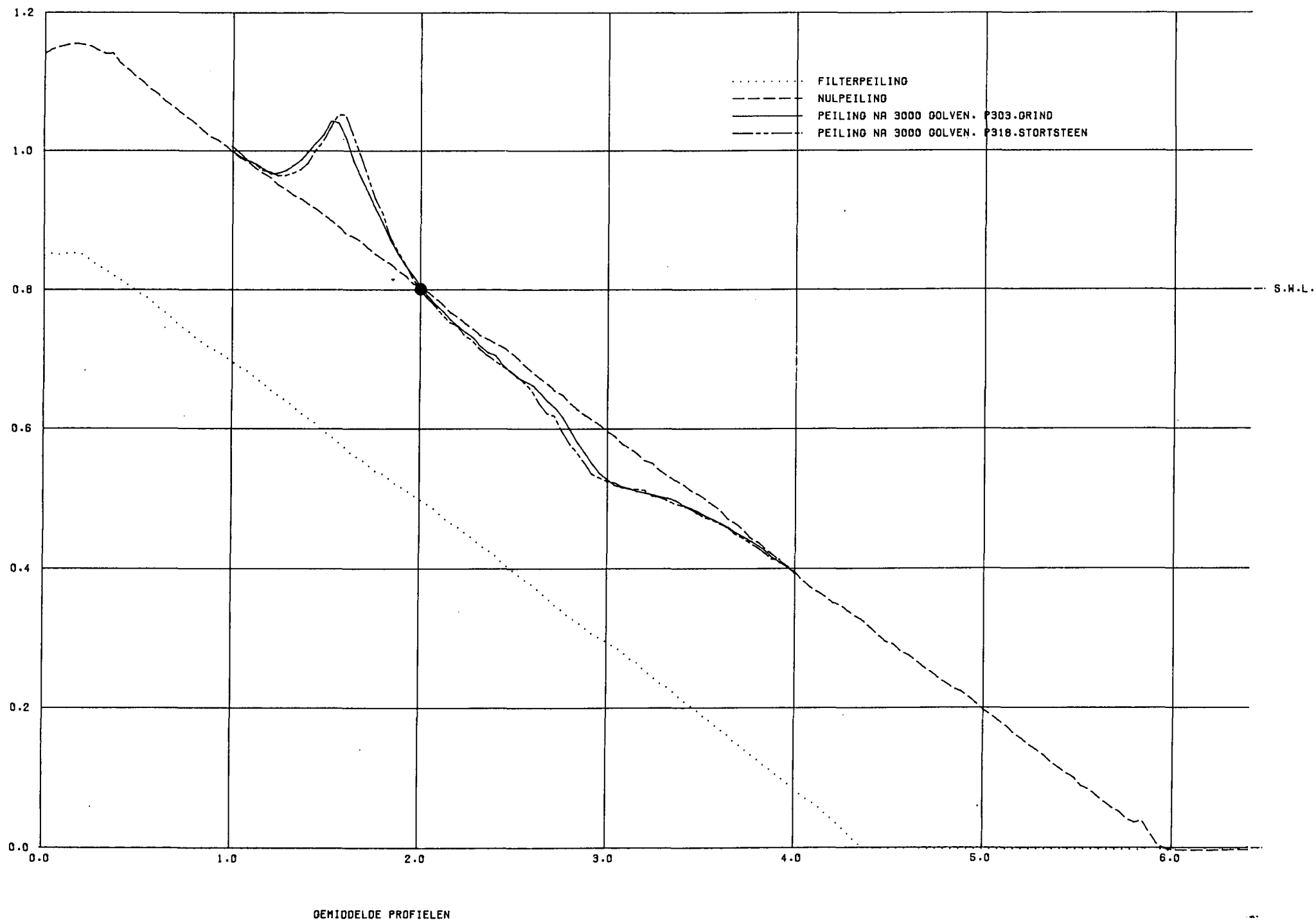
GEWIDDELOE PROFIELEN

Fig. 8.2



GEMIDDELDDE PROFIELEN

Fig. 8.3



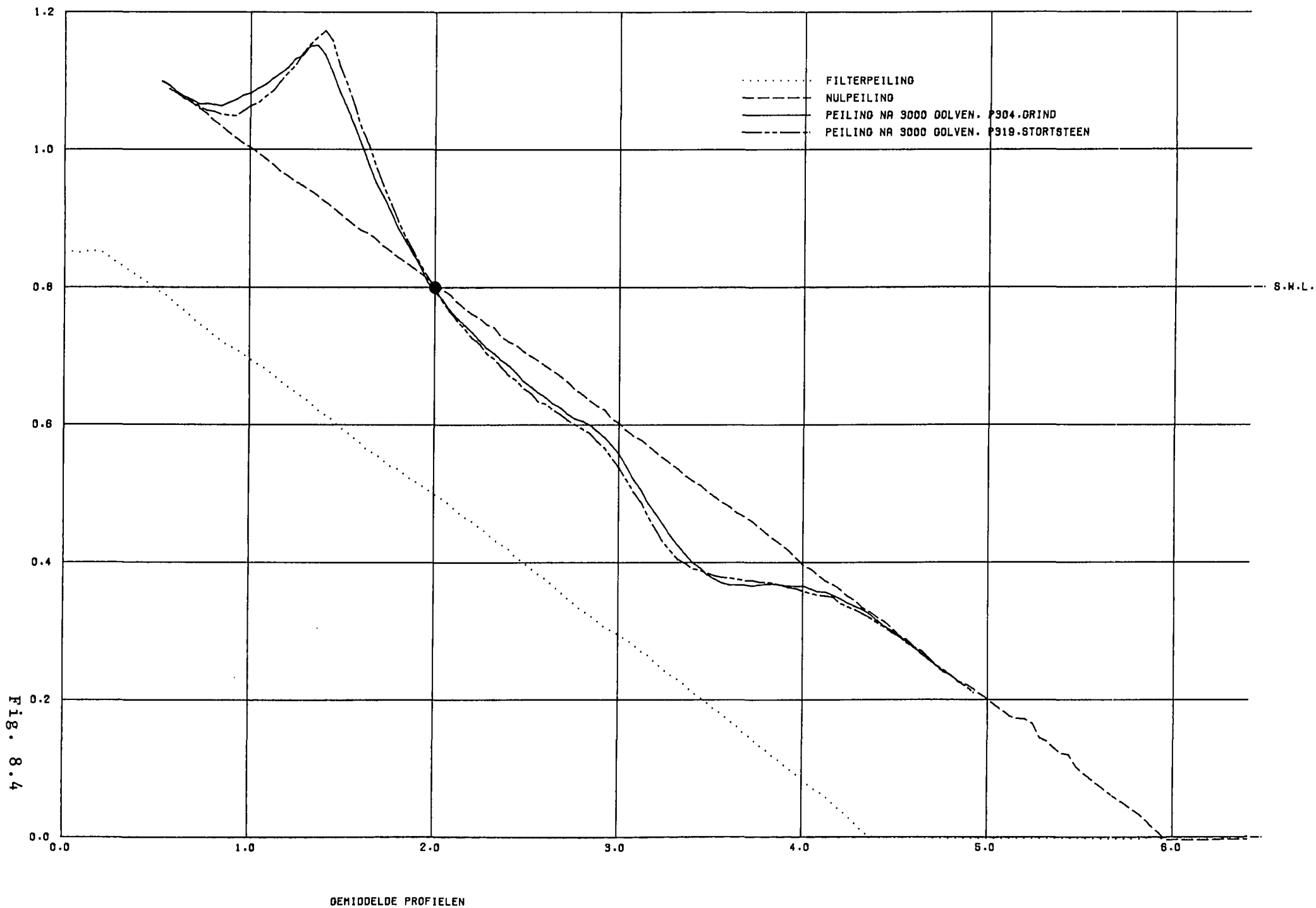


Fig. 8.5

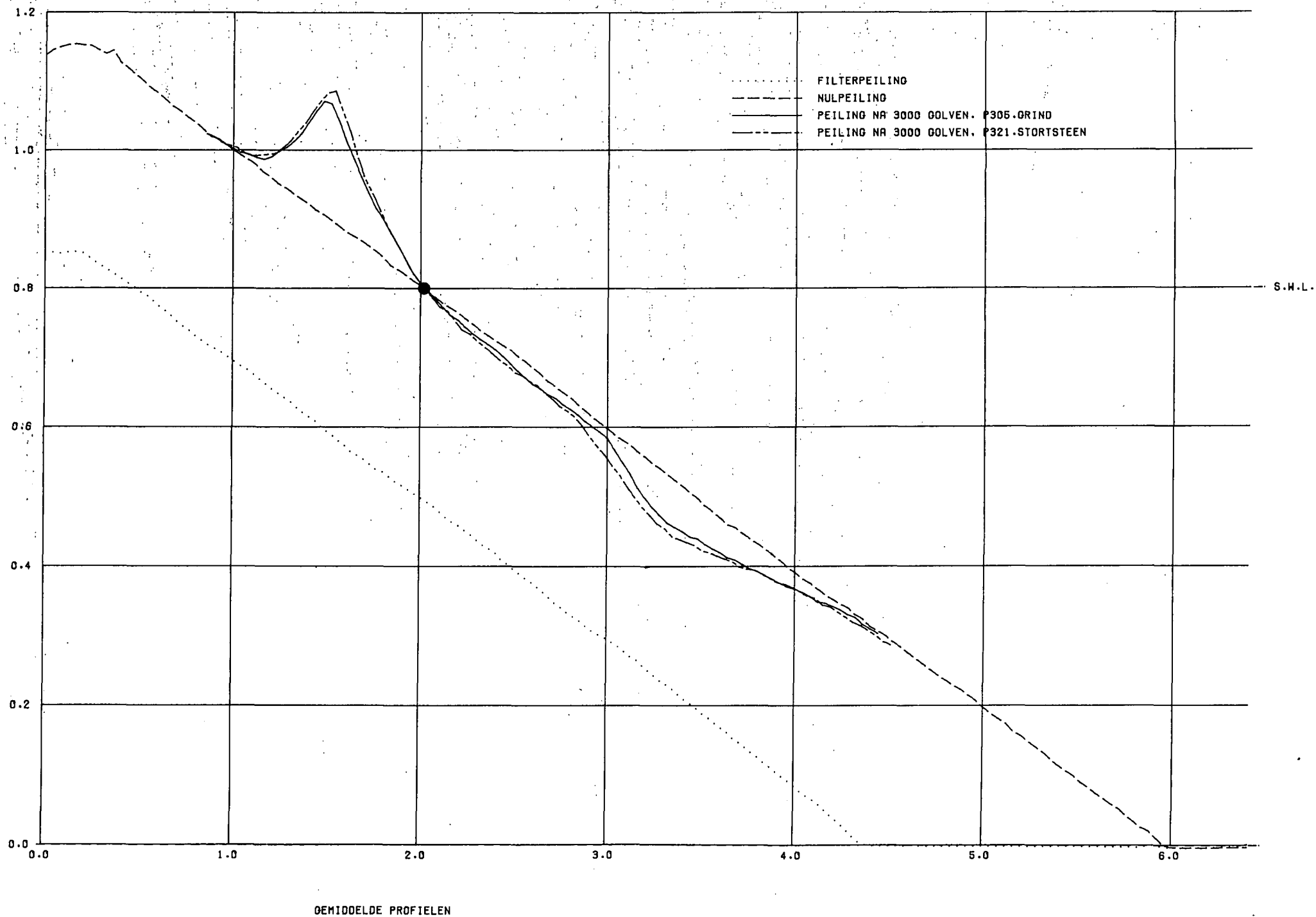
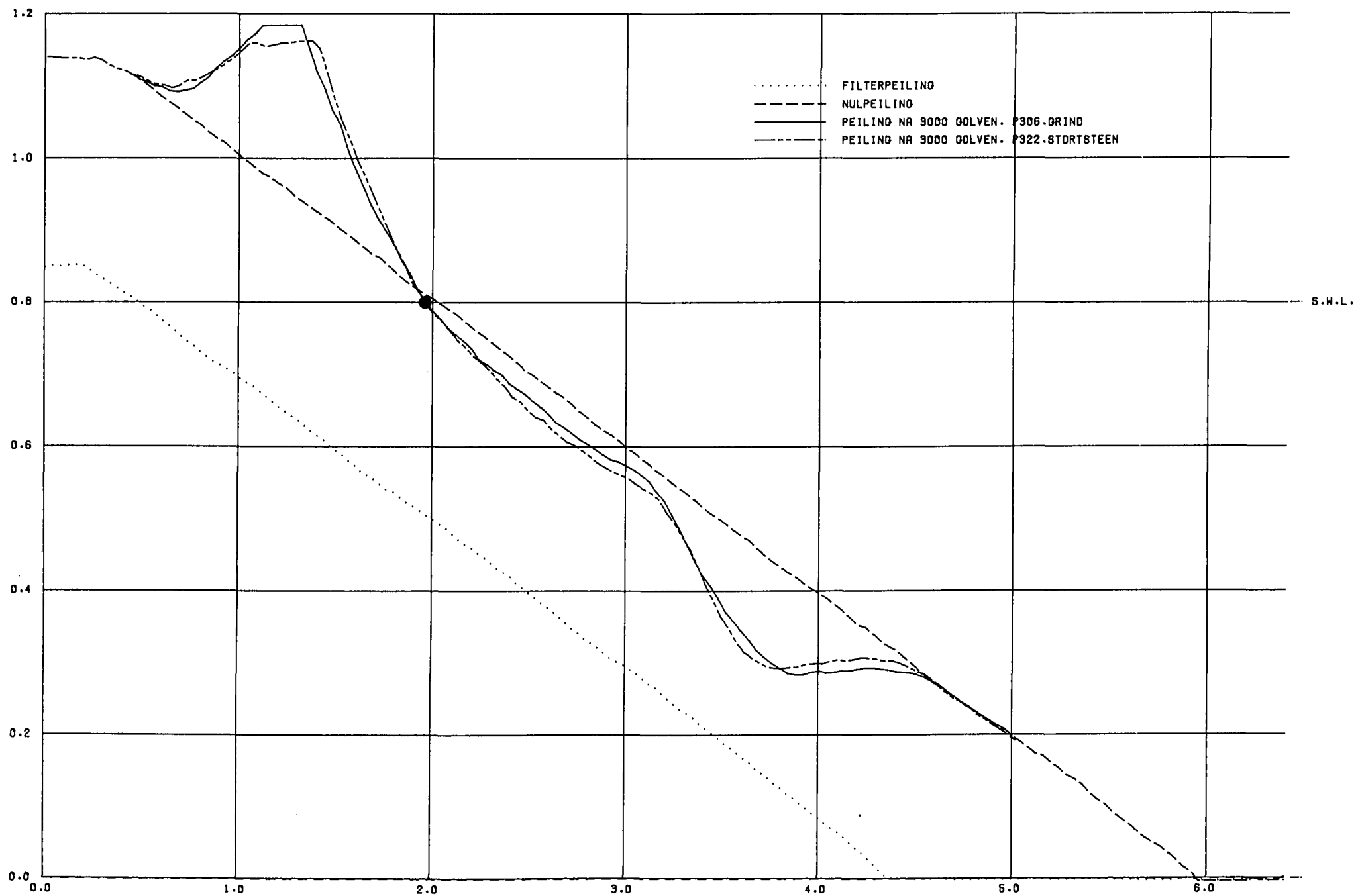
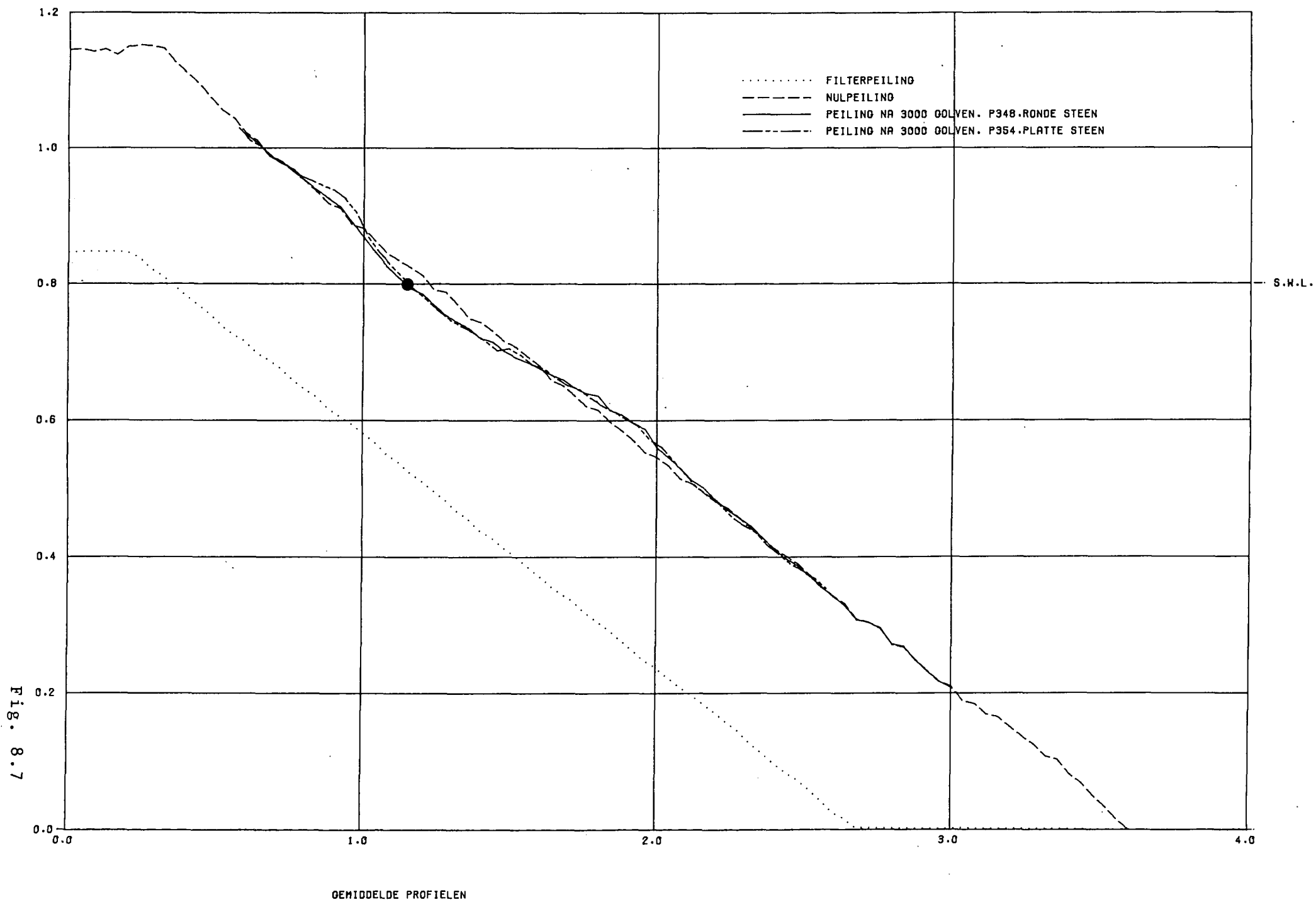
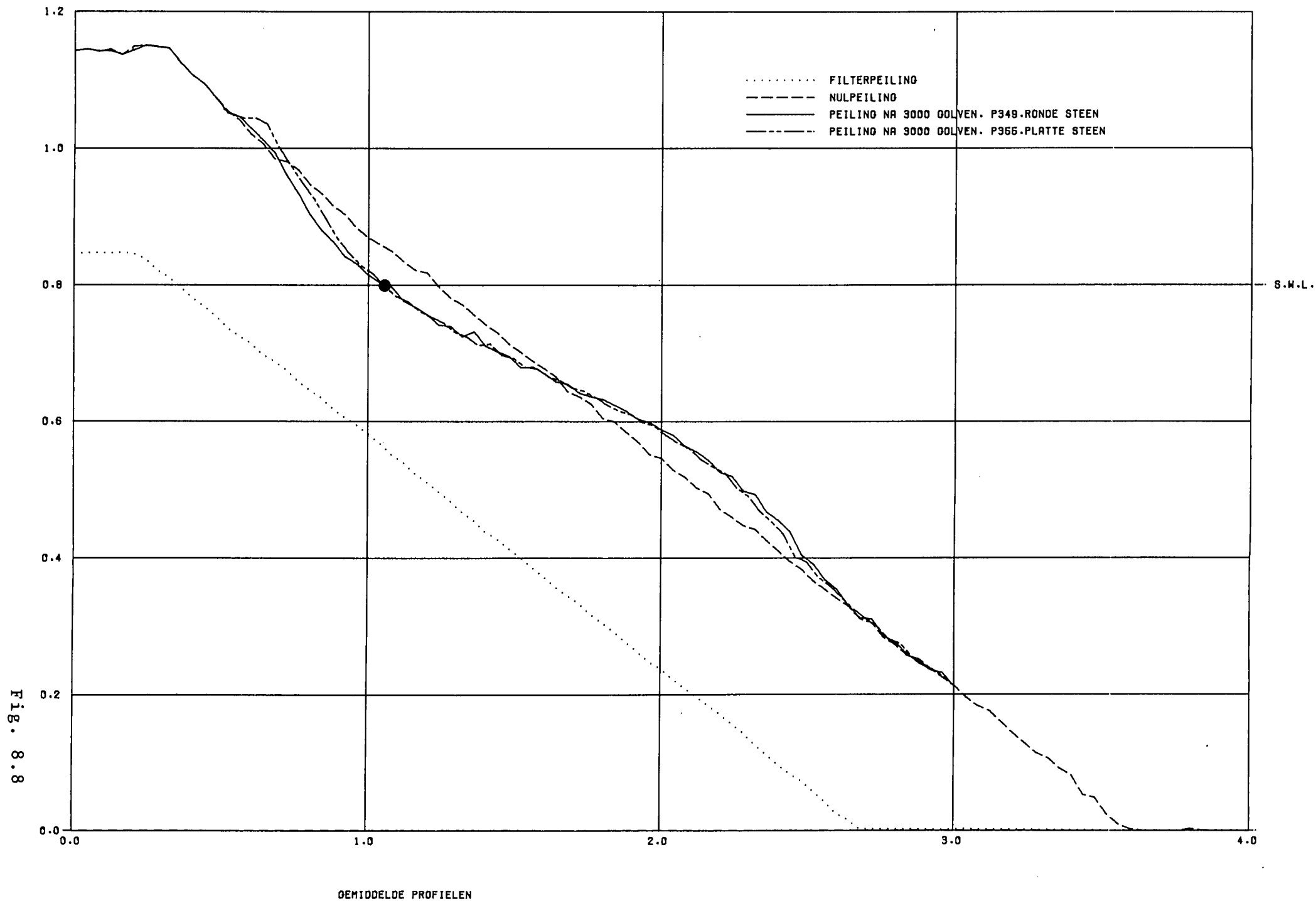


Fig. 8.6



GEHIDDELE PROFIELEN





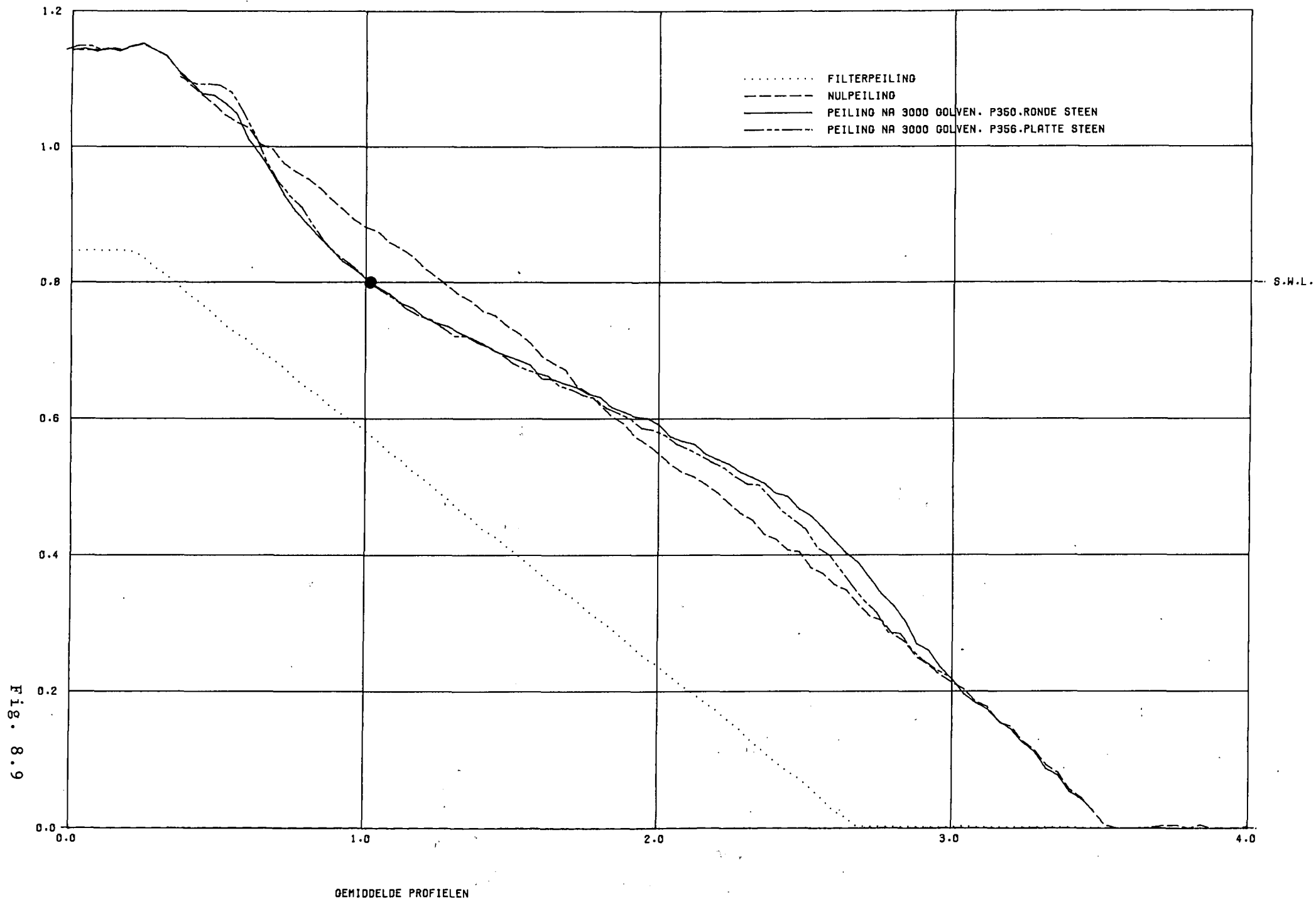
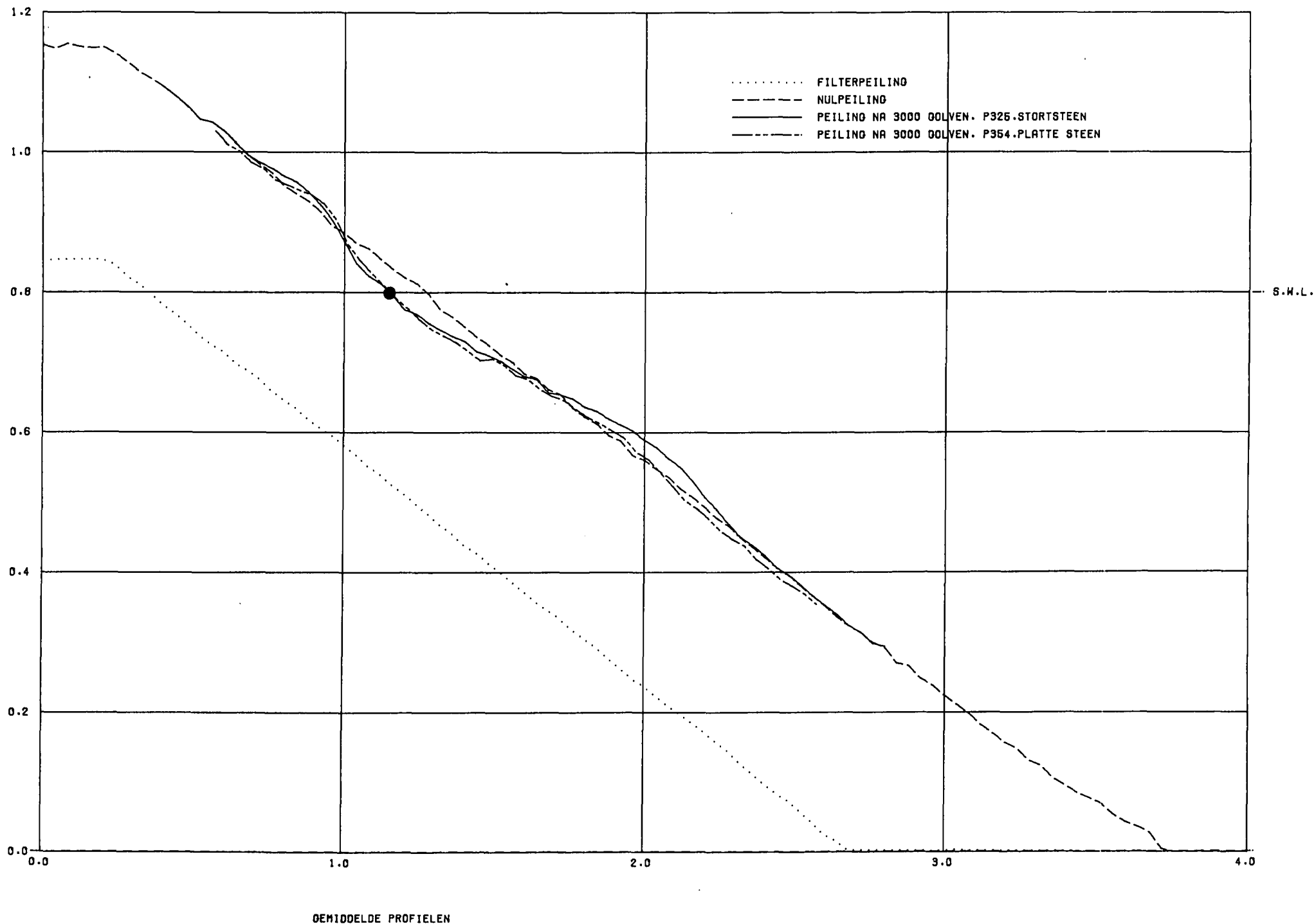


Fig. 8.10



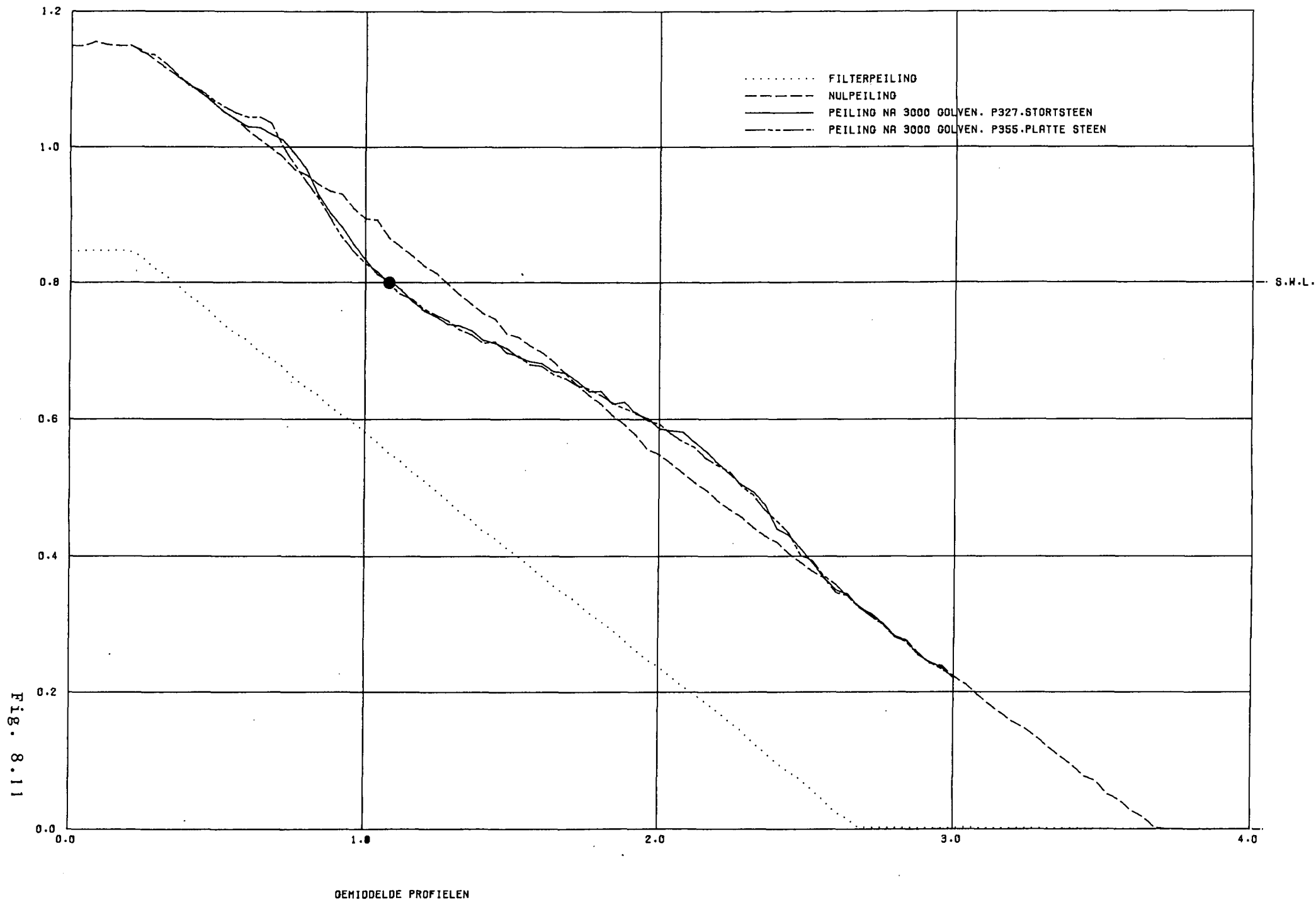
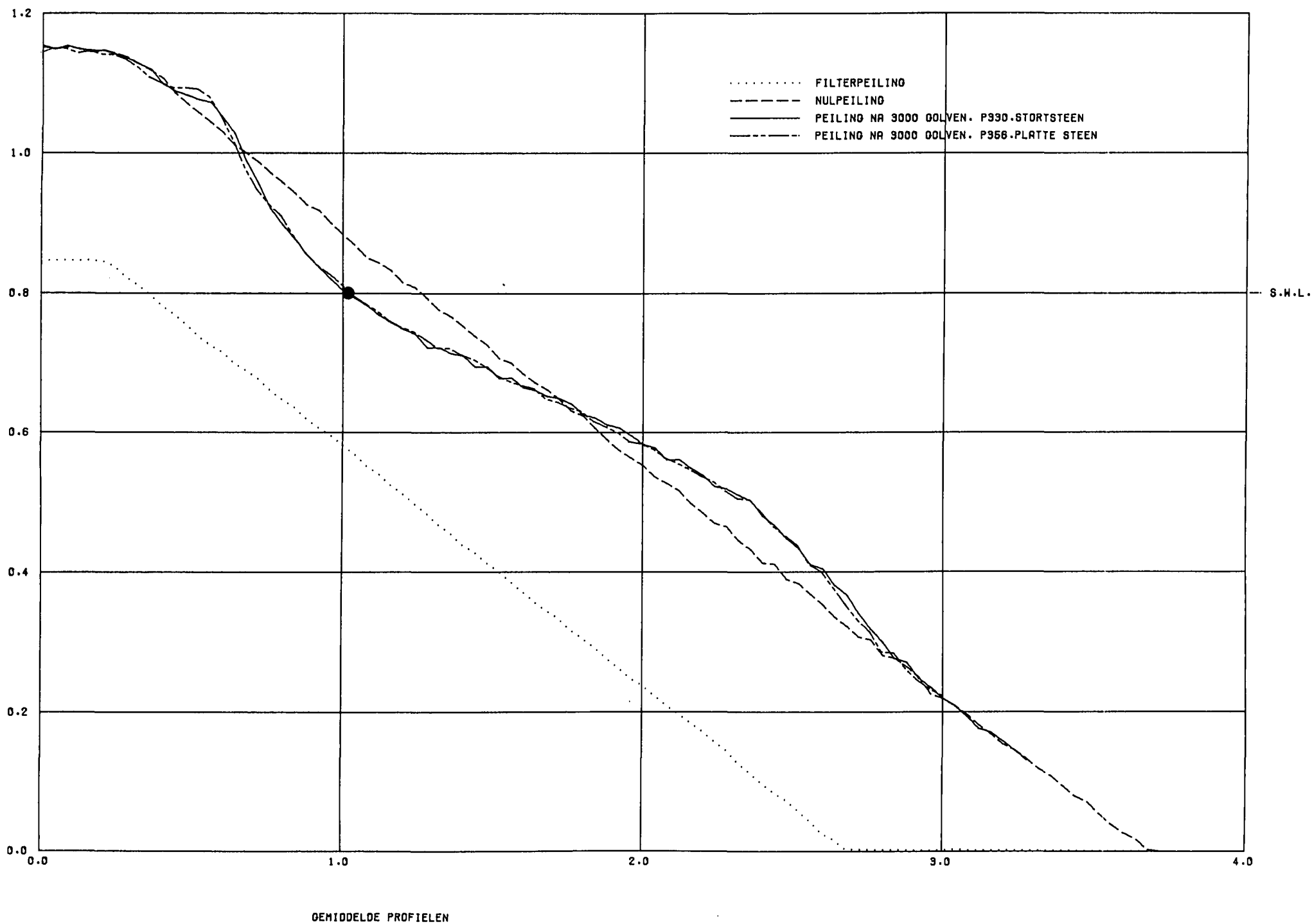


Fig. 8.12



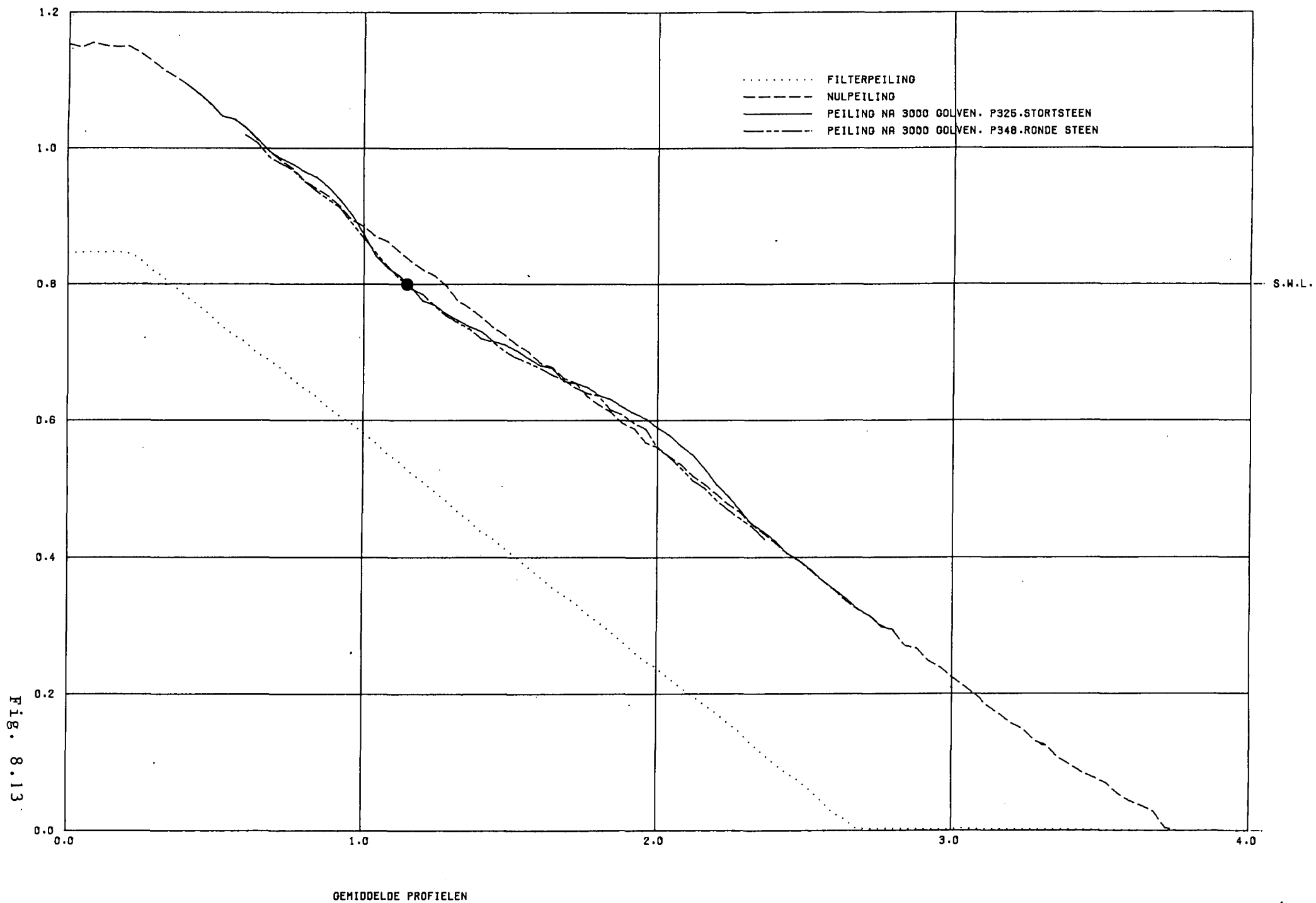
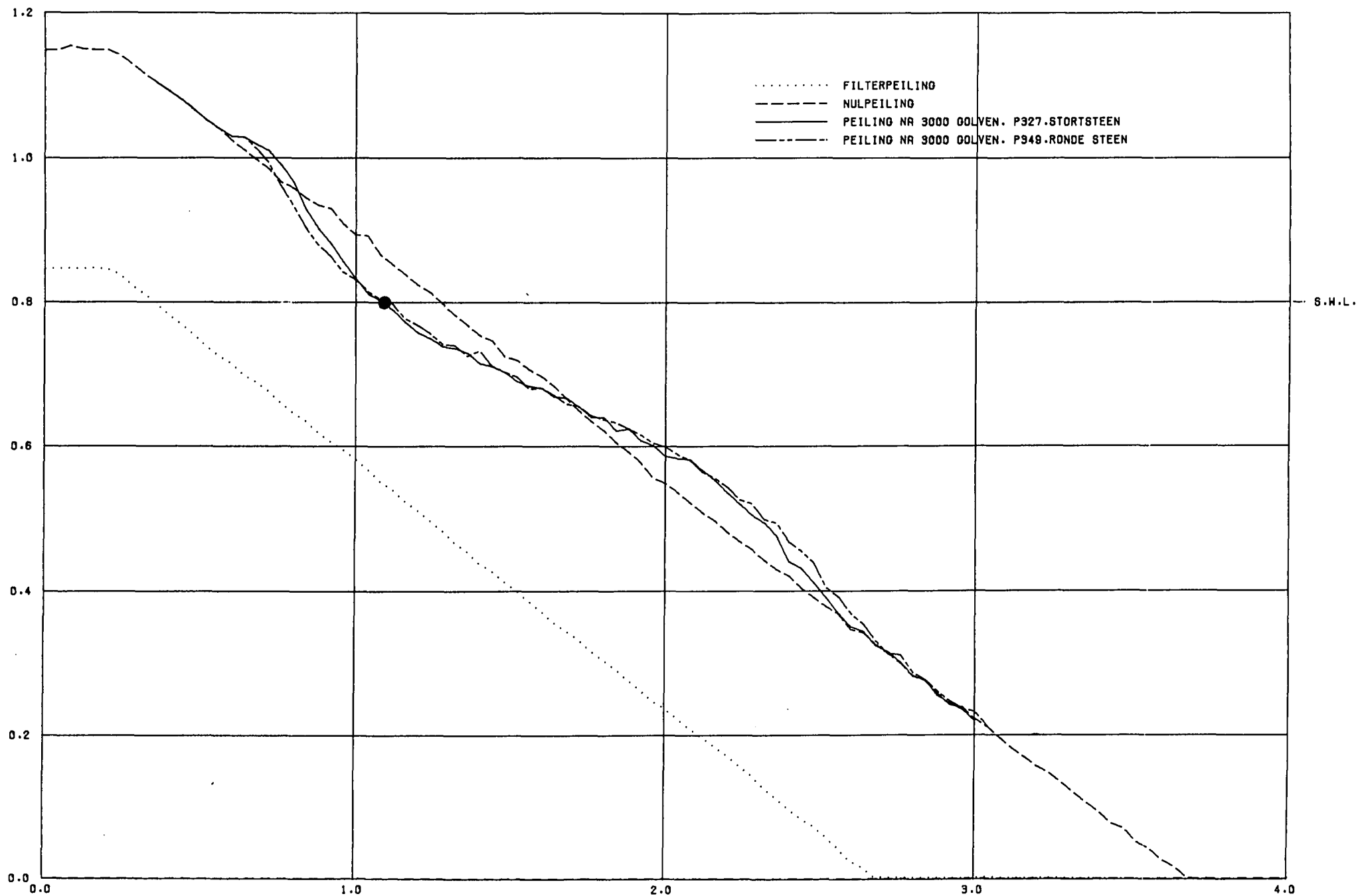
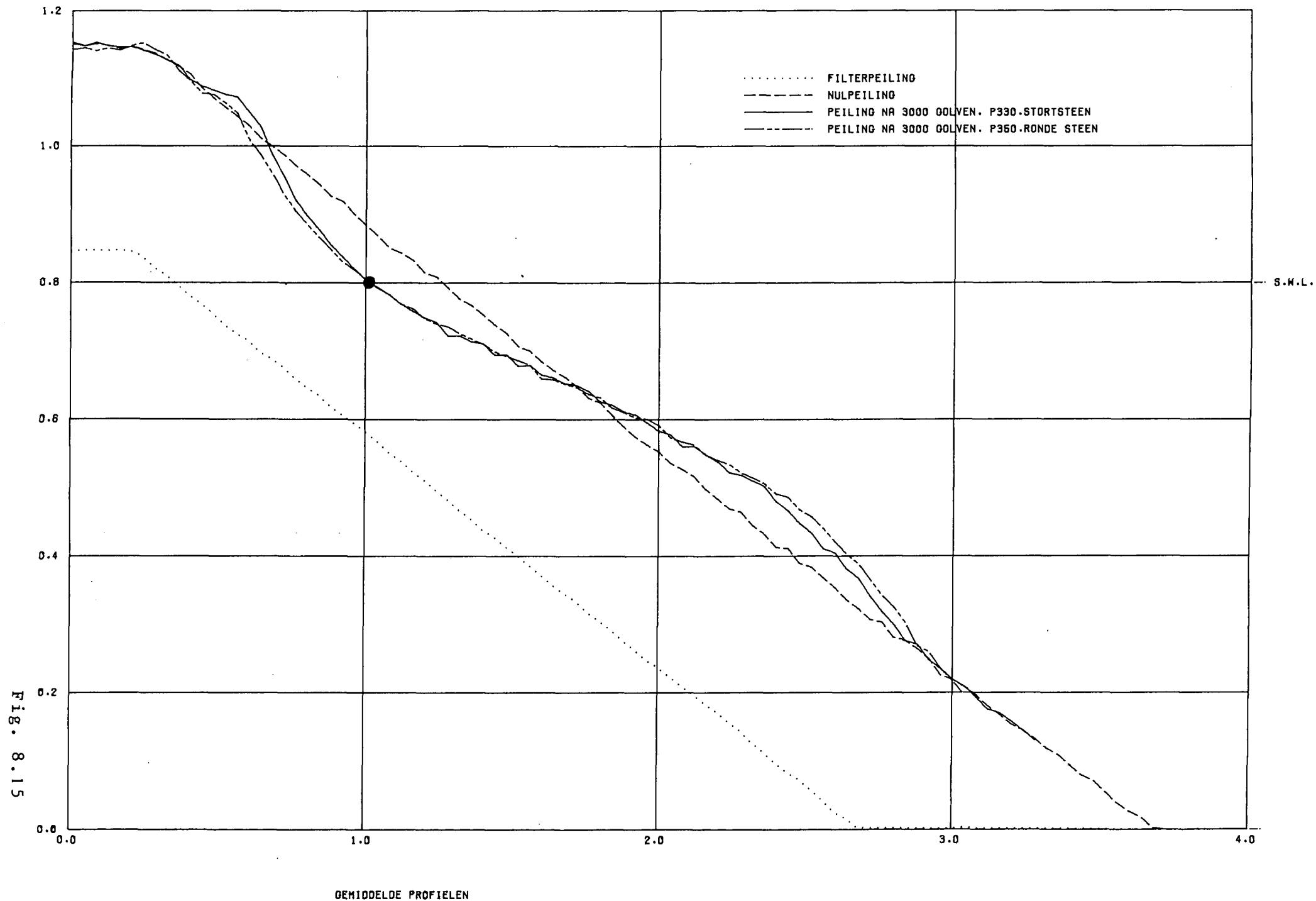


Fig. 8.14



GEMIDDELTE PROFIELEN



9. Invloed gradatie

De profielen zijn zodanig langs de waterlijn verschoven, dat hetzelfde snijpunt ontstaat met de waterlijn

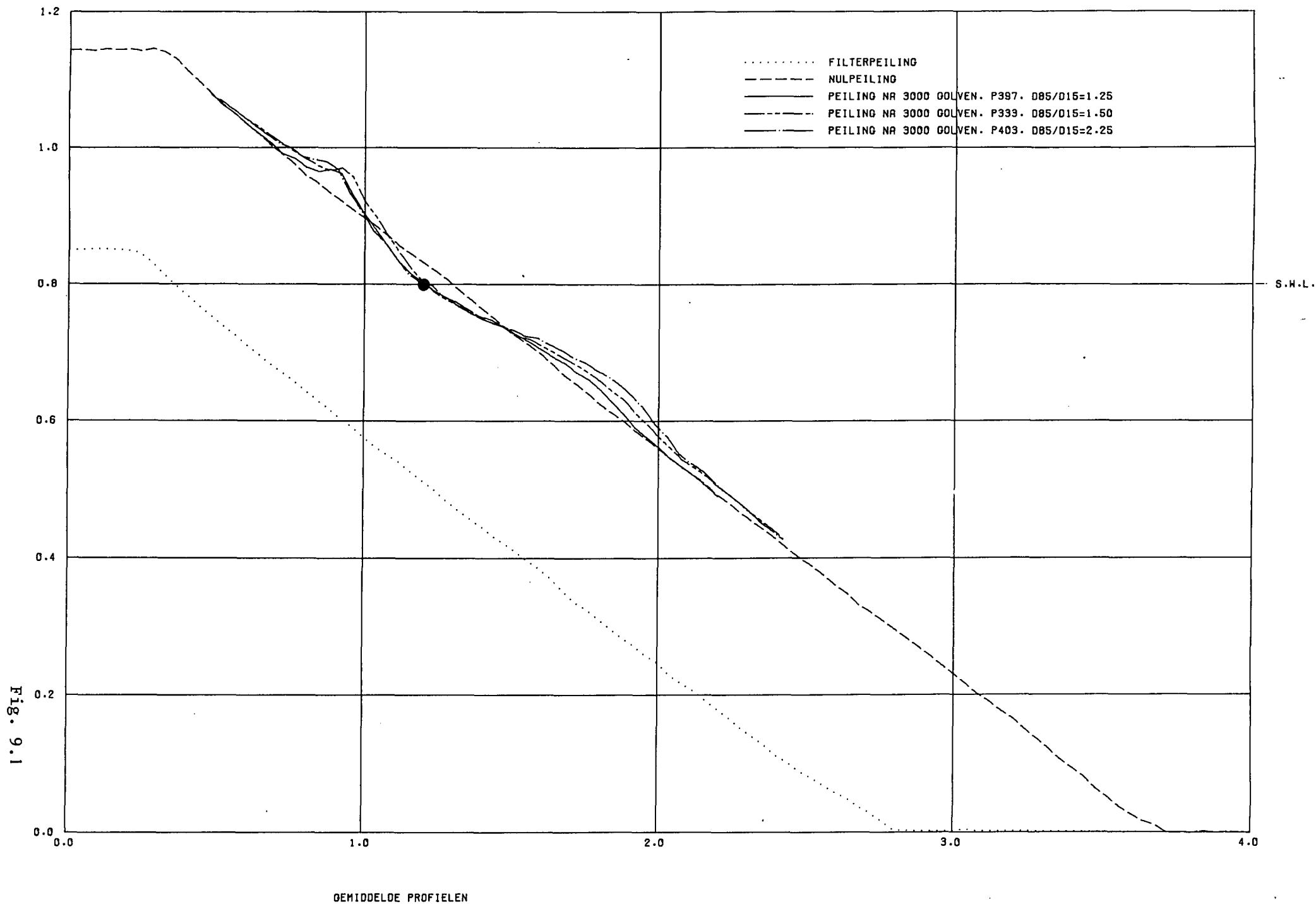
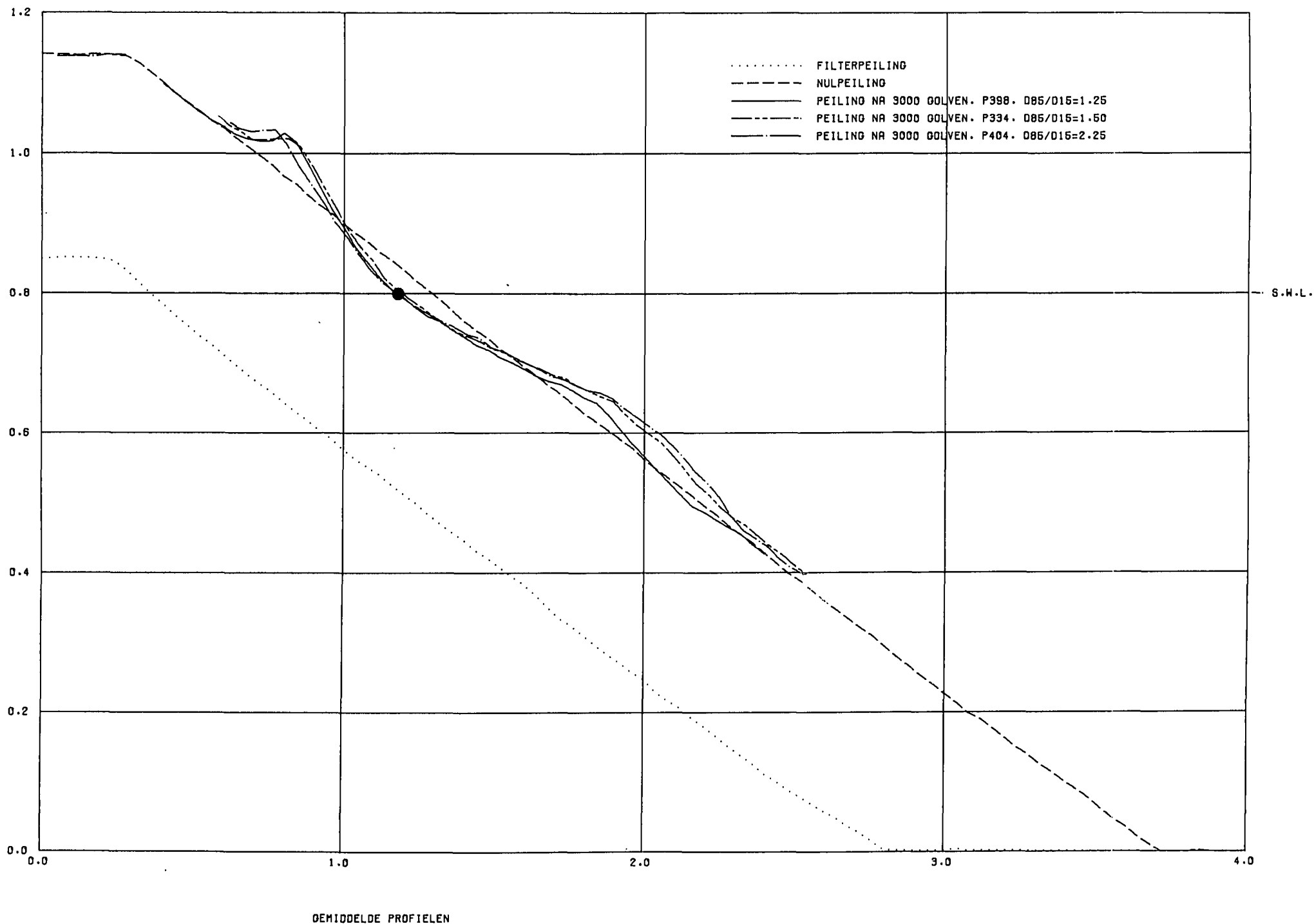


Fig. 9.2



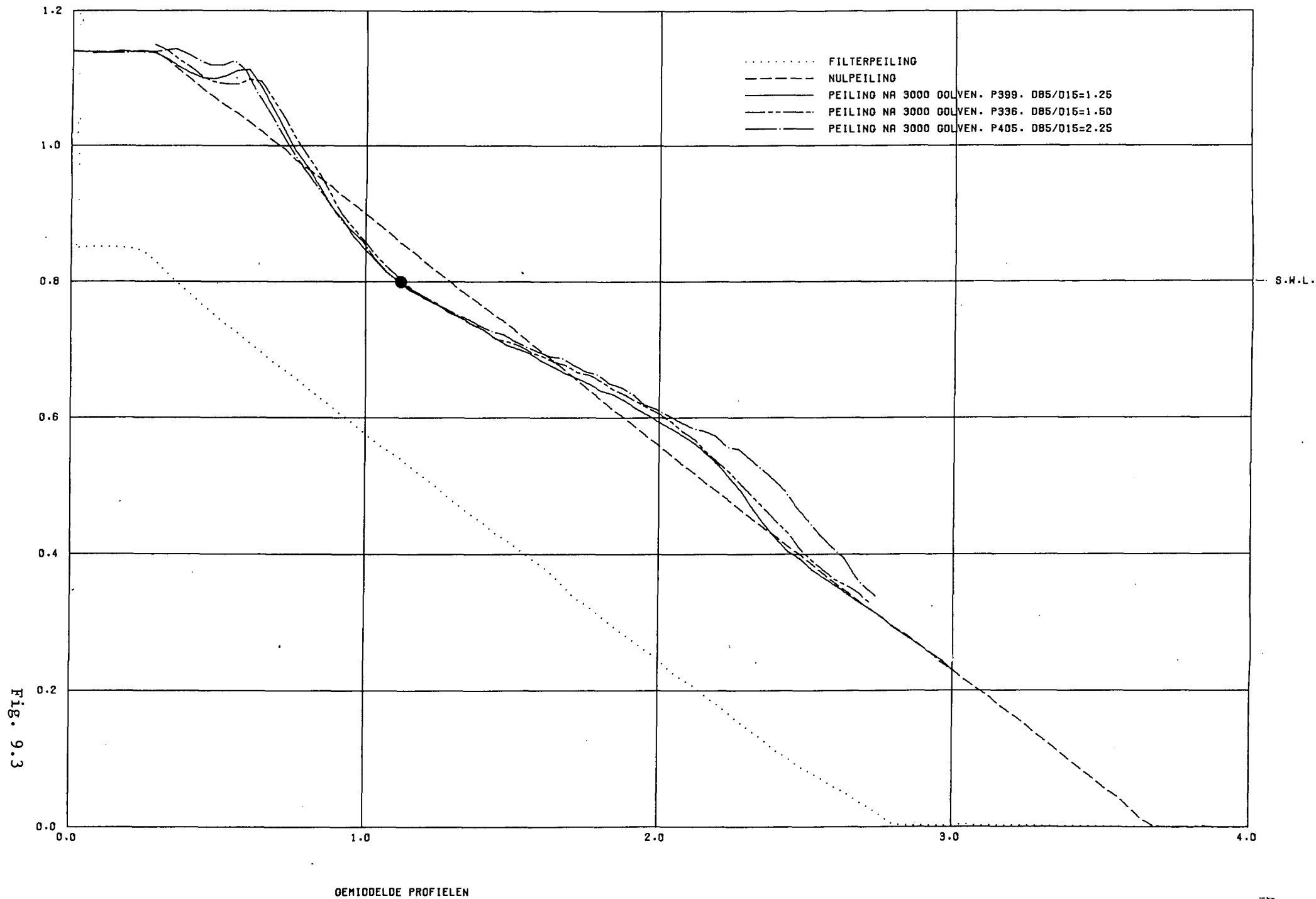
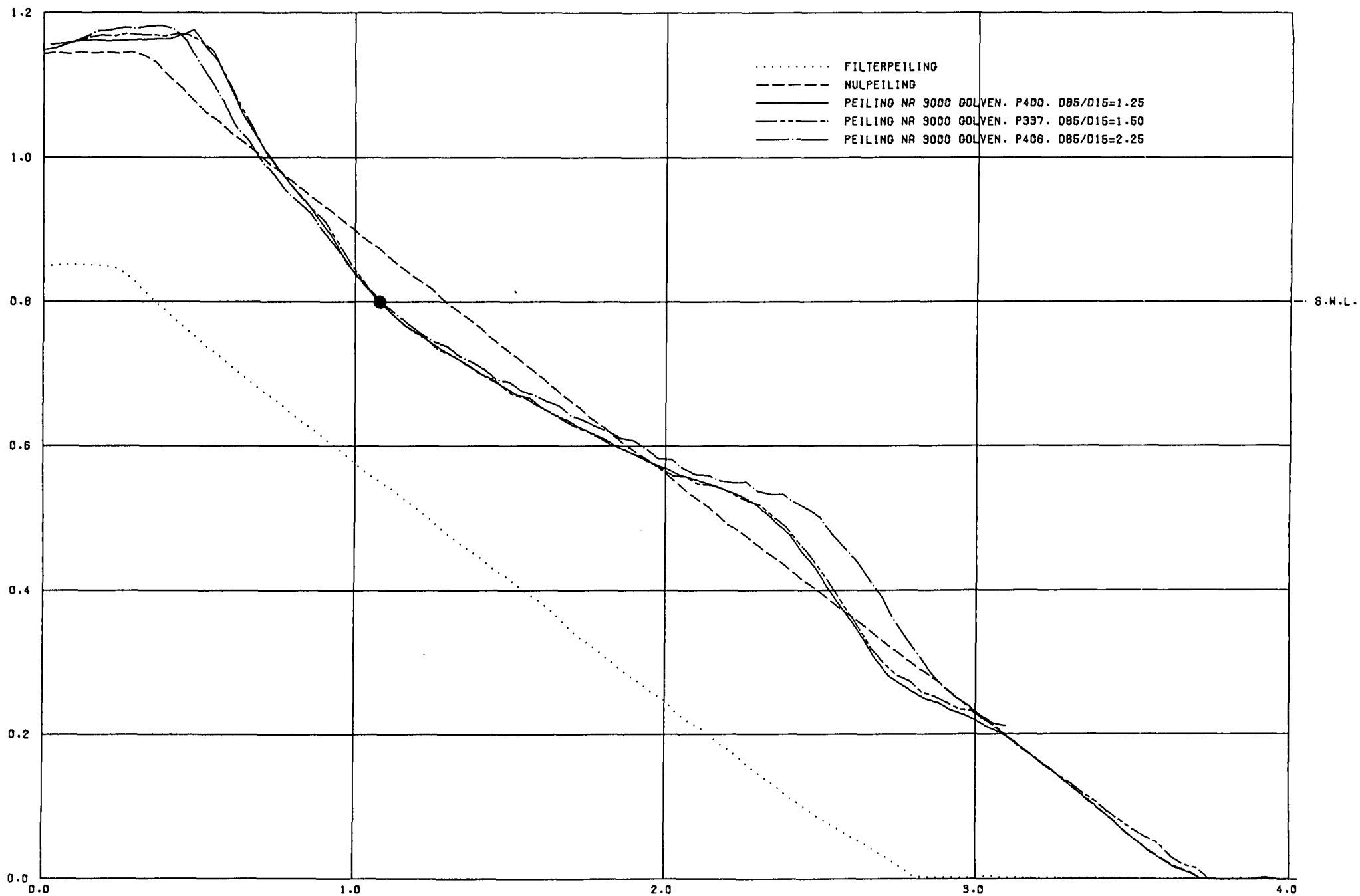


Fig. 9.4



GEMIDDELDSE PROFIELEN

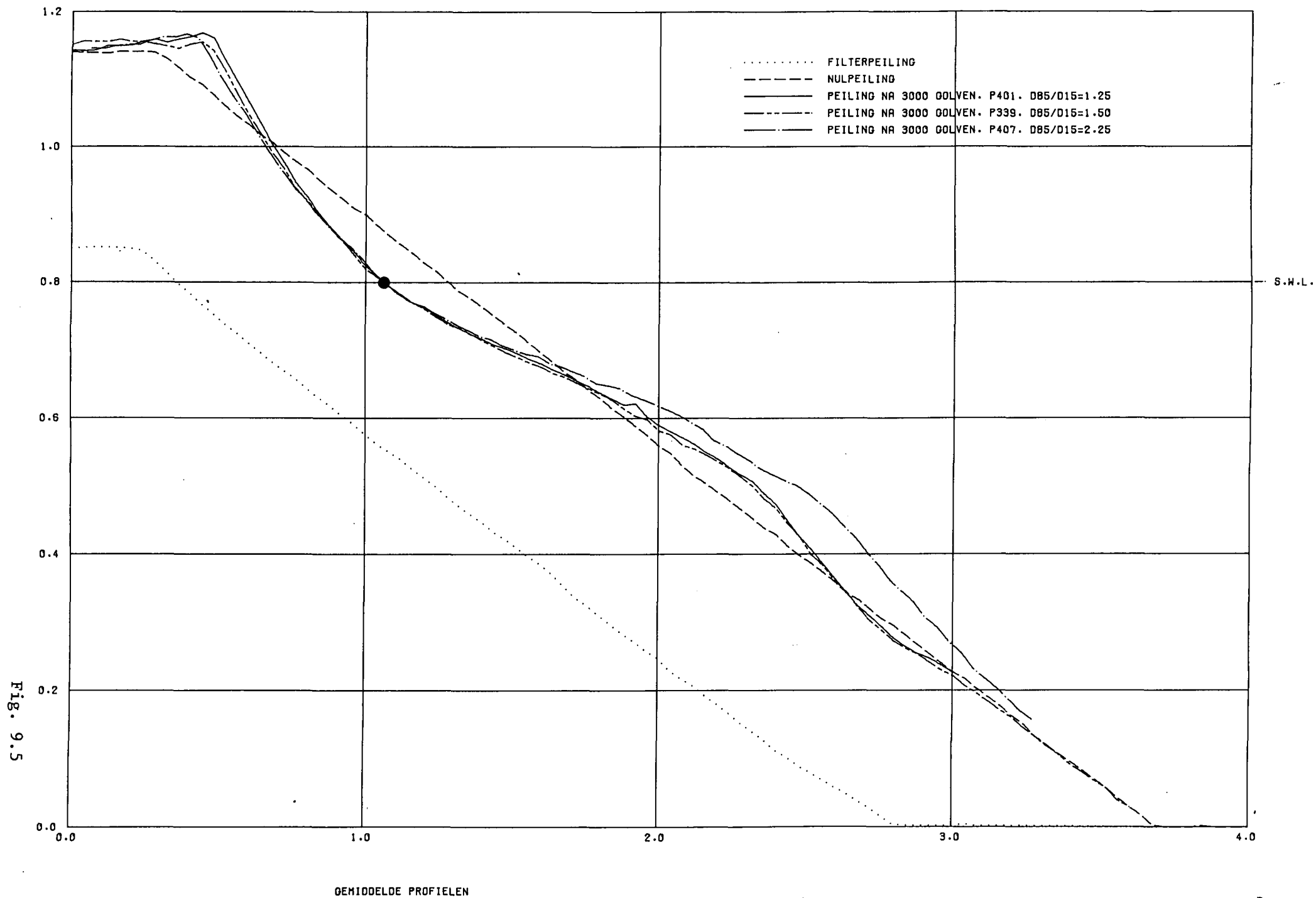
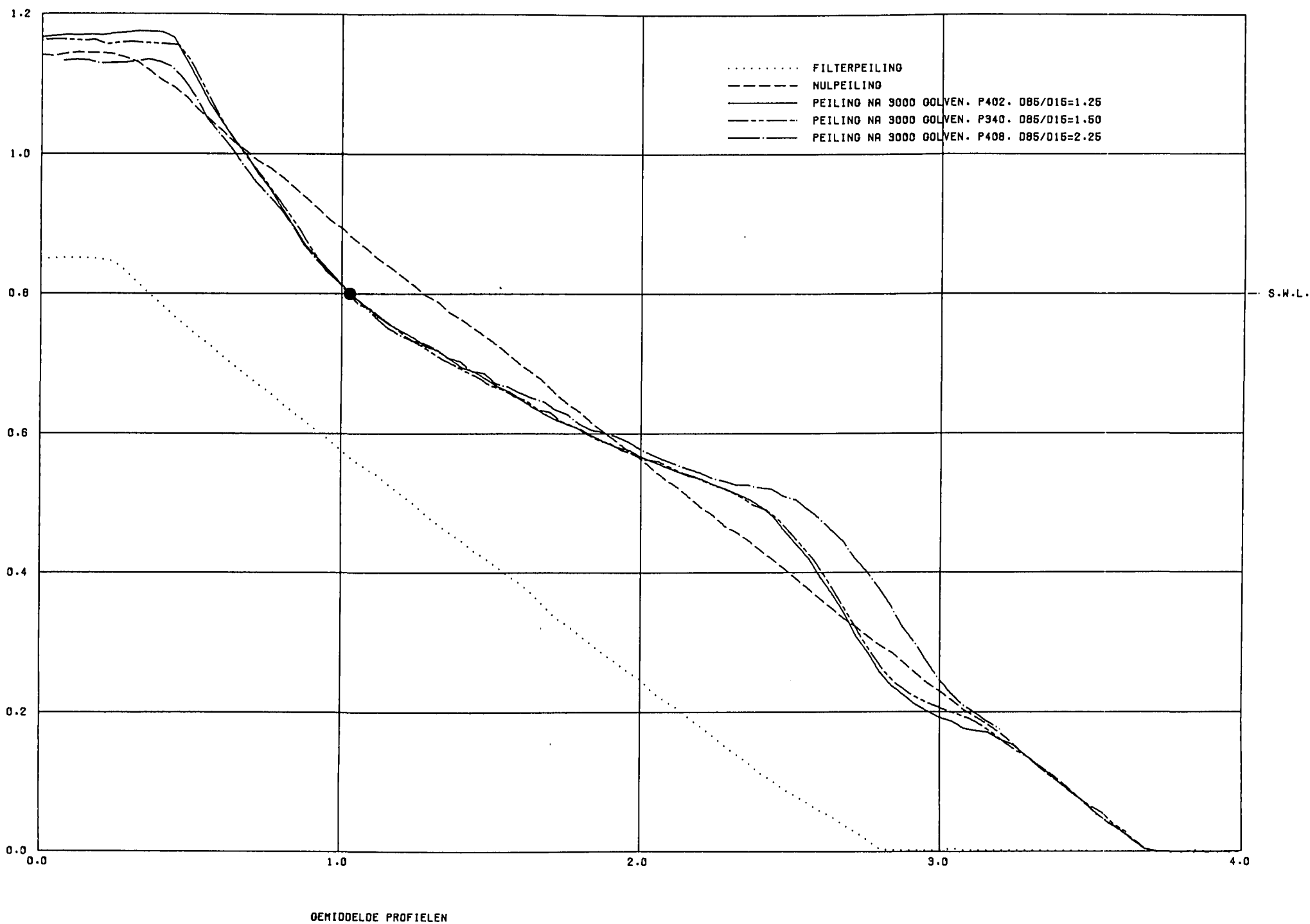


Fig. 9.6



10. Invloed taludhelling

De profielen zijn zodanig langs de waterlijn verschoven, dat hetzelfde snijpunt ontstaat met de waterlijn

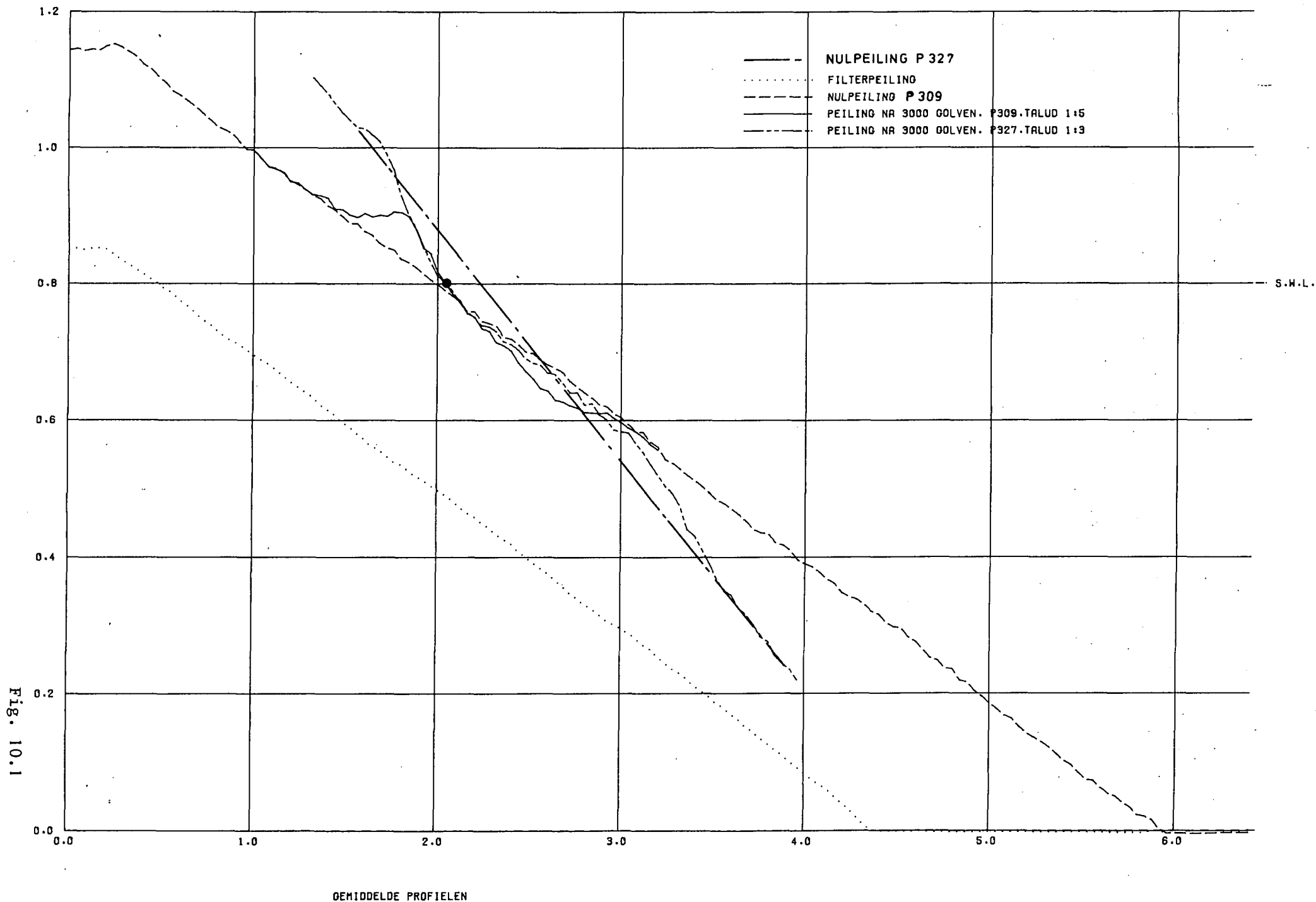
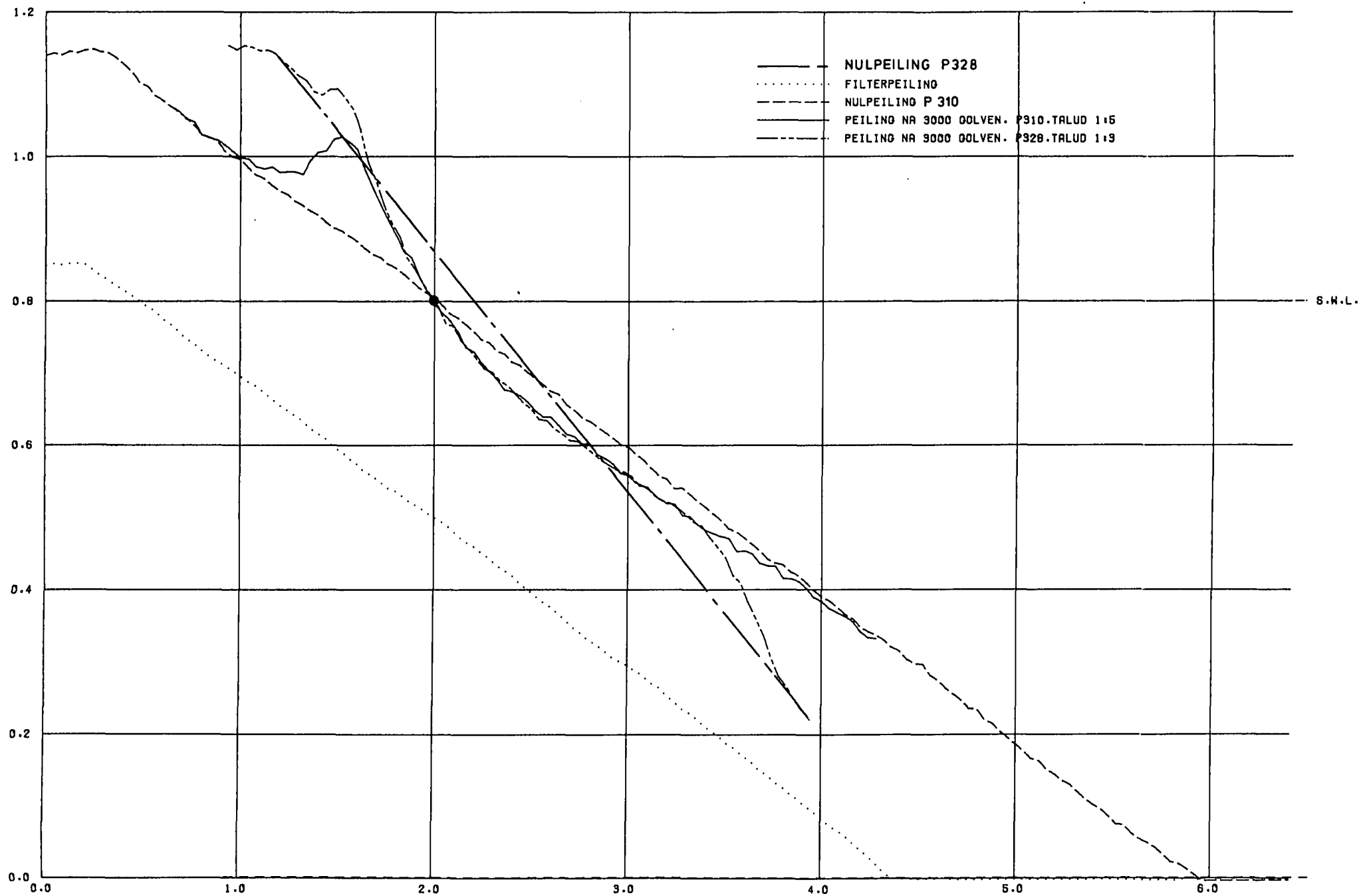
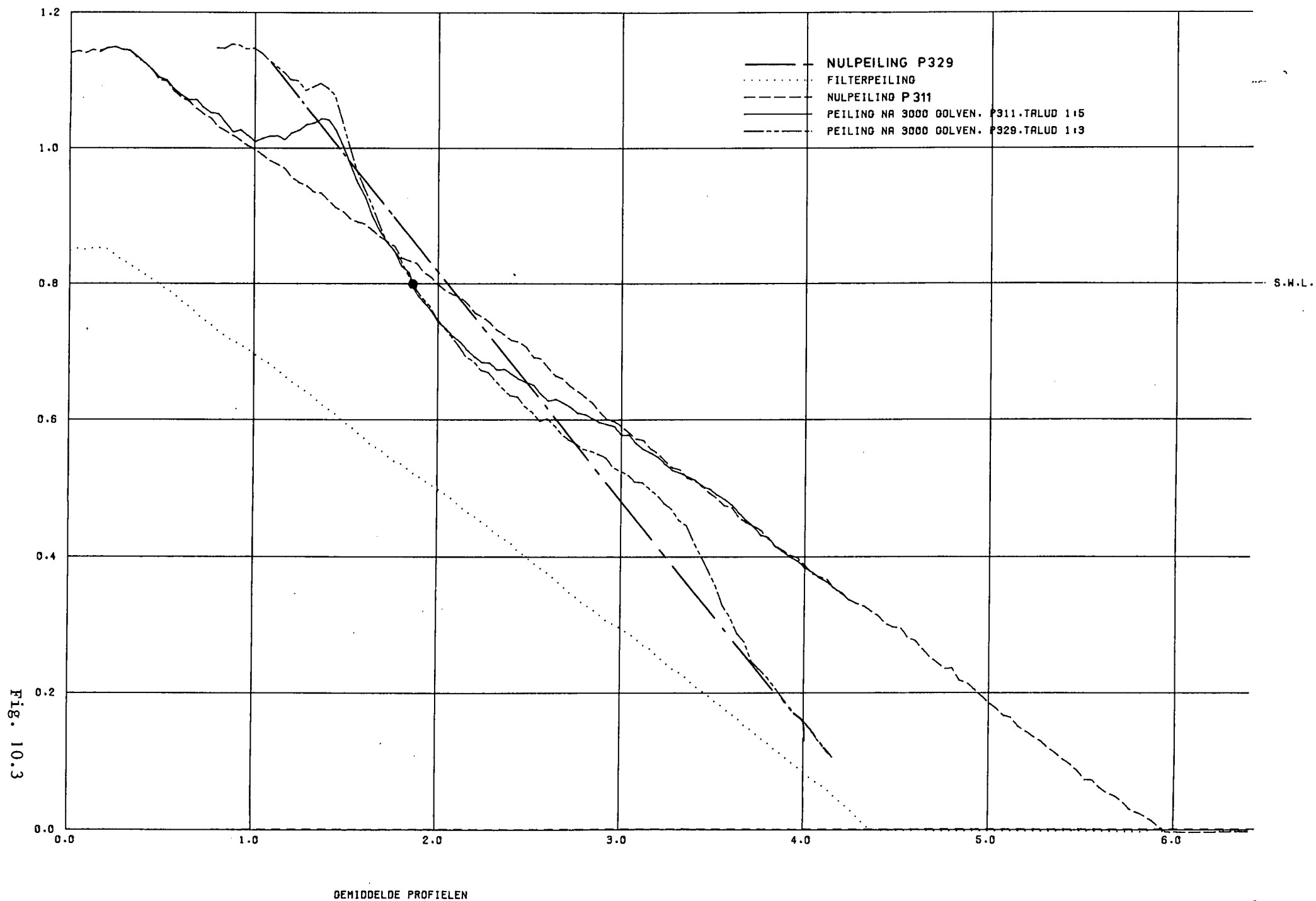


Fig. 10.1

Fig. 10.2



DEMIJDELE PROFIELEN



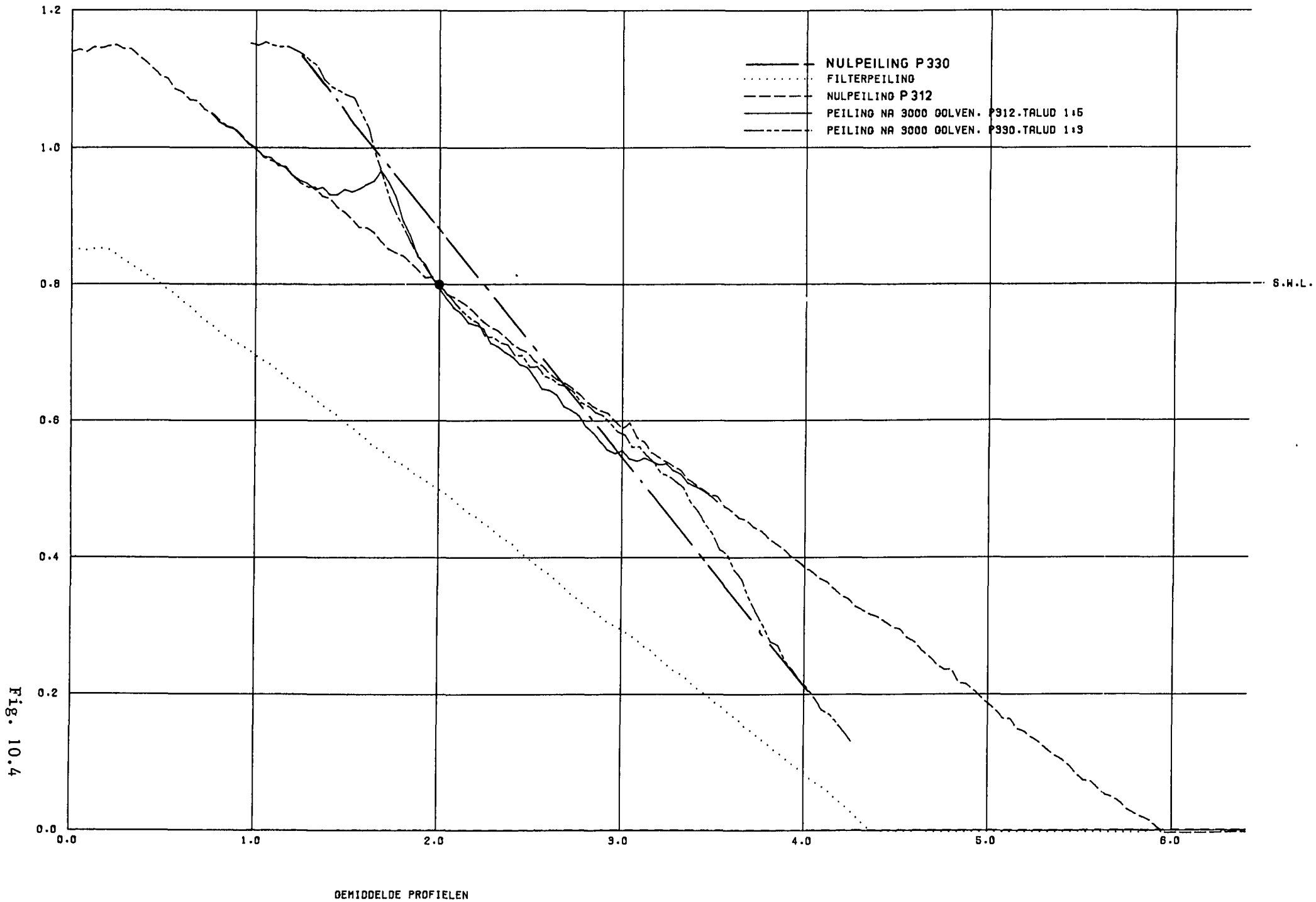
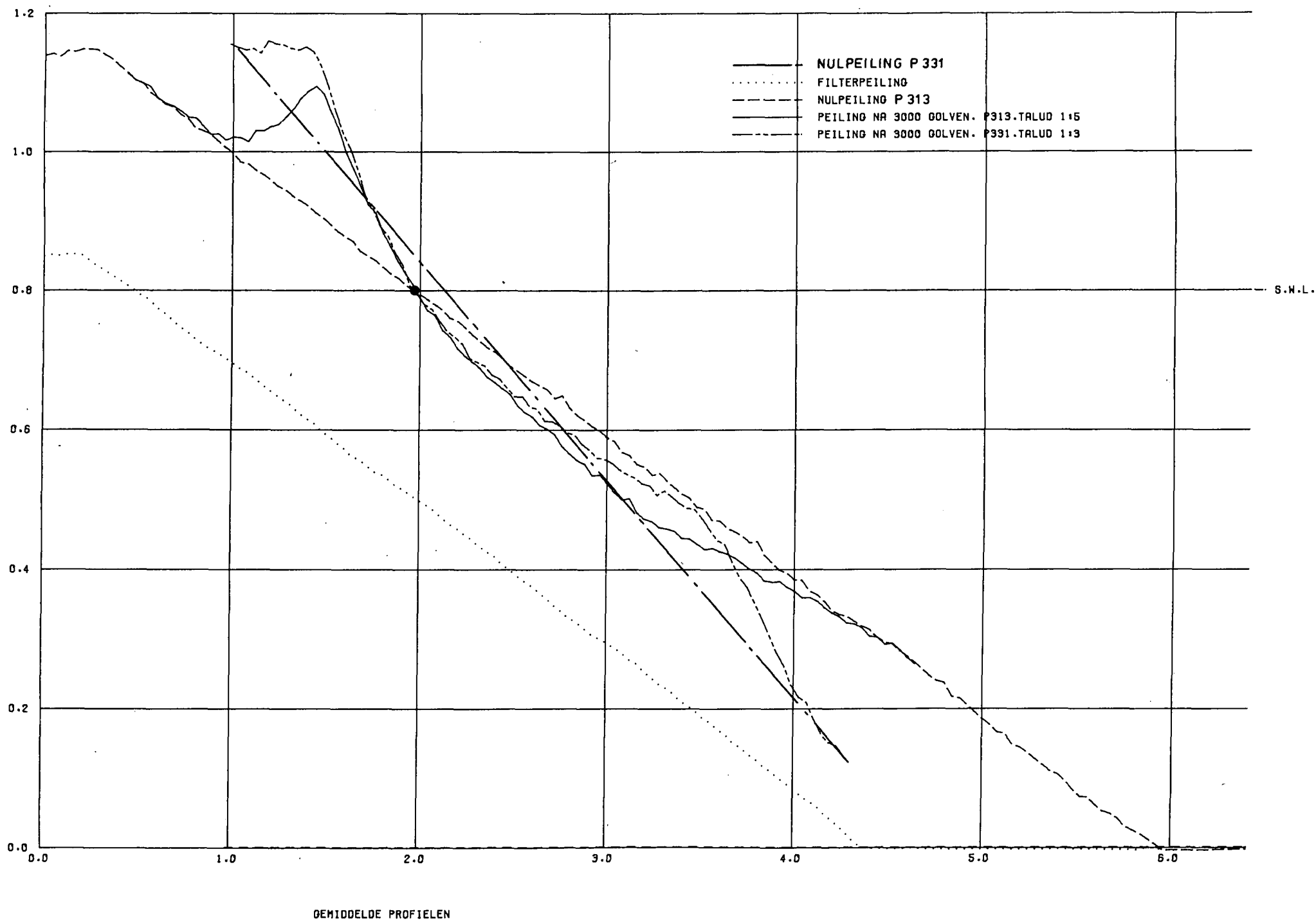


Fig. 10.5



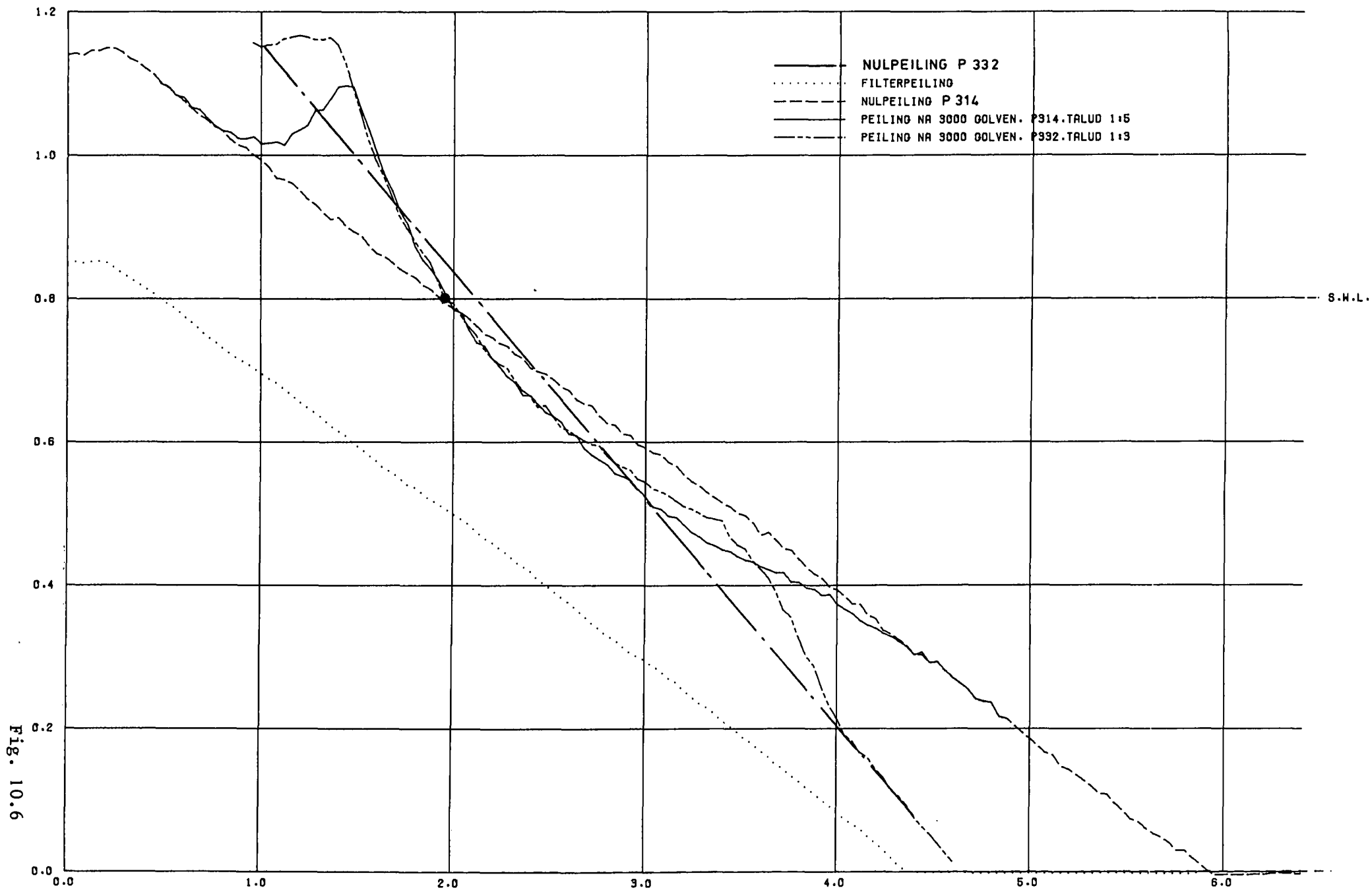


Fig. 10.6

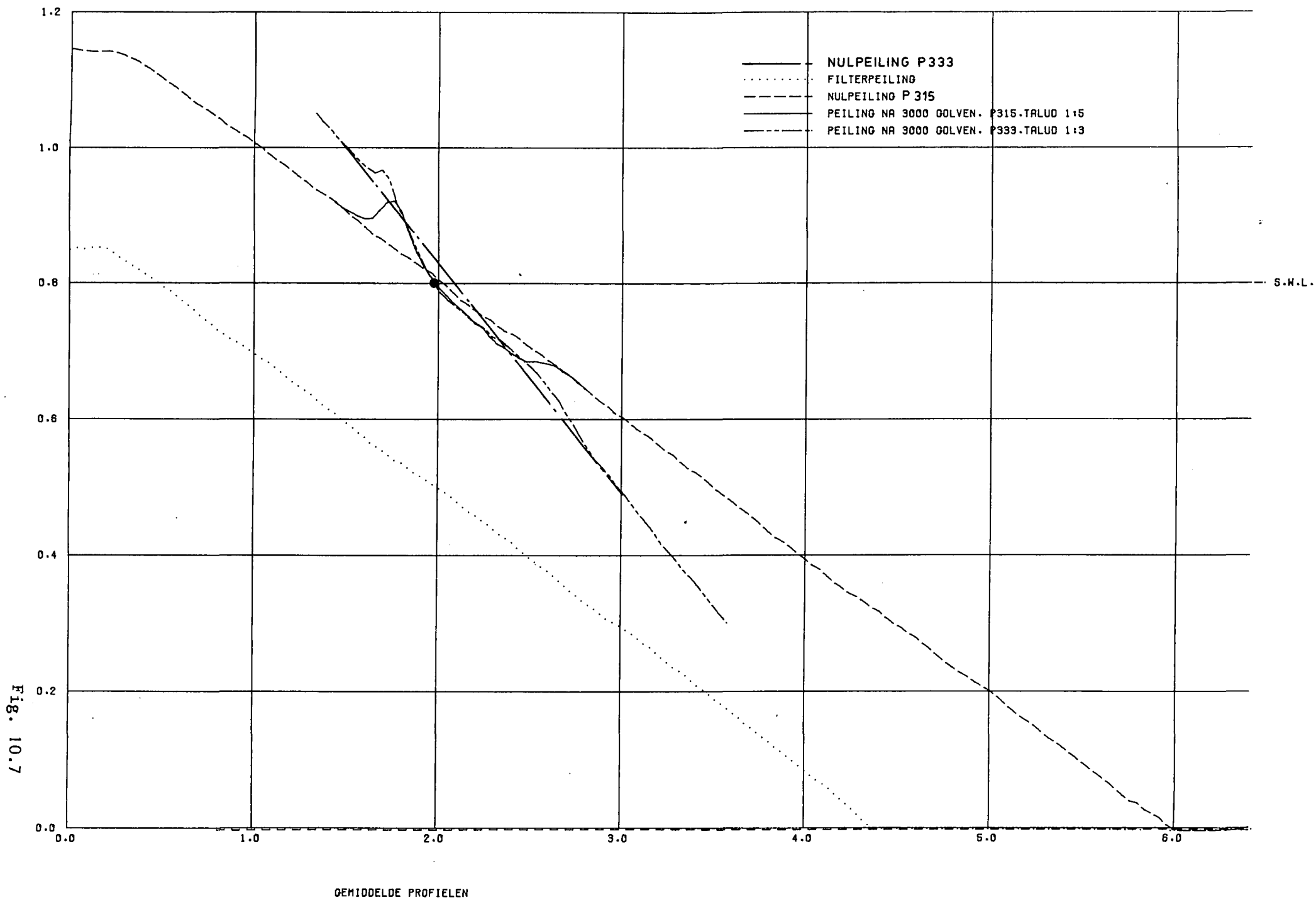
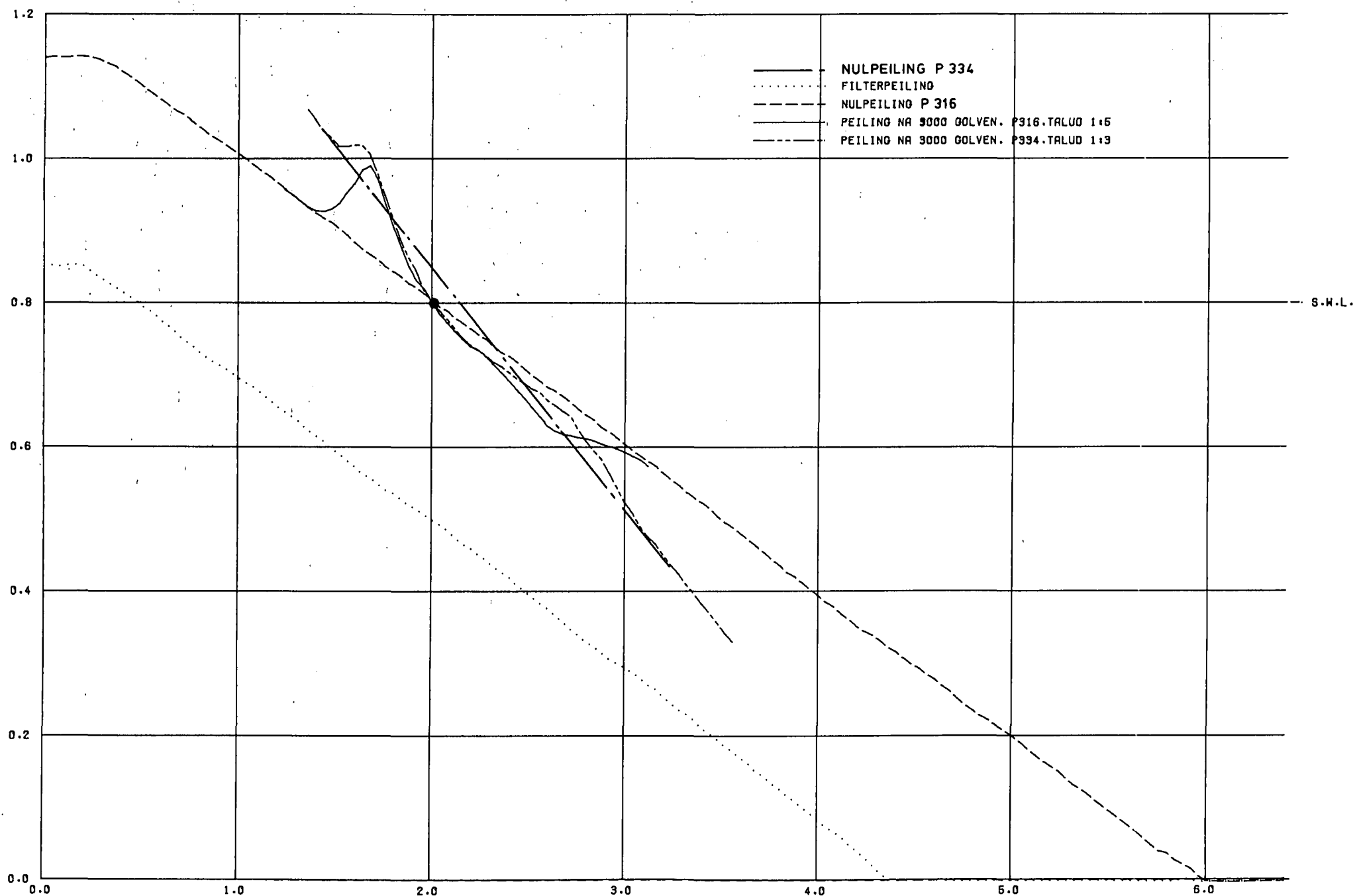
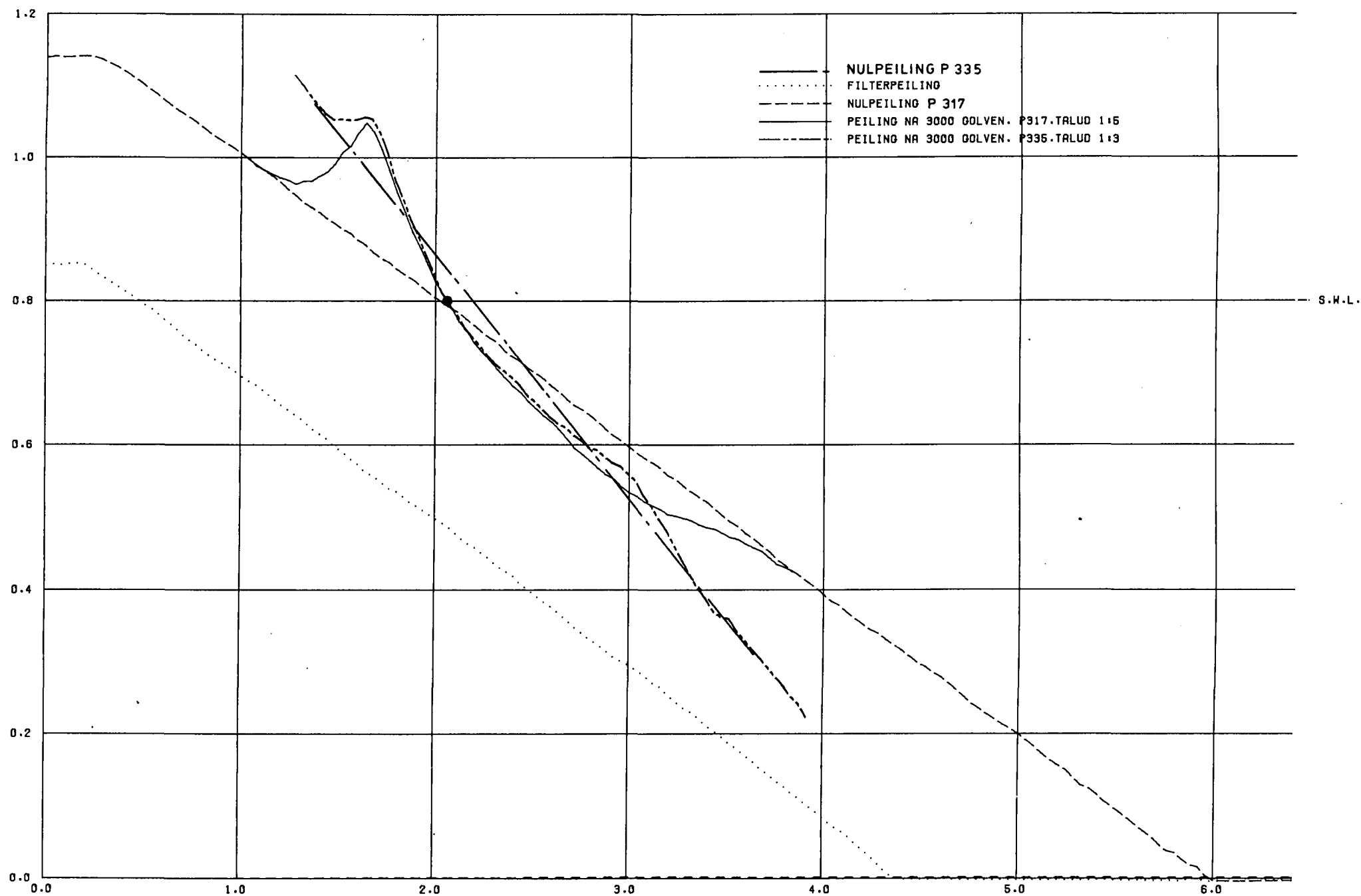


Fig. 10.8



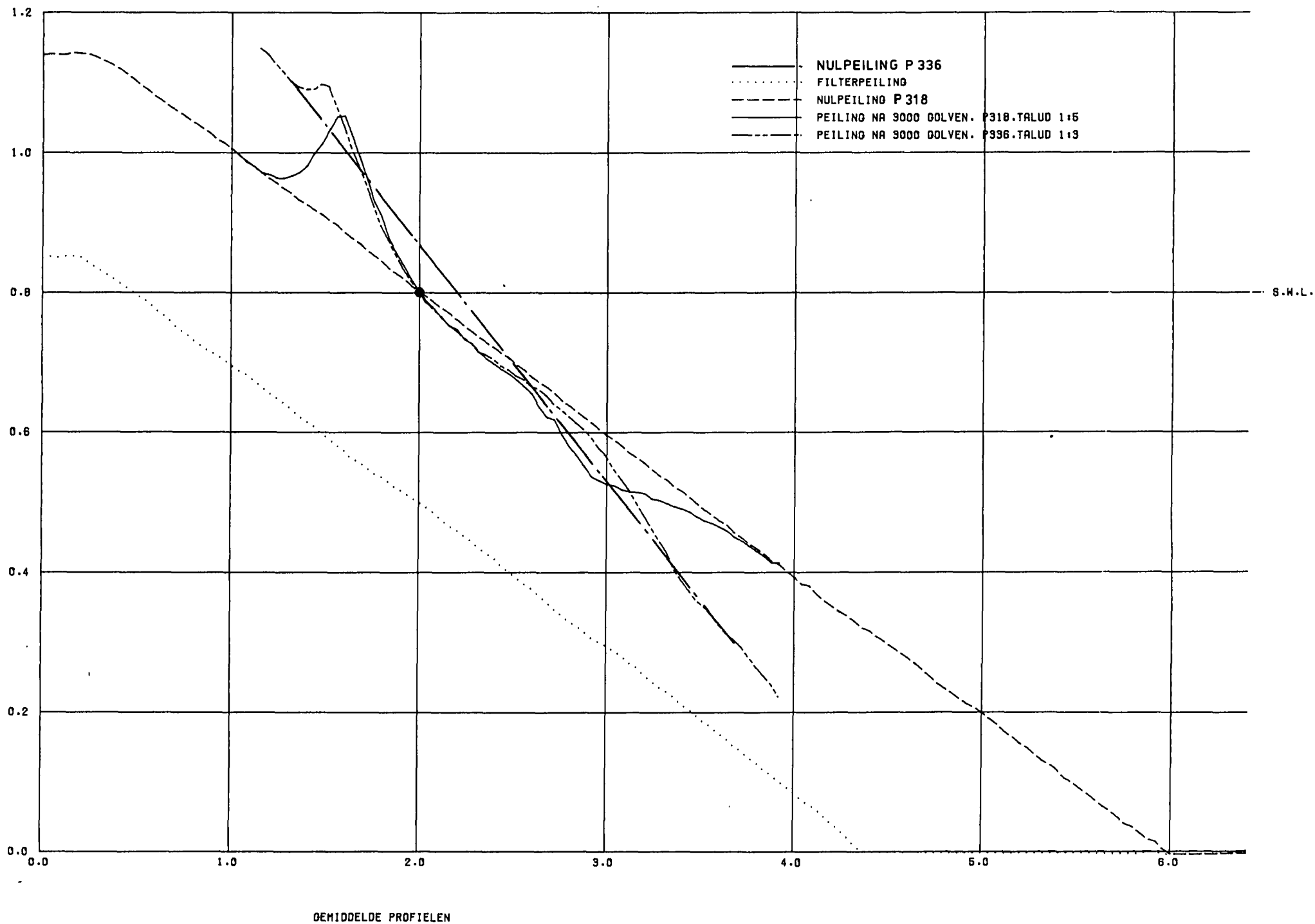
OEMIDDELE PROFIELEN

Fig. 10.9



GEMIDDELE PROFIELEN

Fig. 10.10



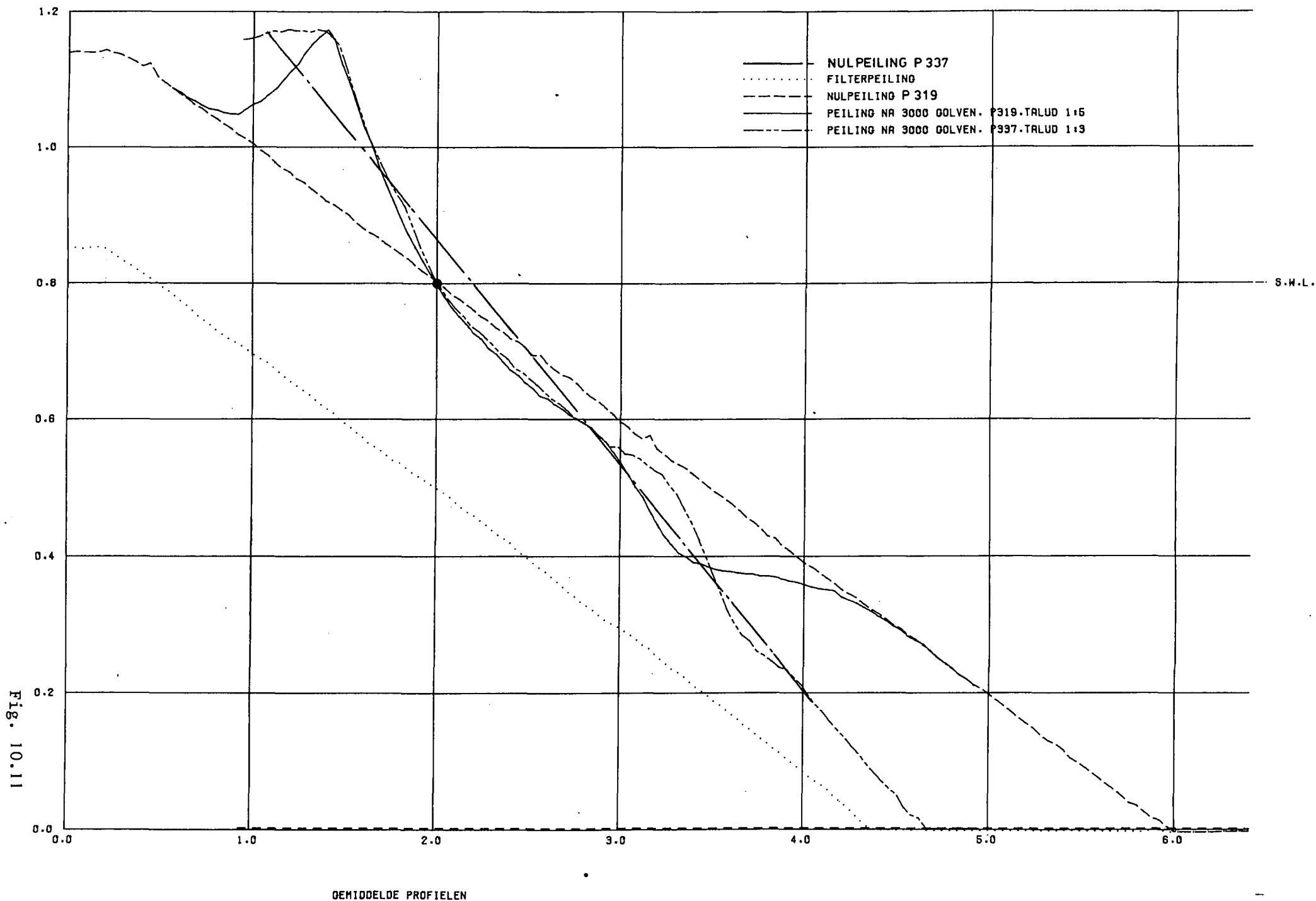
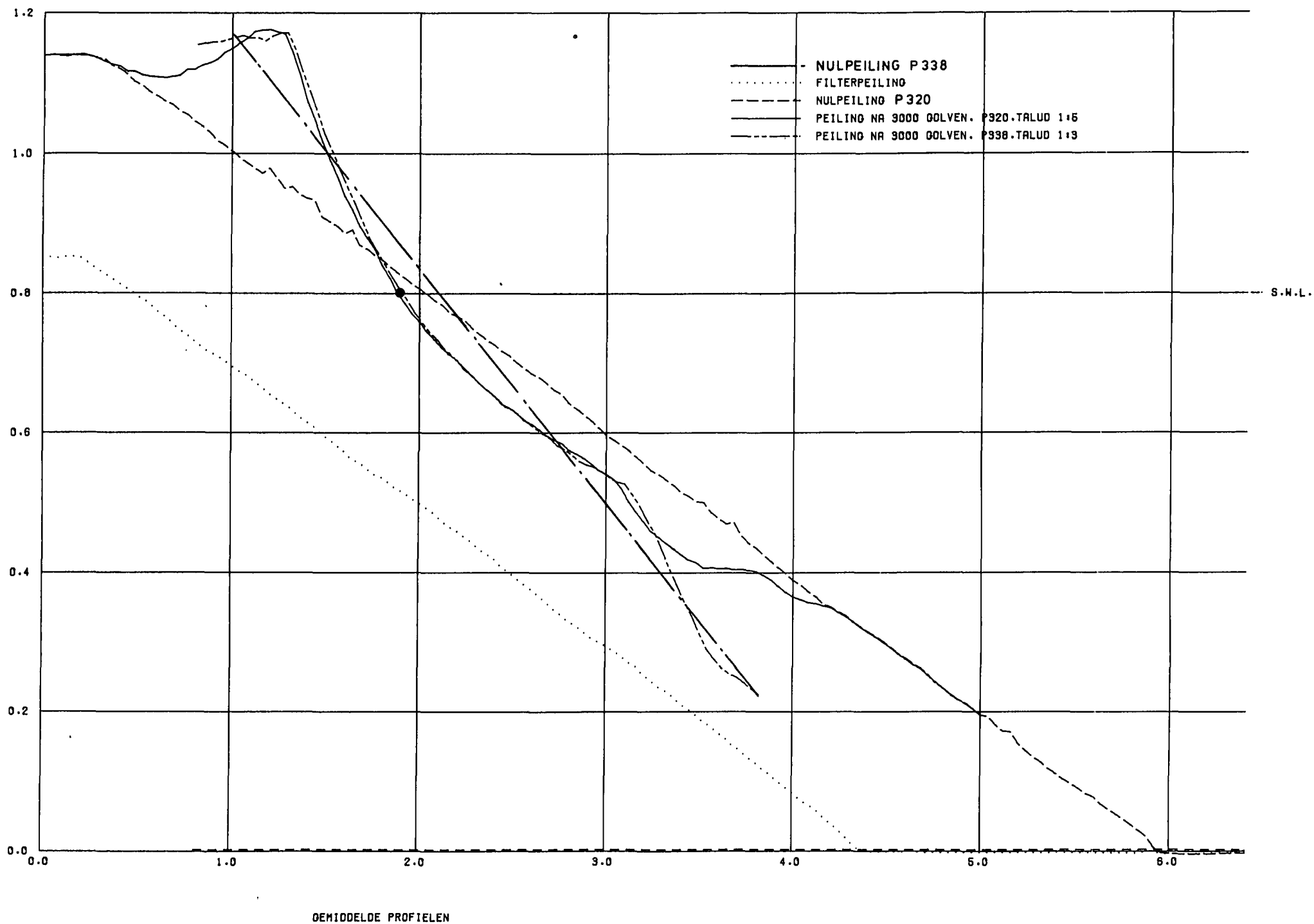


Fig. 10.12



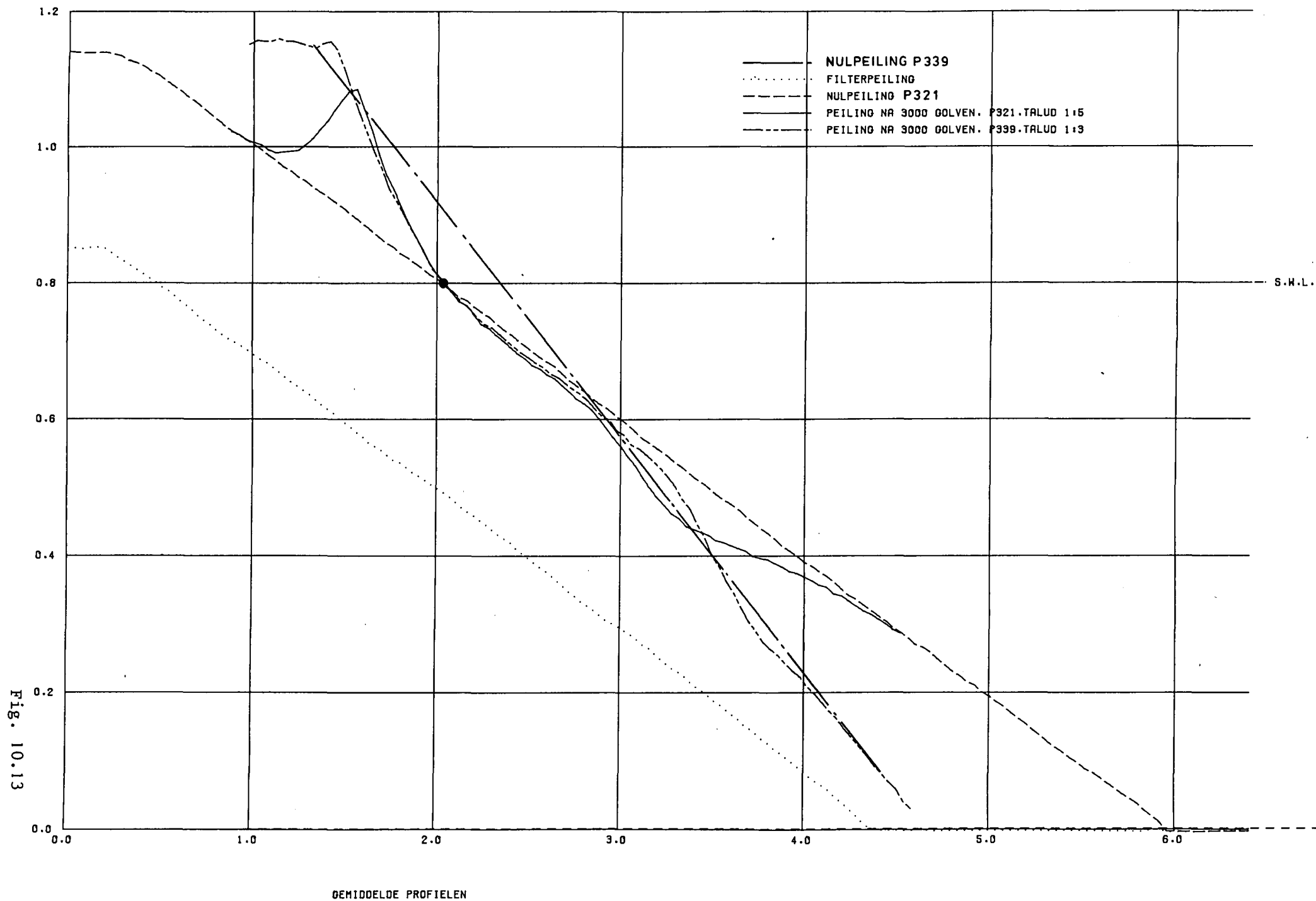
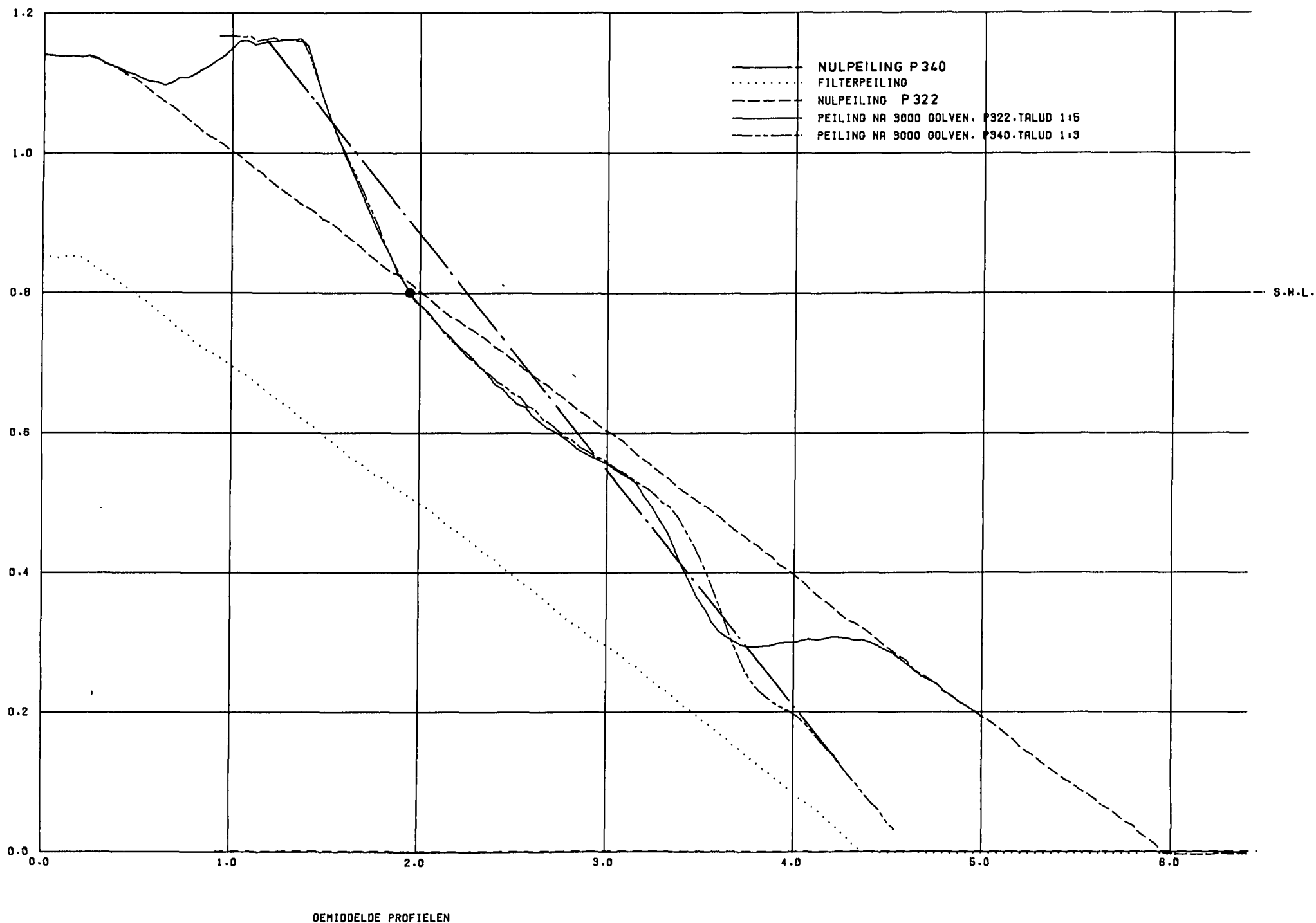


Fig. 10.13

DEMIDDELE PROFIELEN

Fig. 10.14



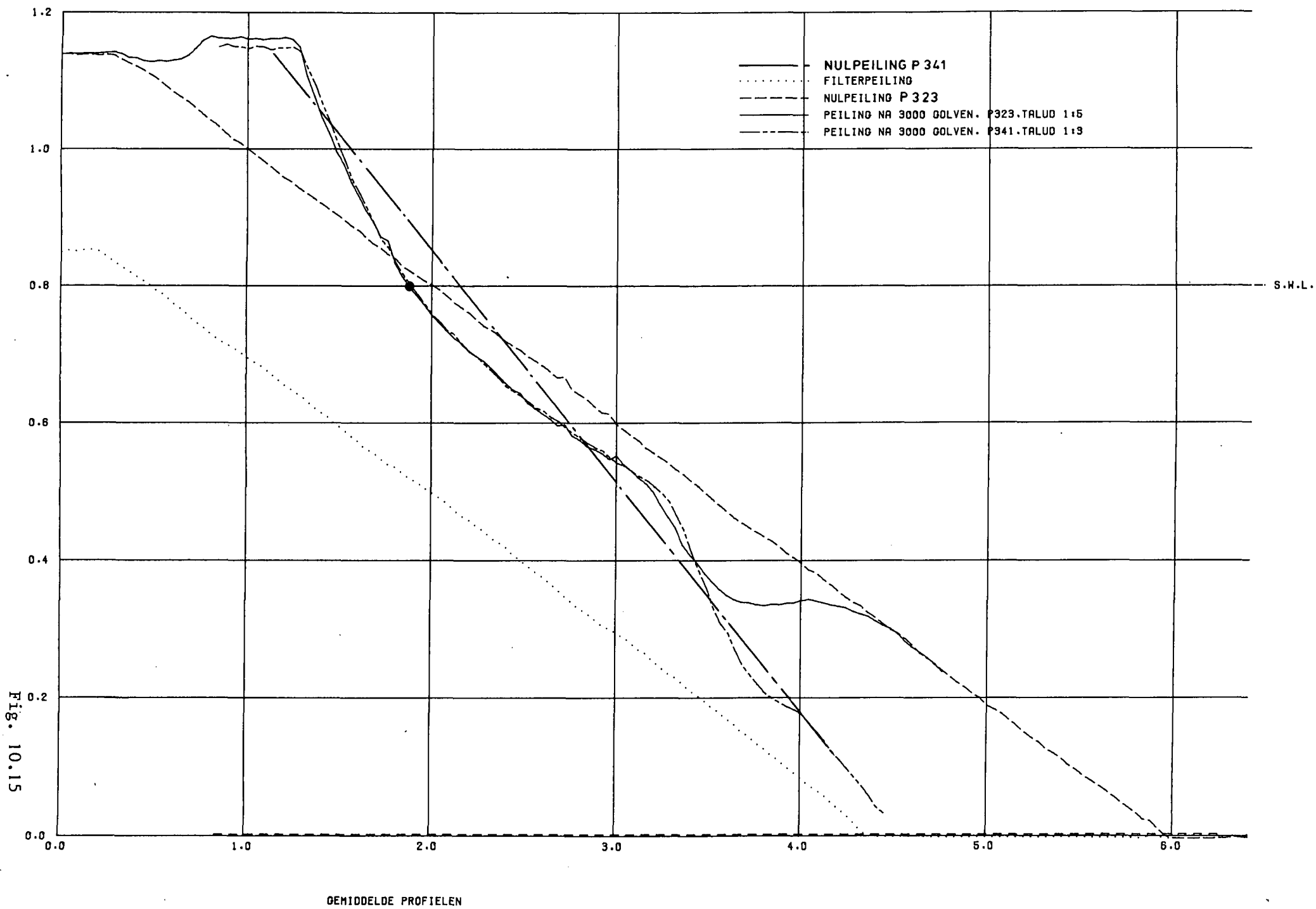


Fig. 10.16

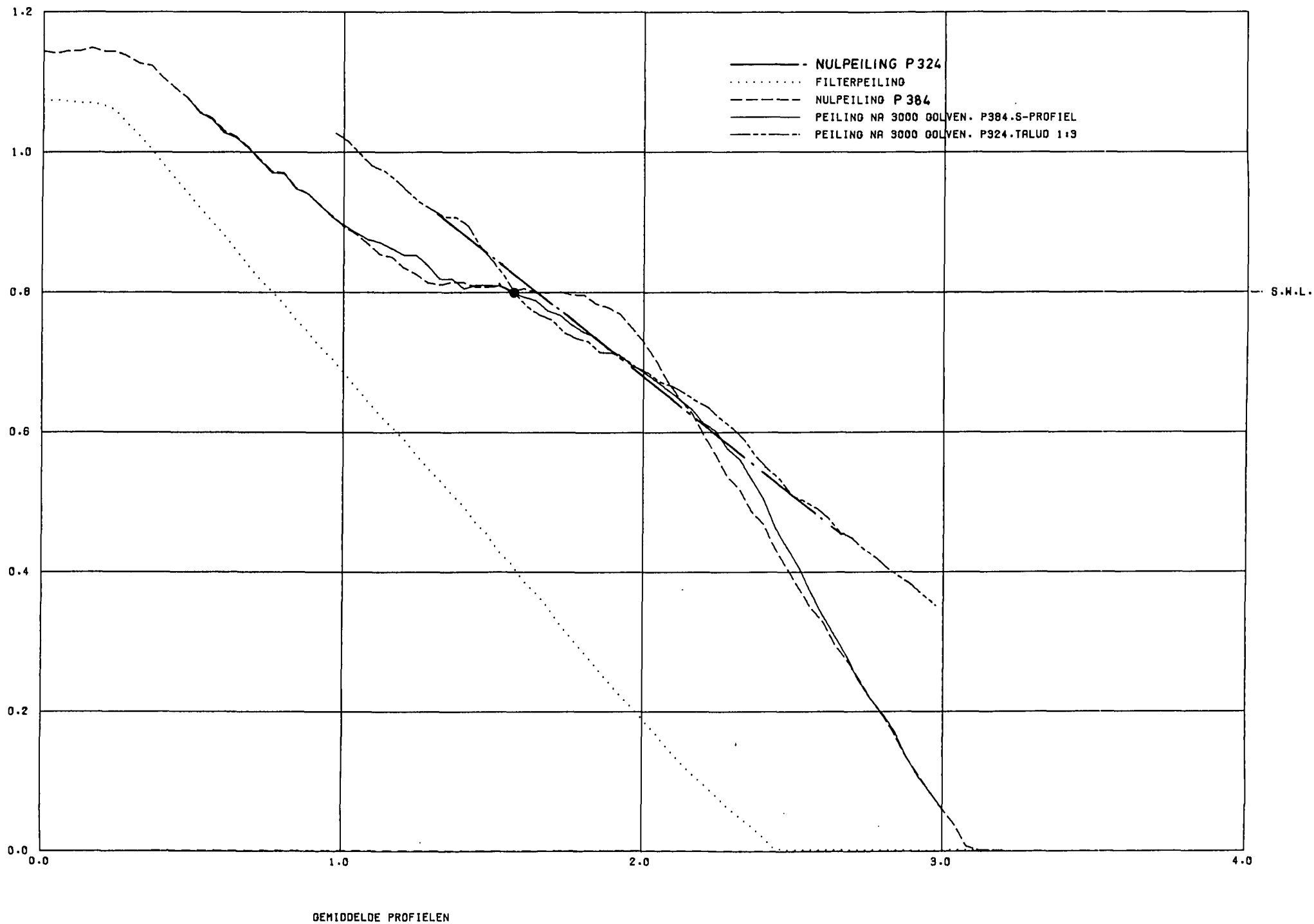


Fig. 10.17

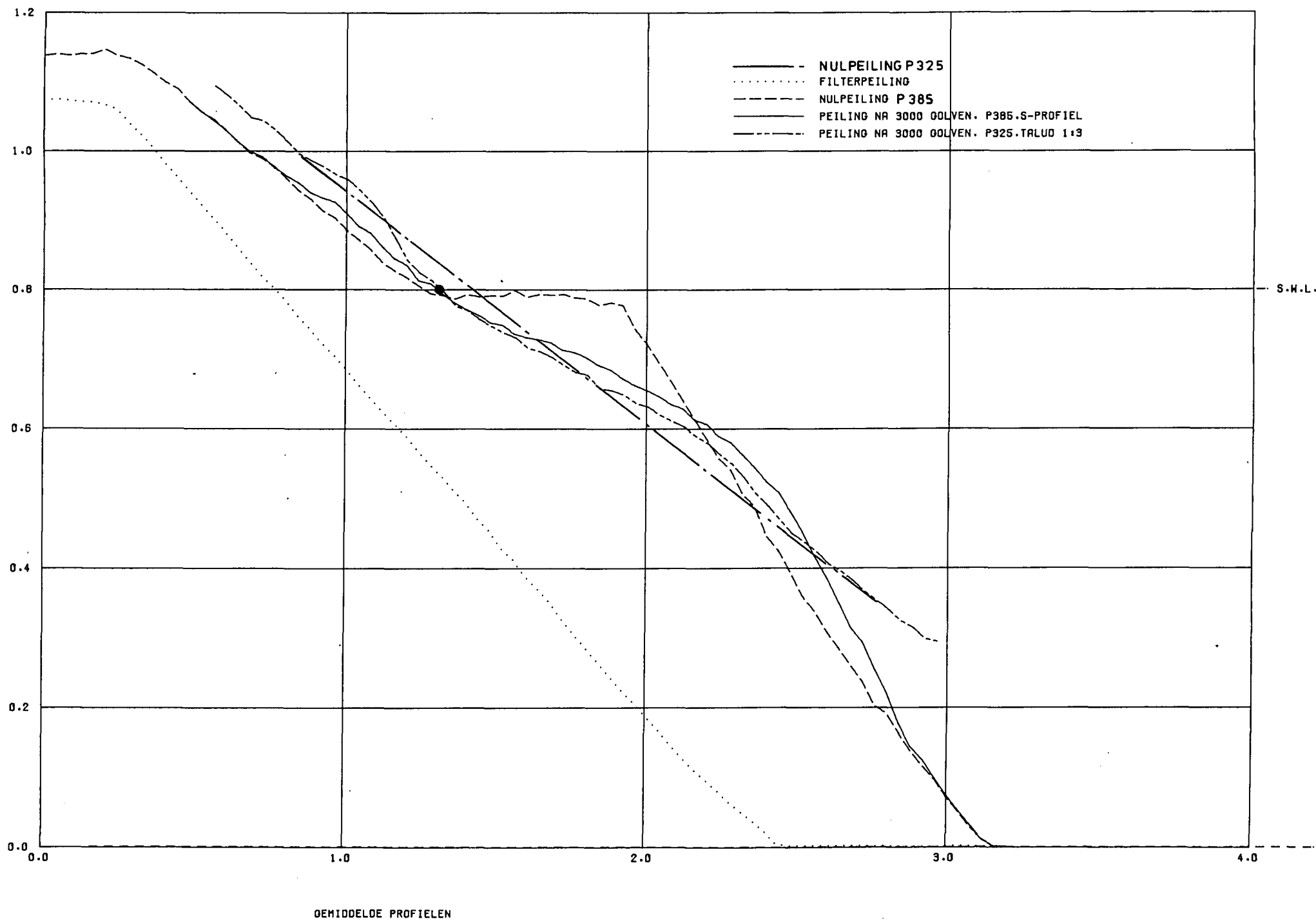
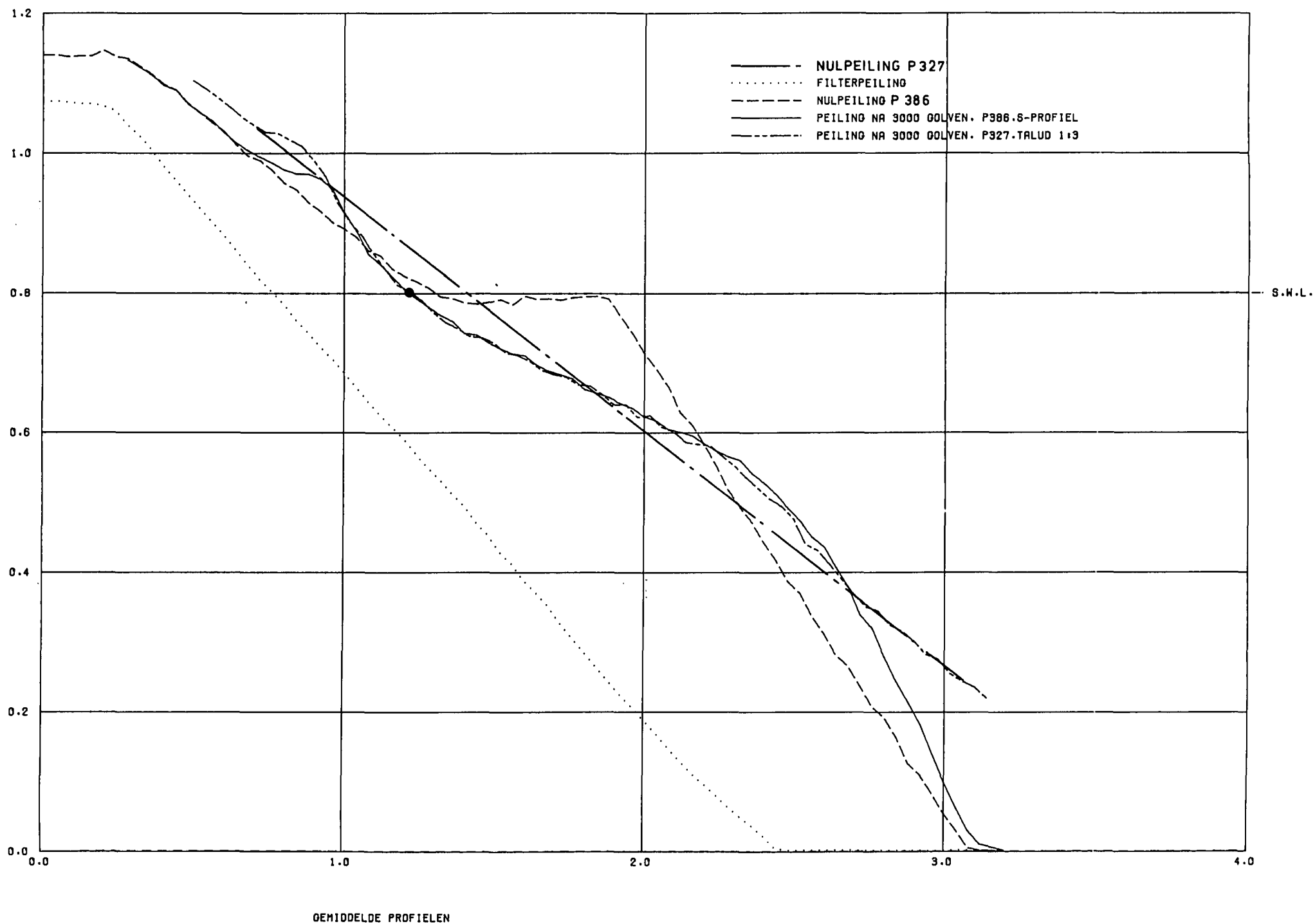


Fig. 10.18



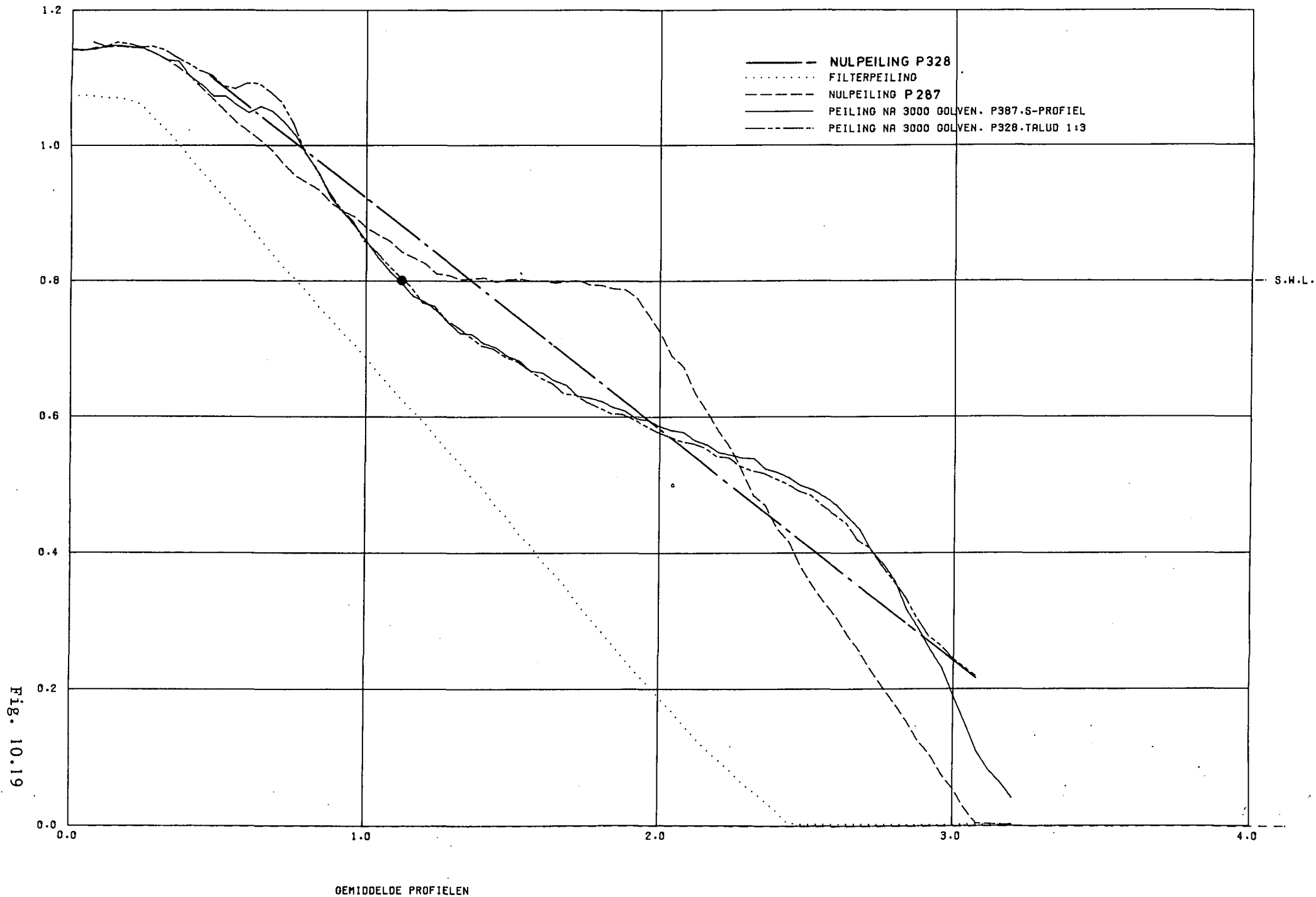


Fig. 10.20

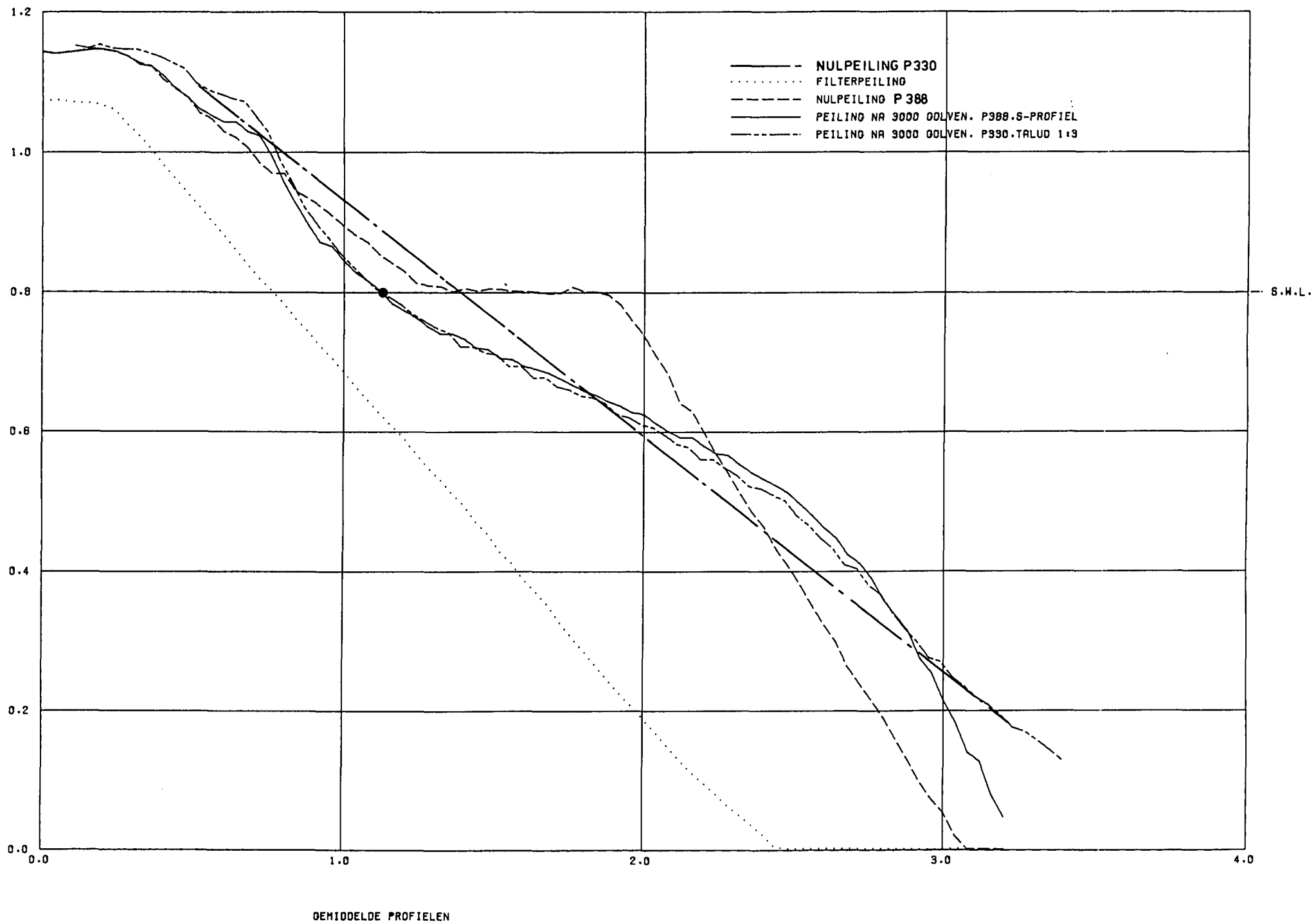


Fig. 10.21

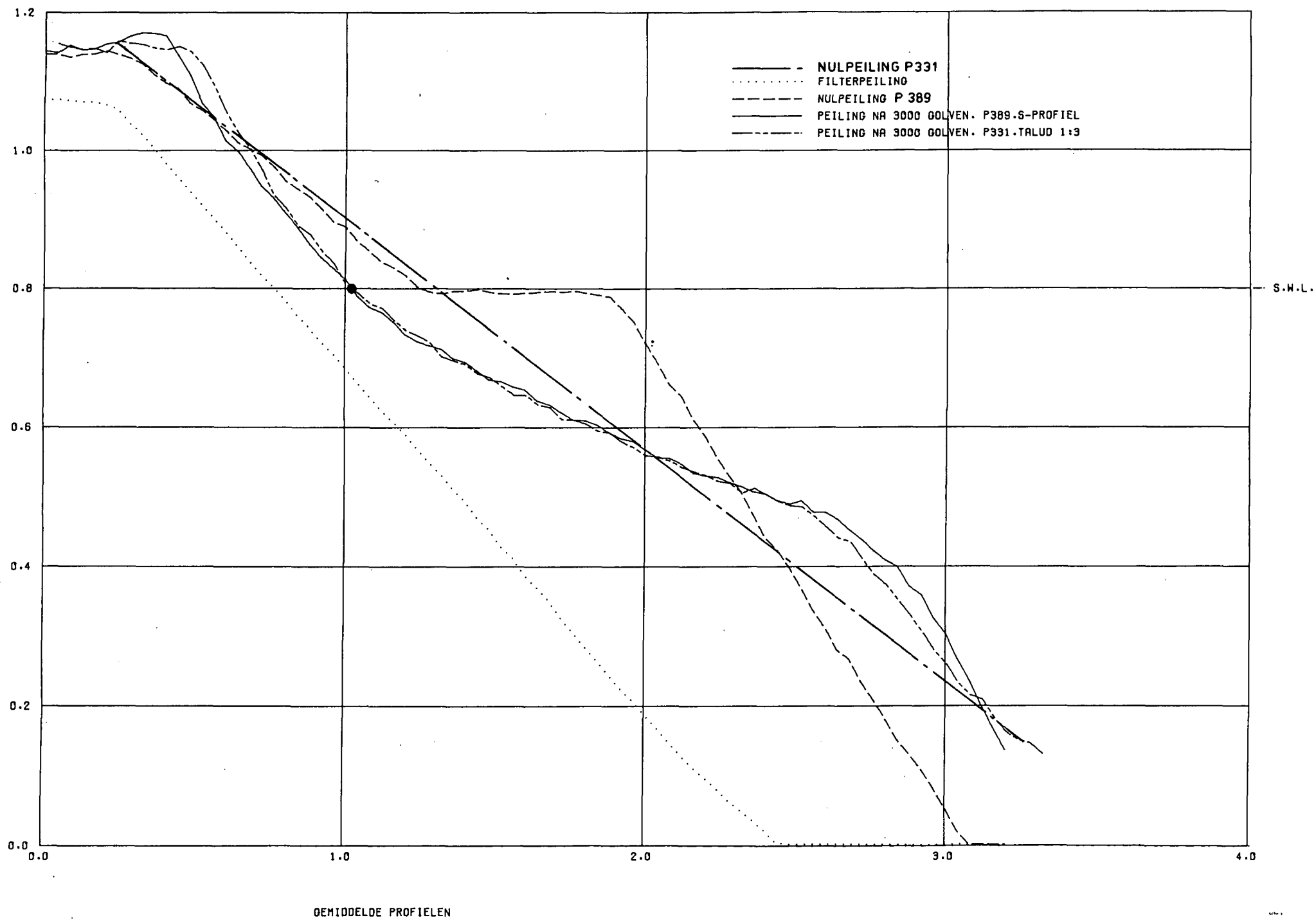
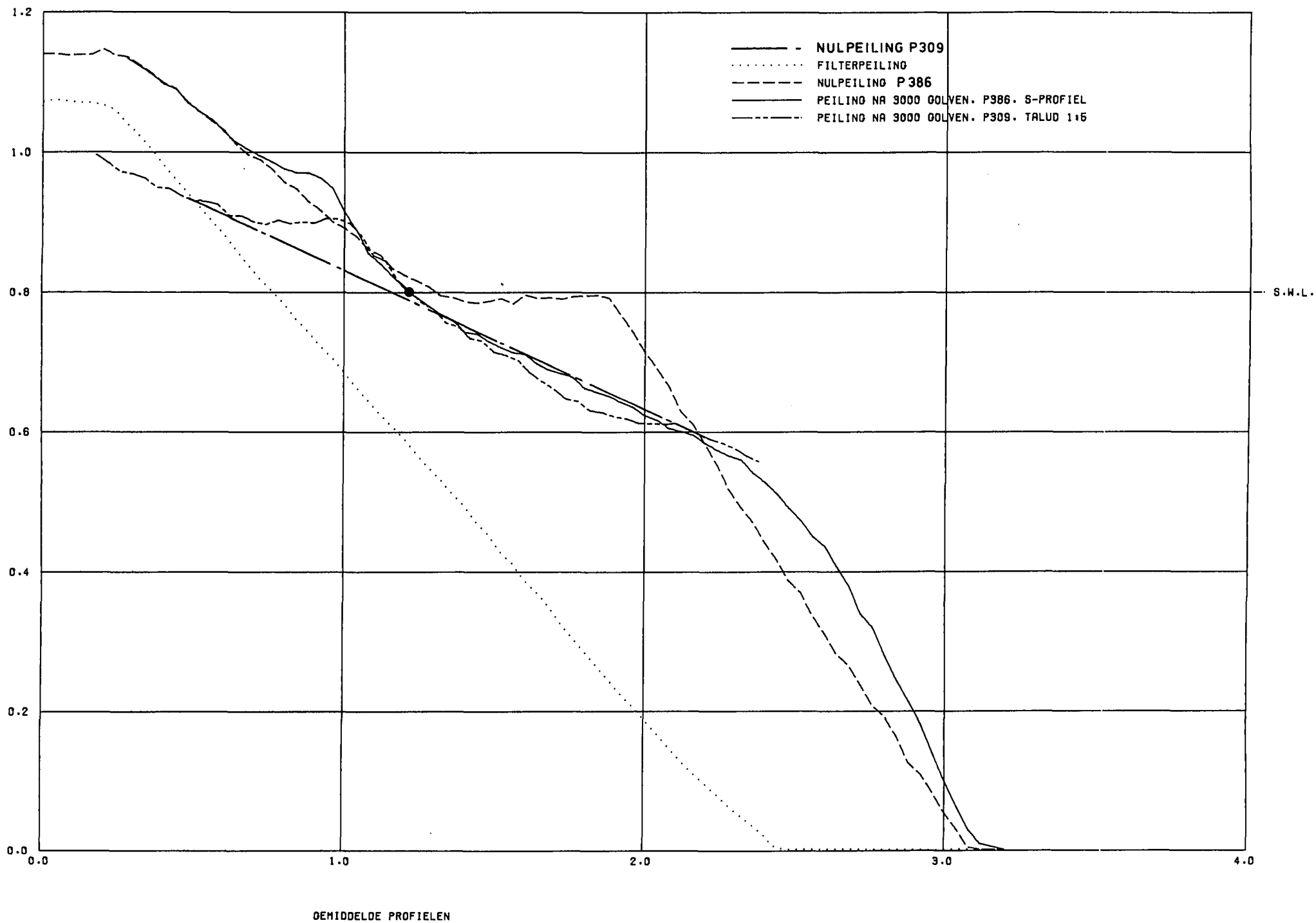


Fig. 10.22



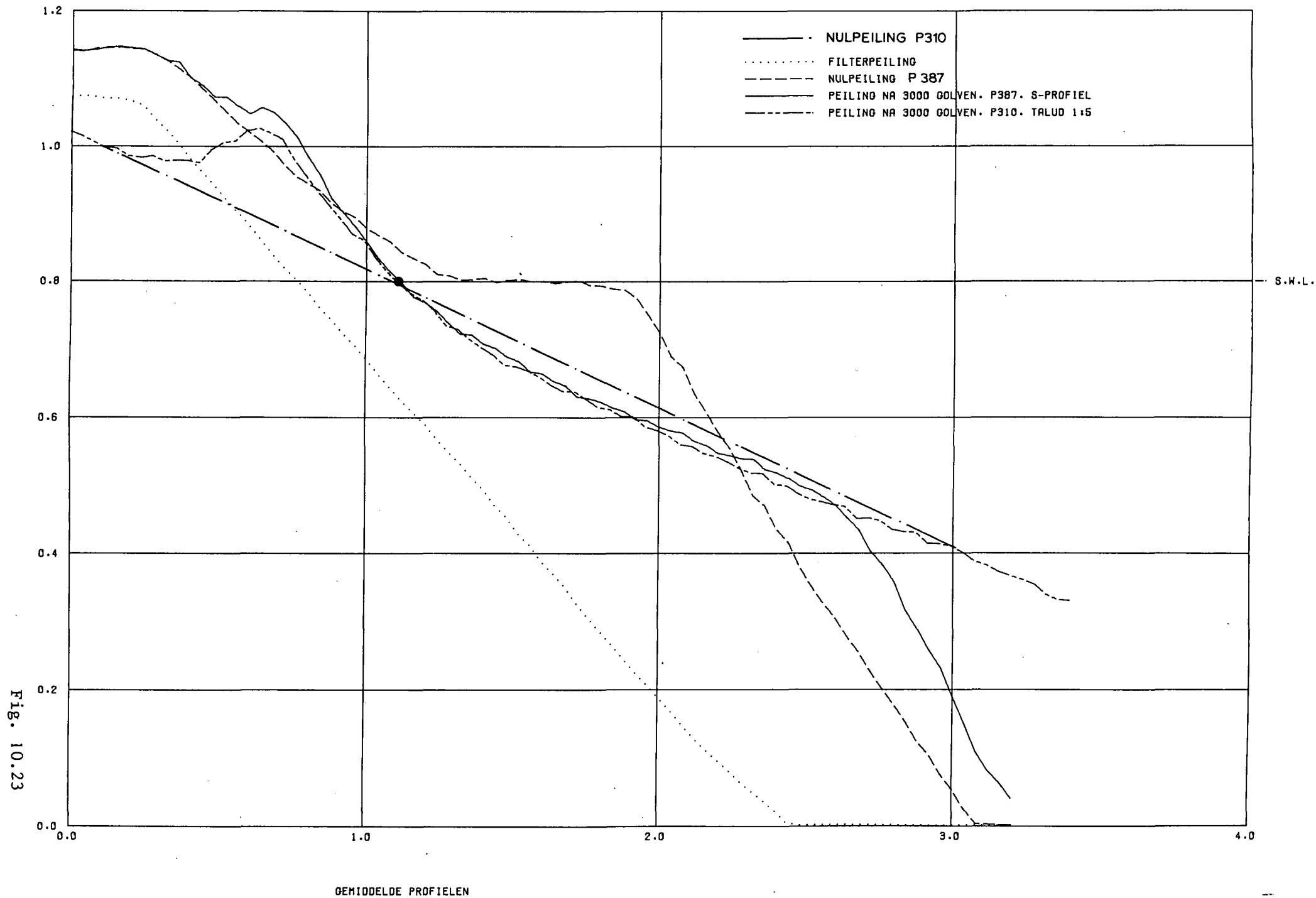


Fig. 10.24

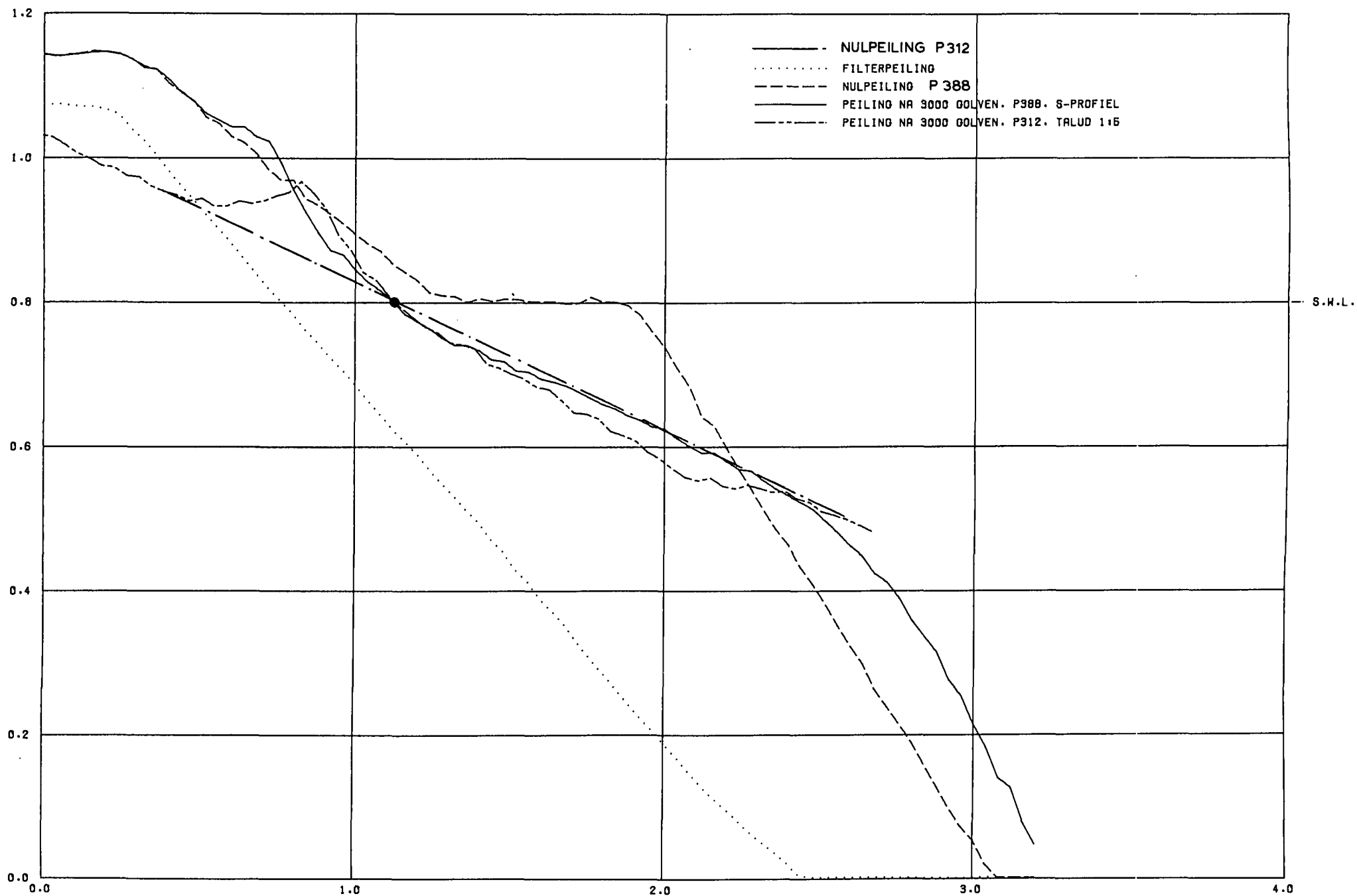
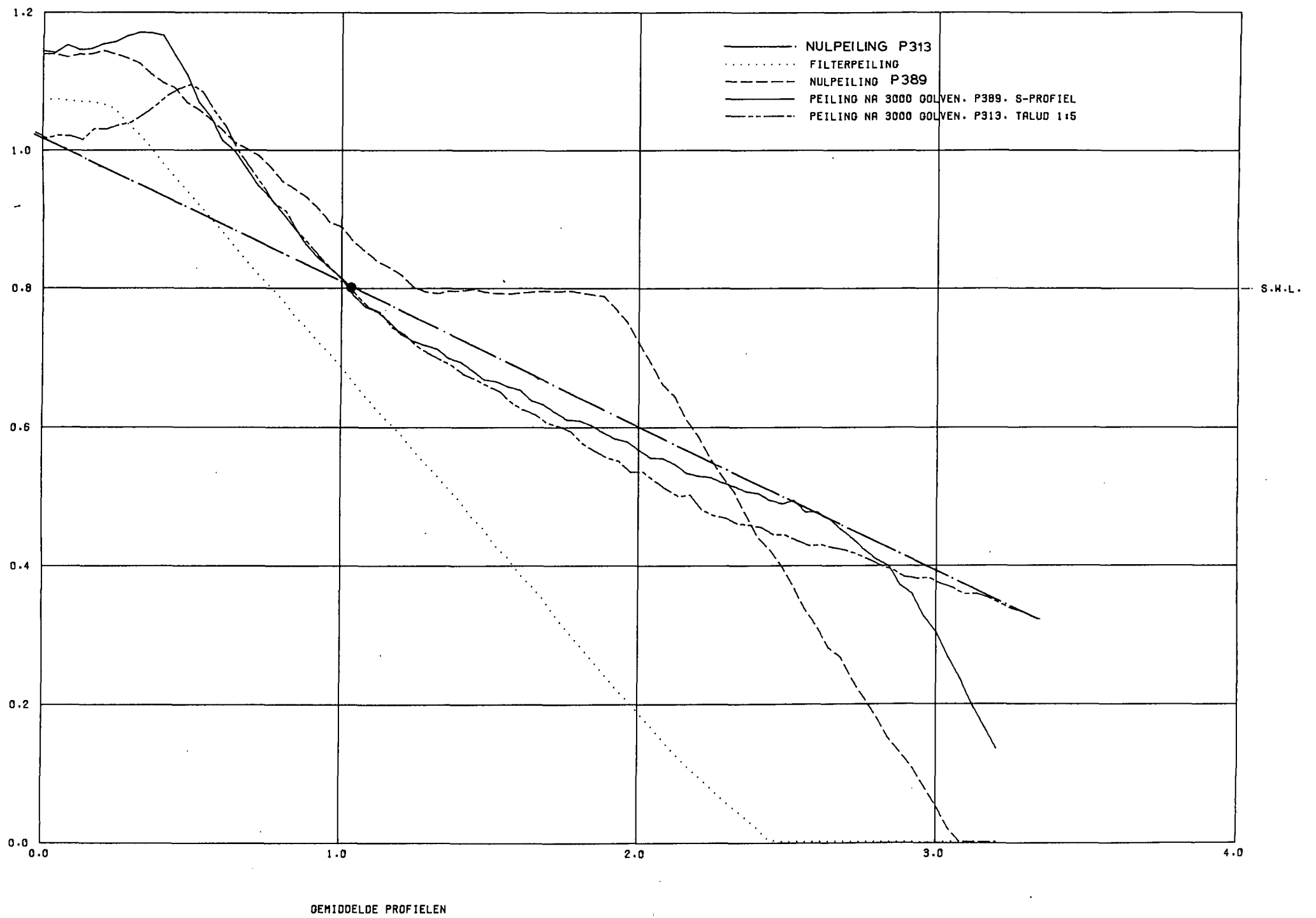
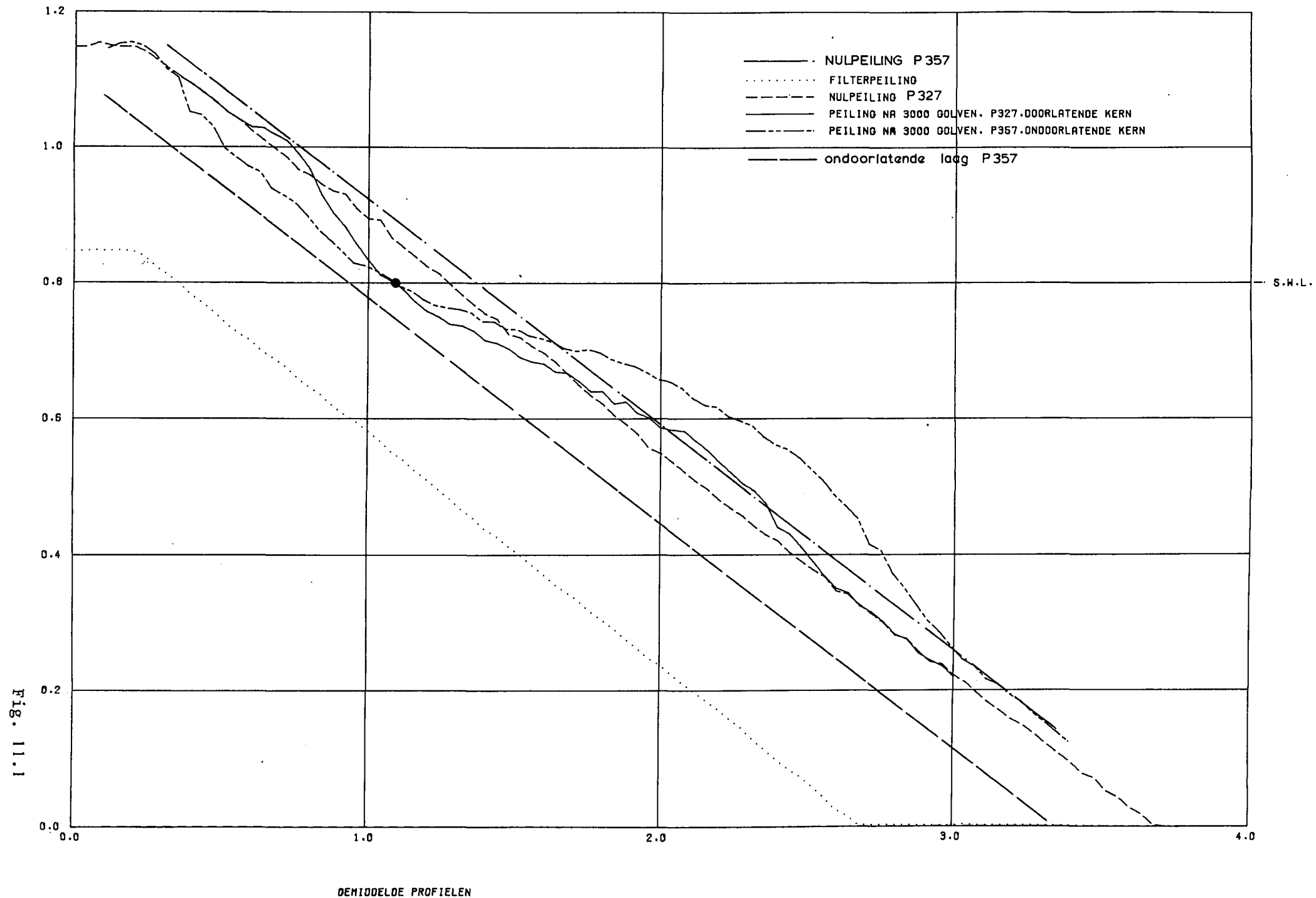


Fig. 10.25



11. Invloed doorlatendheid

De profielen zijn zodanig langs de waterlijn verschoven, dat hetzelfde snijpunt ontstaat met de waterlijn



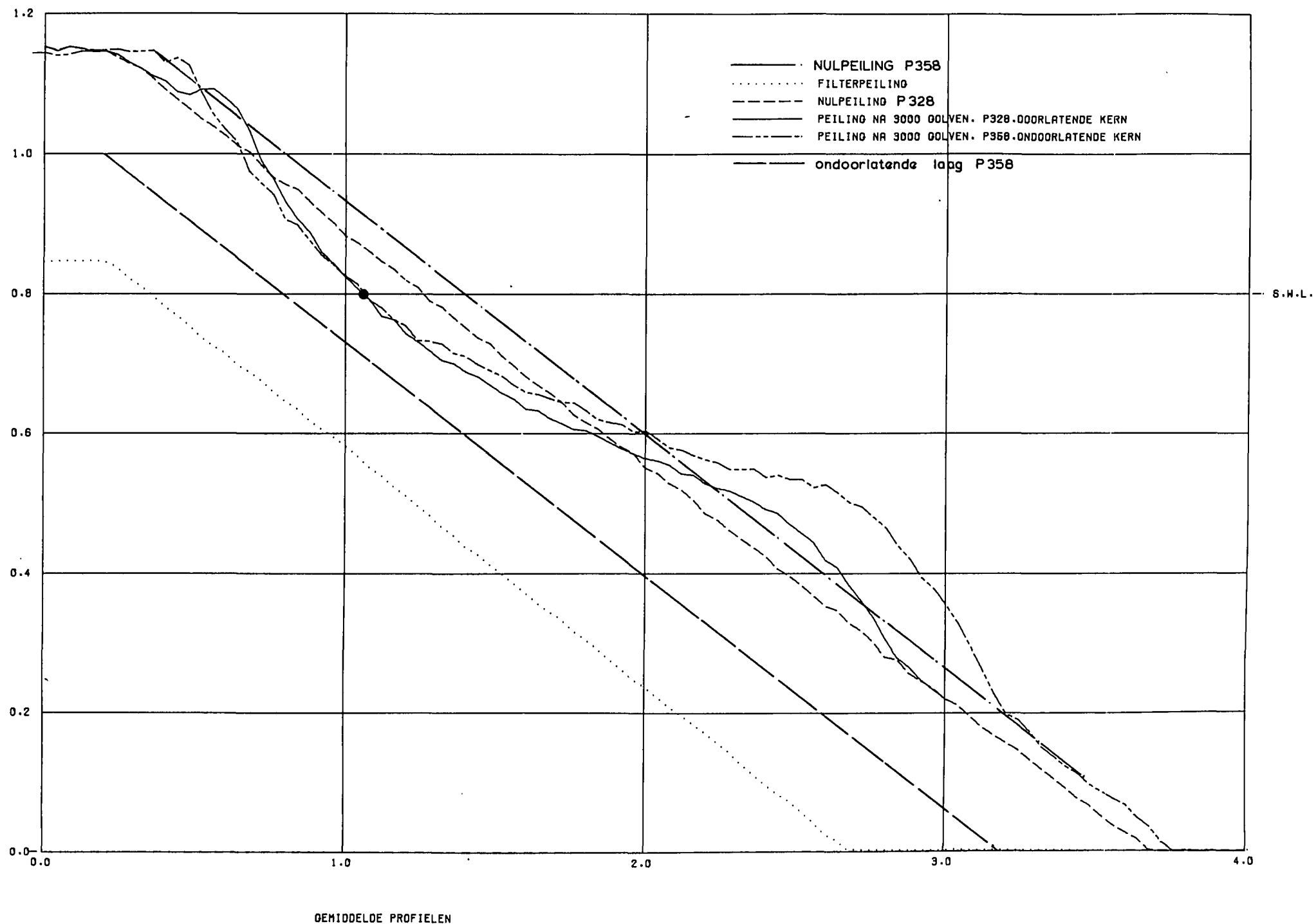
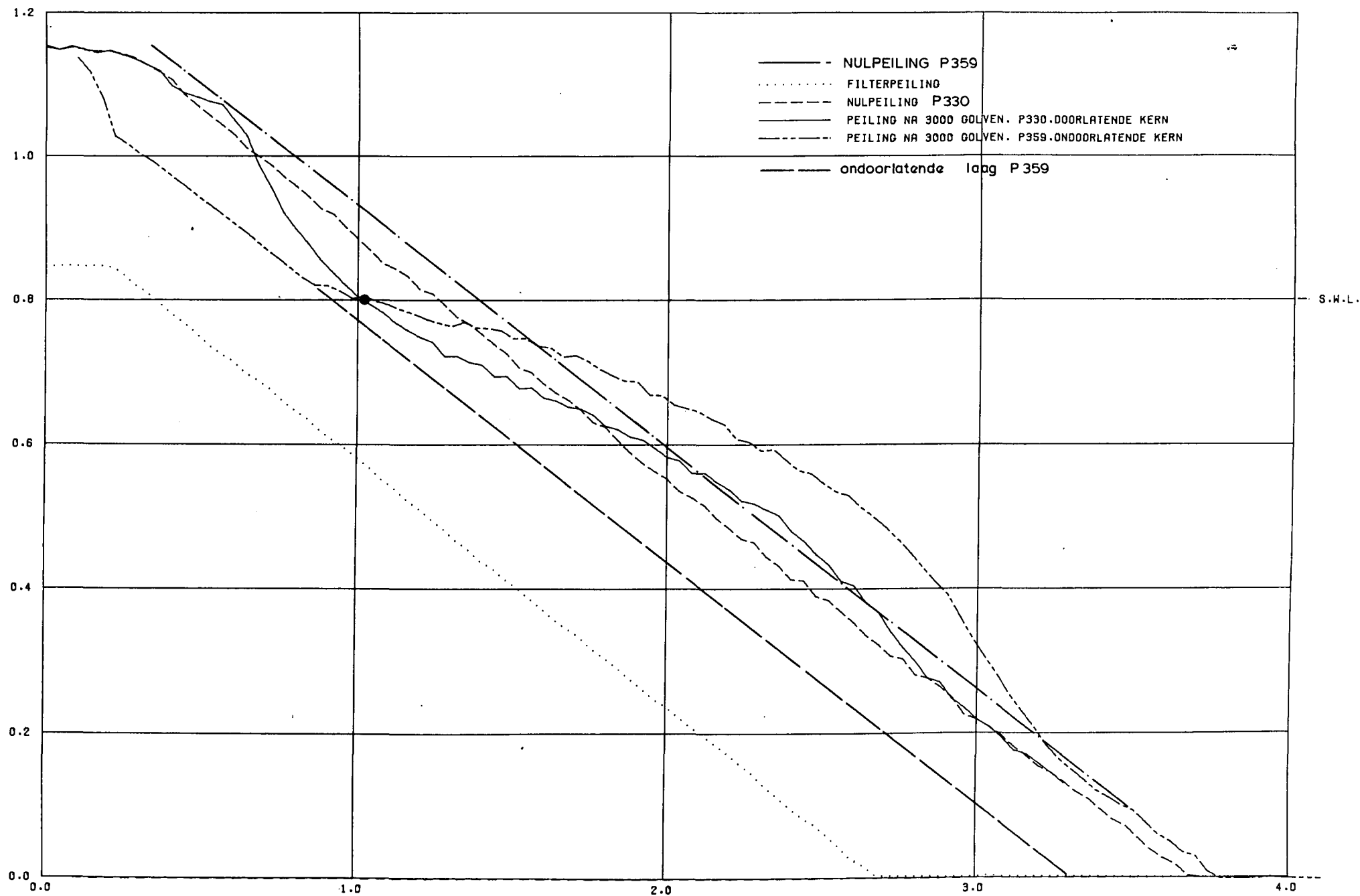


Fig. 11.3



12. Invloed bermhoogte

De profielen zijn zodanig langs de waterlijn verschoven, dat hetzelfde snijpunt ontstaat met de waterlijn

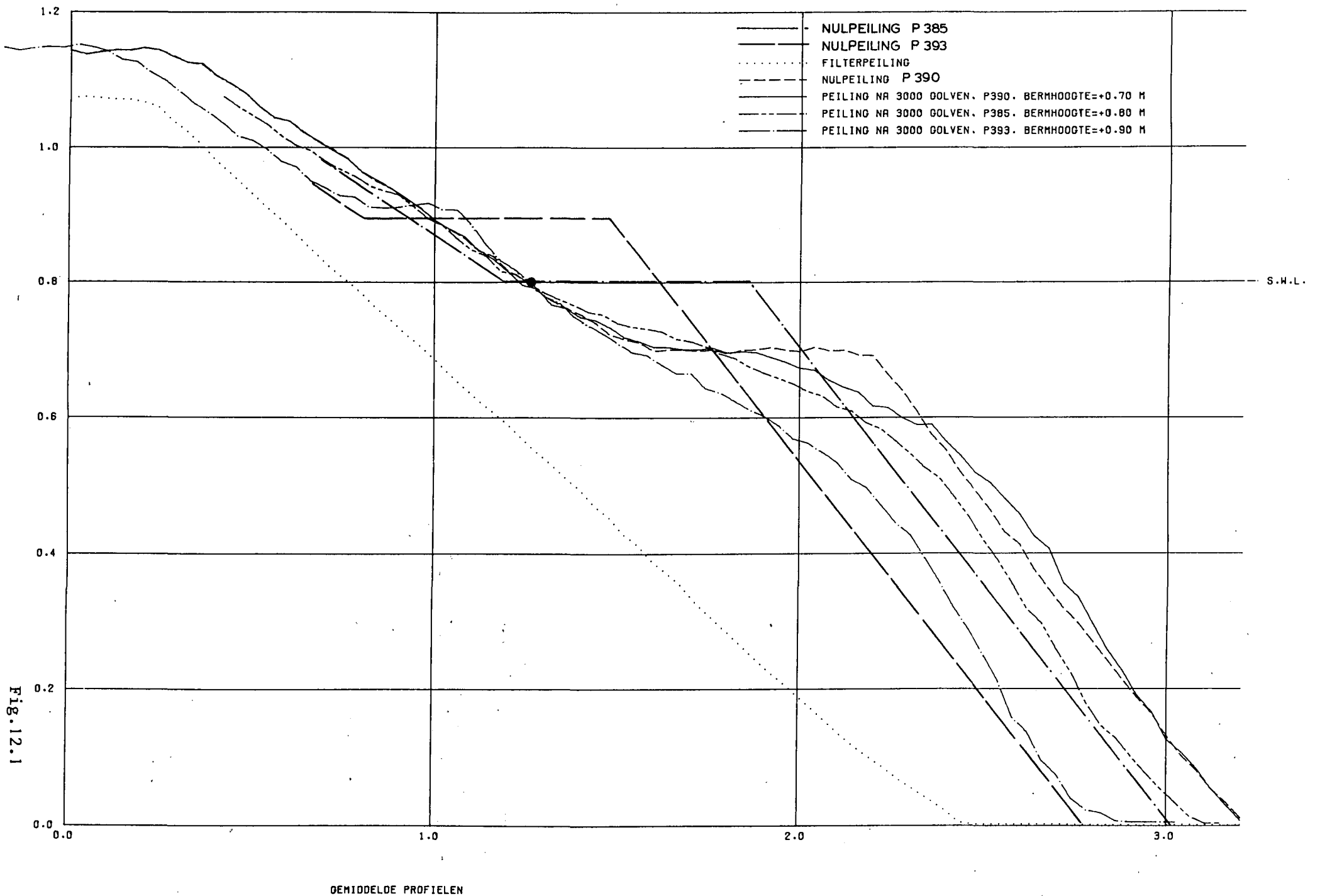
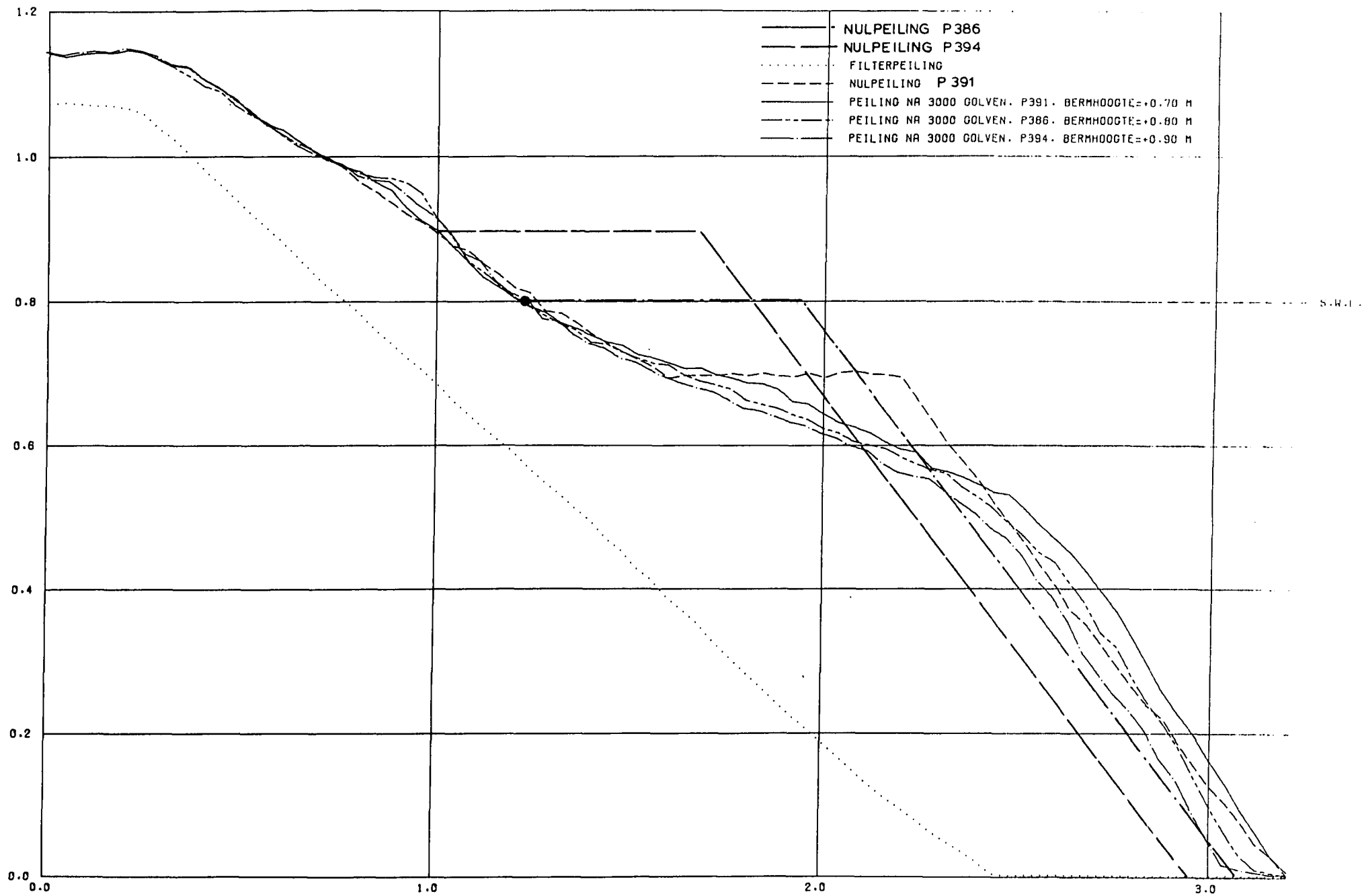


Fig. 12.2



GEMIDDELTE PROFIELEN

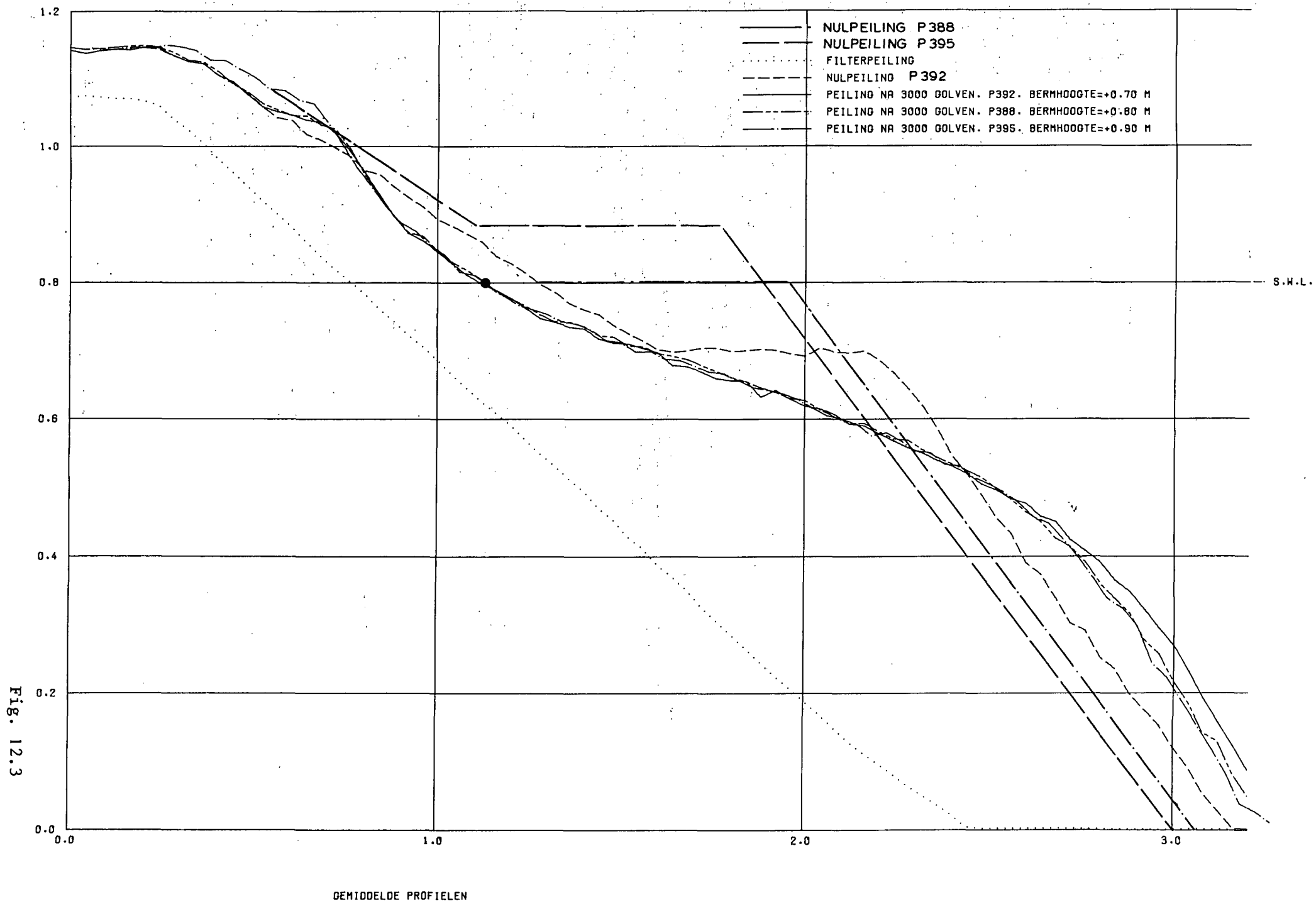
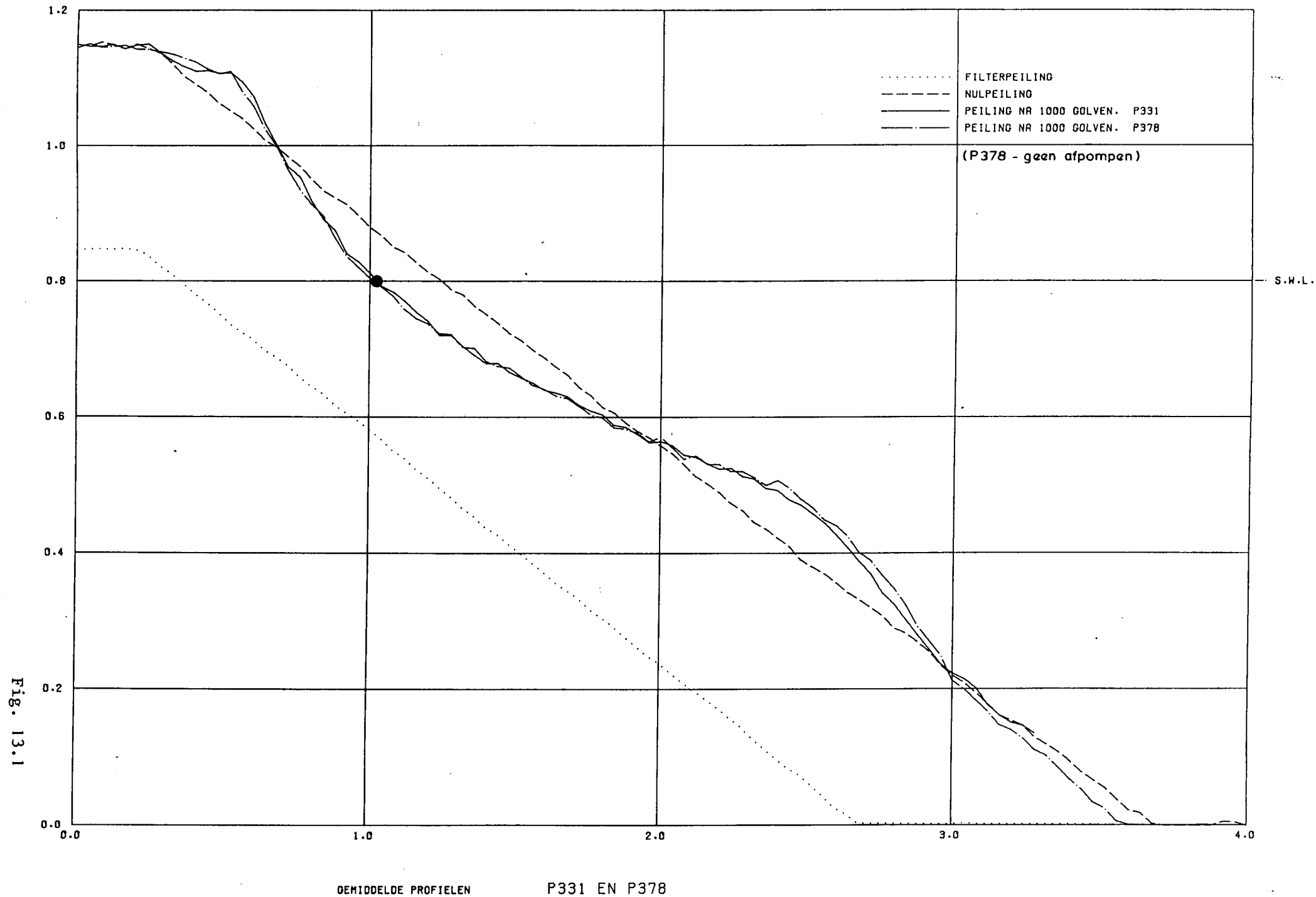
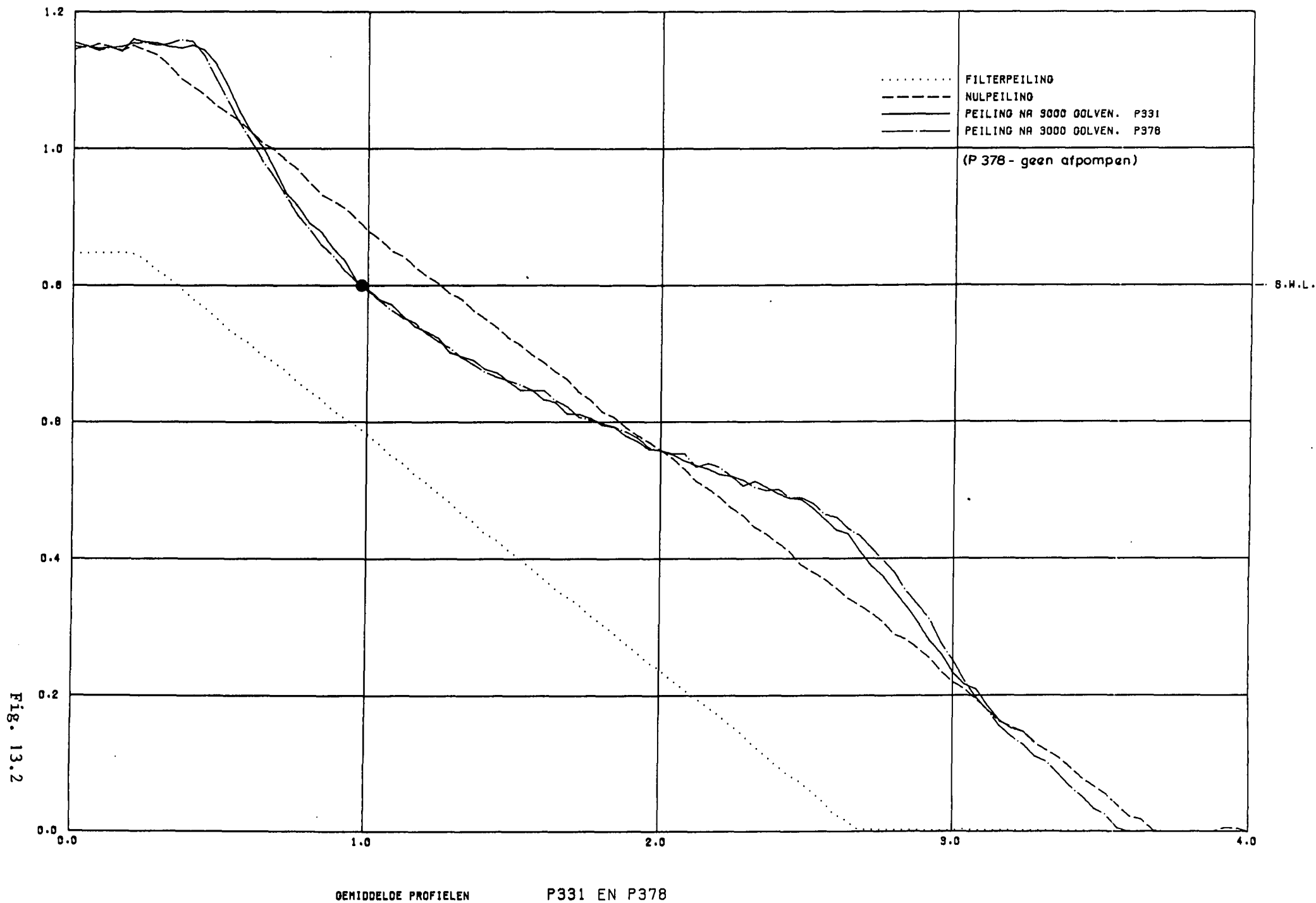


Fig. 12.3

13. Invloed transmissie
(wegpompen water achter konstruktie)

De profielen zijn zodanig langs de waterlijn verschoven, dat hetzelfde snijpunt ontstaat met de waterlijn





14. Invloed kruinhoogte

De profielen zijn zodanig langs de waterlijn verschoven, dat hetzelfde snijpunt ontstaat met de waterlijn

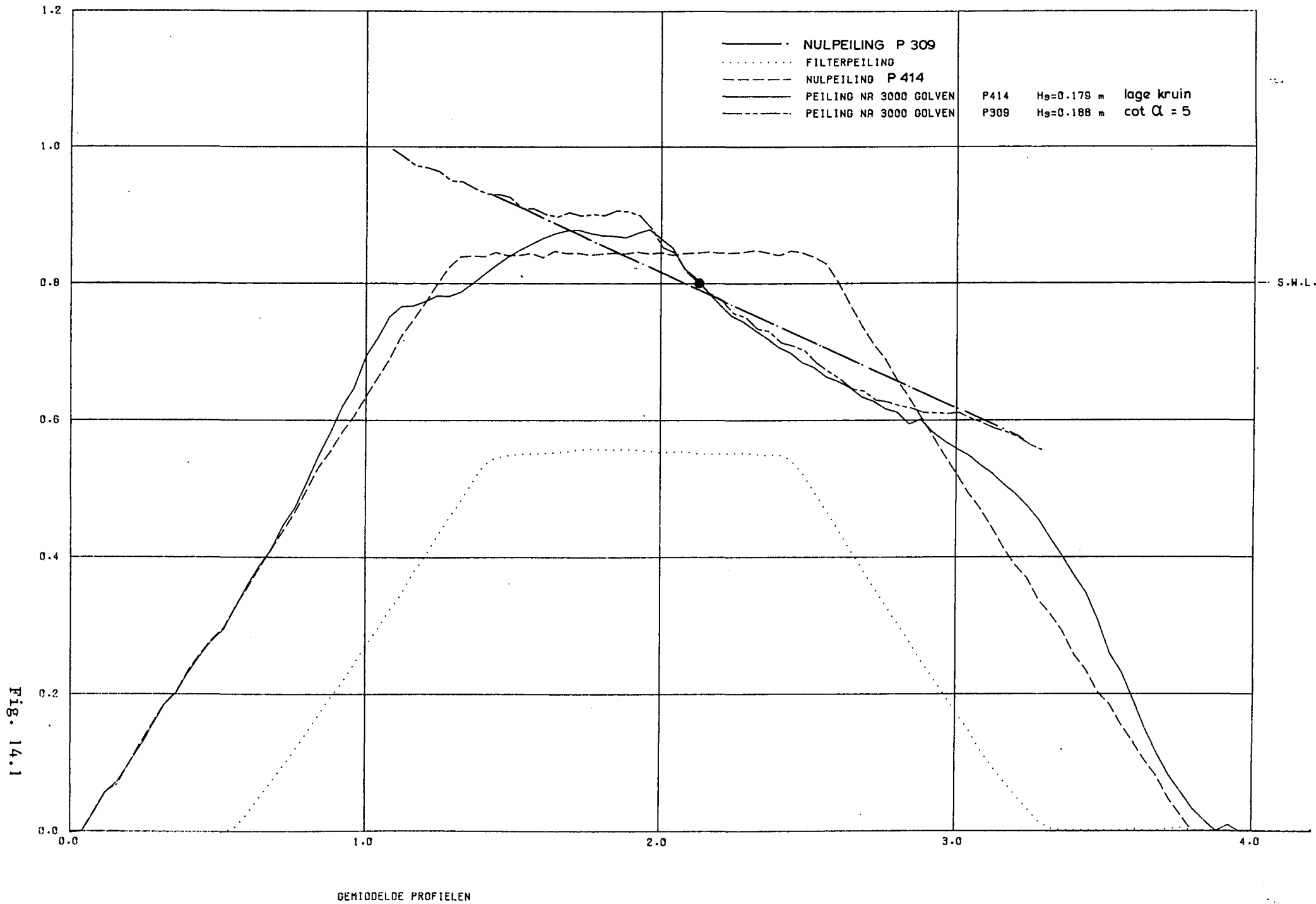


Fig. 14.1

Fig. 14.2

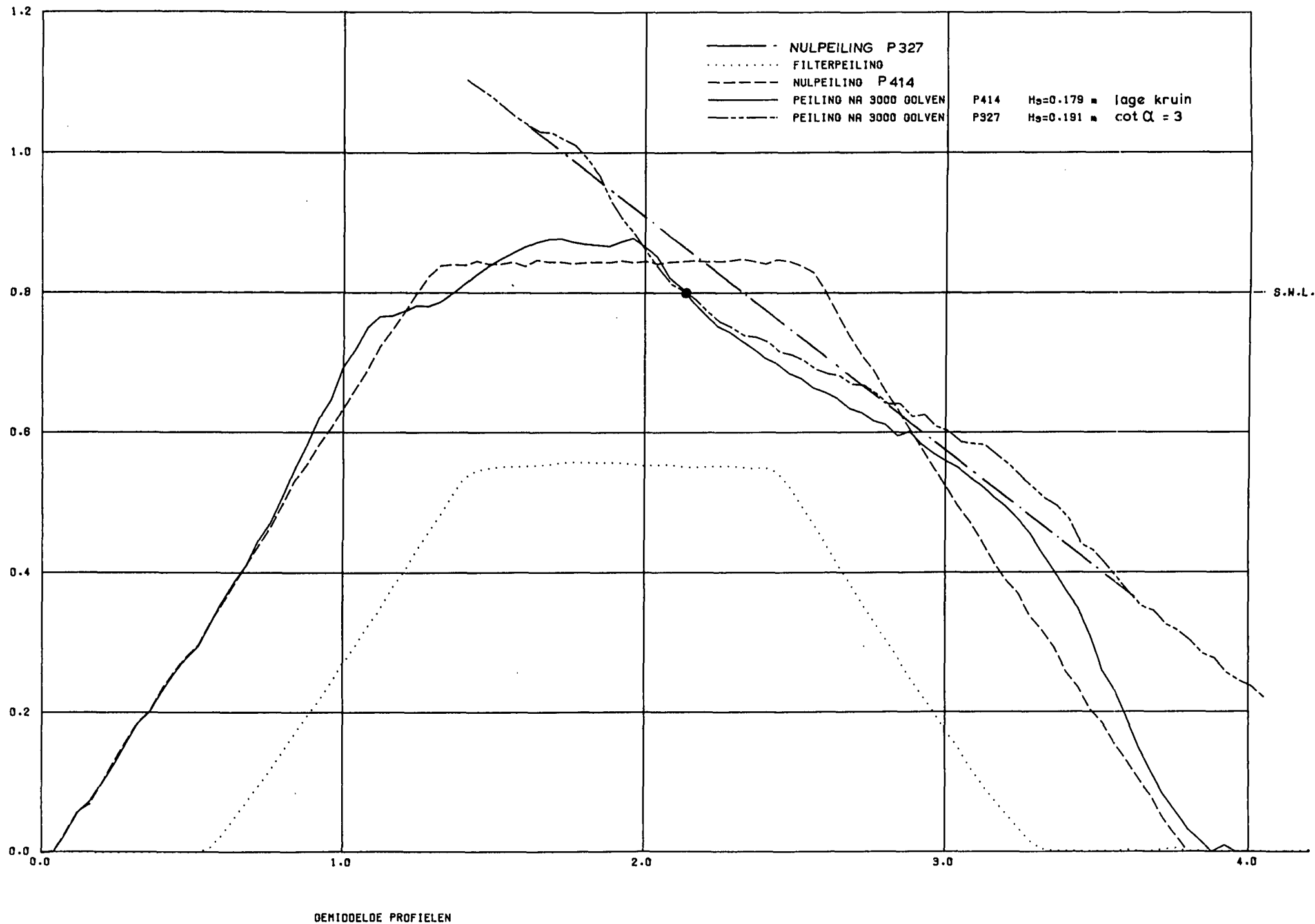
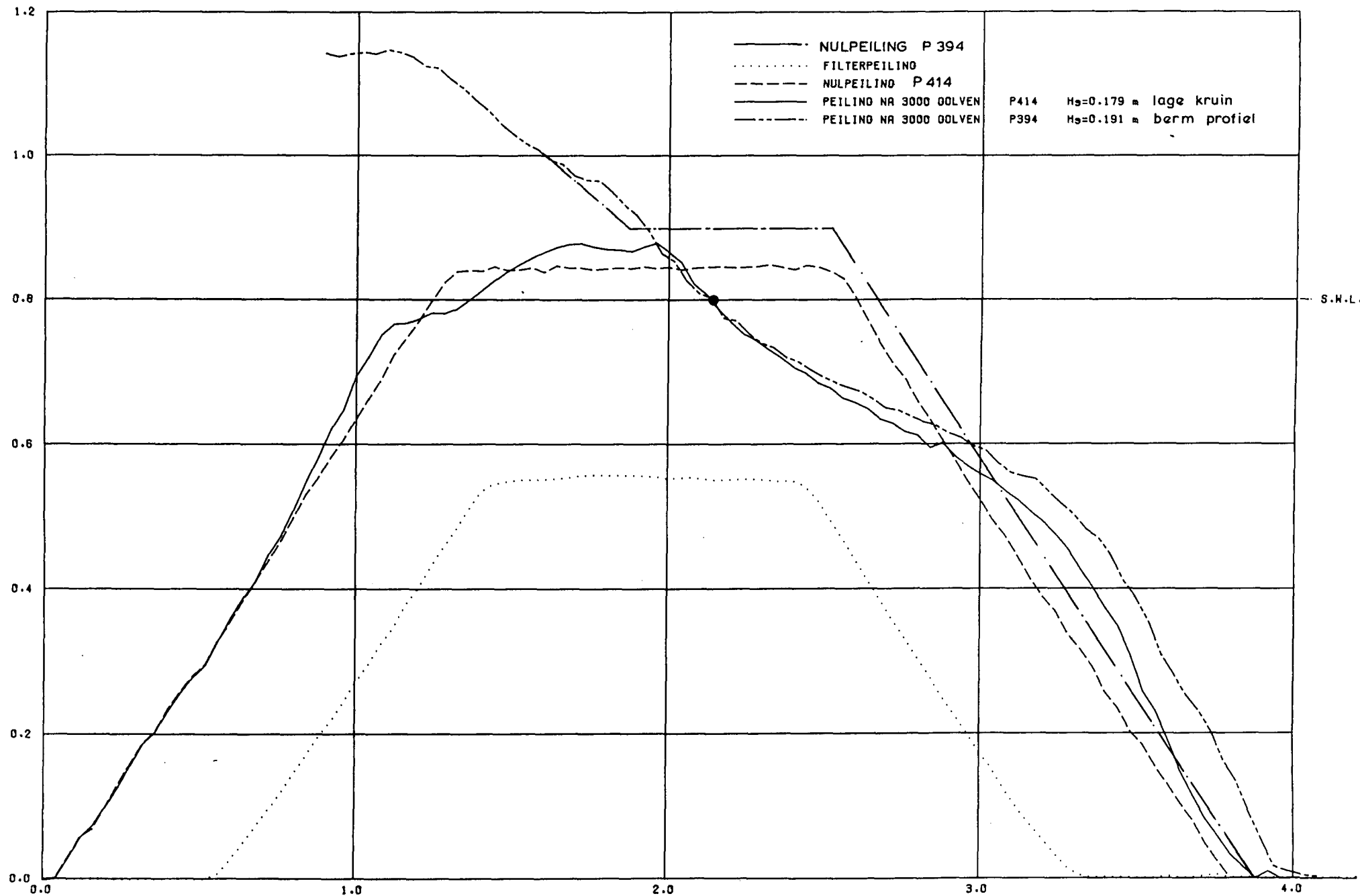


Fig. 14.3

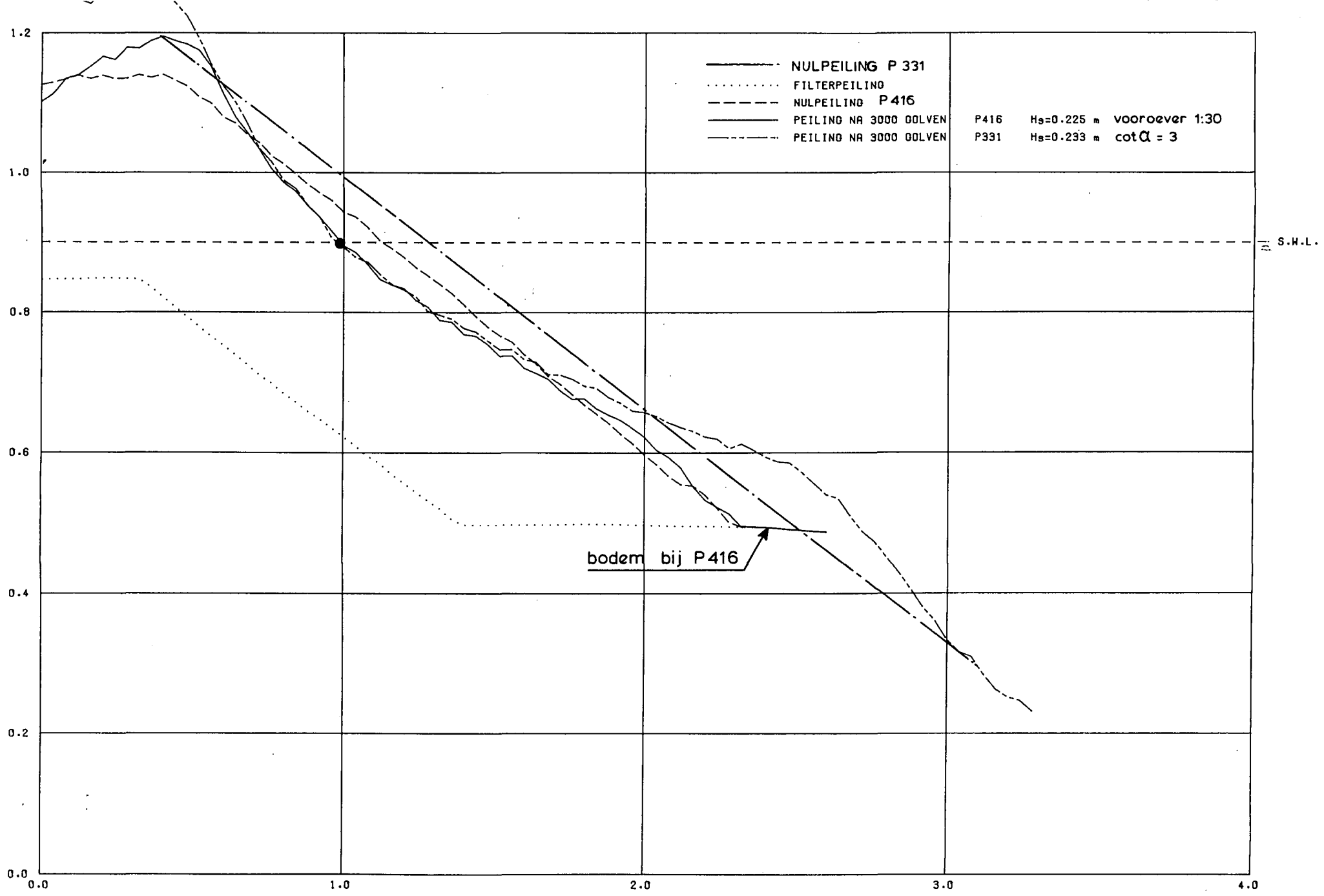


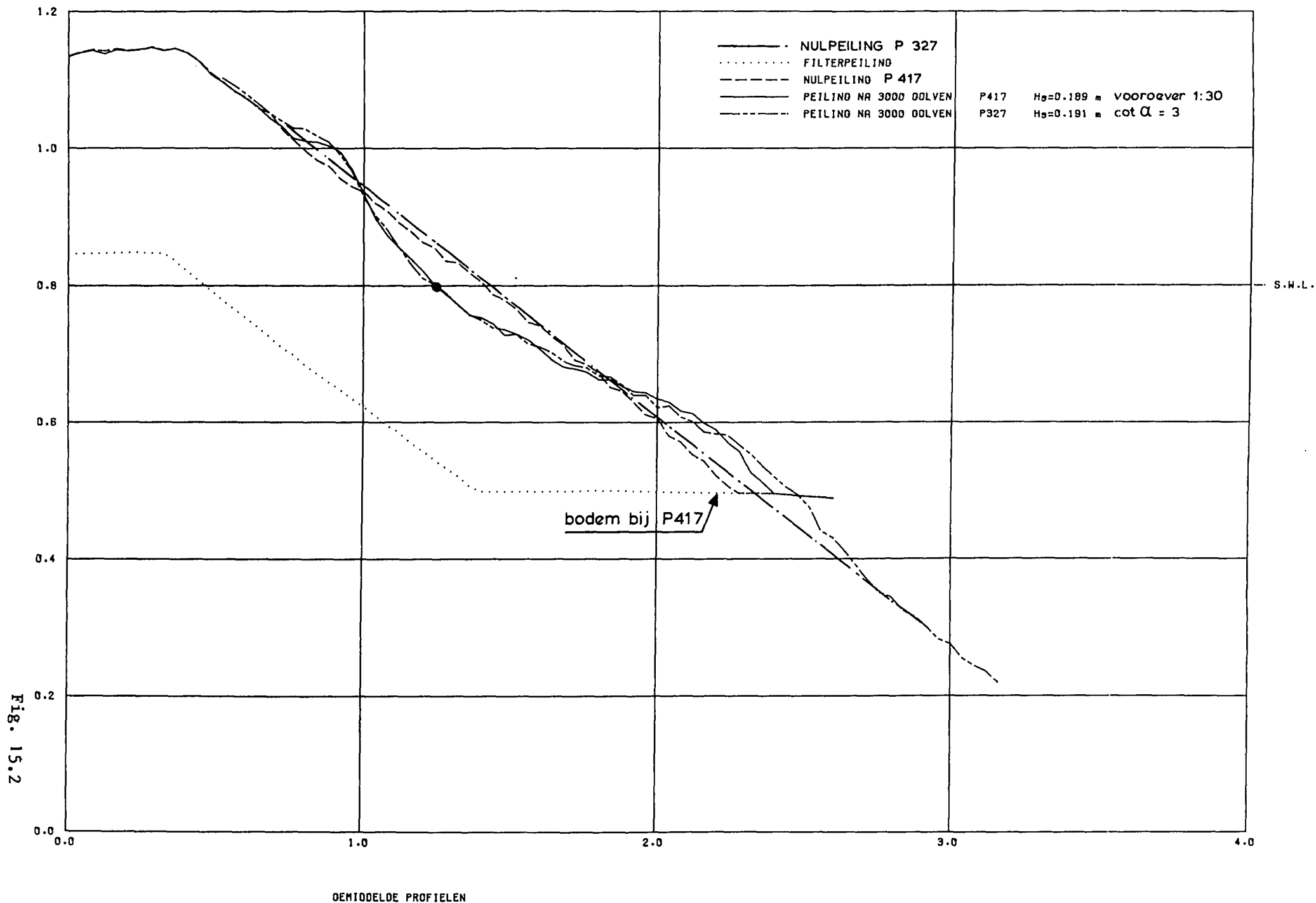
GEHIDDEDE PROFIELEN

15. Invloed vooroever

De profielen zijn zodanig langs de waterlijn verschoven, dat hetzelfde snijpunt ontstaat met de waterlijn

Fig. 15.1





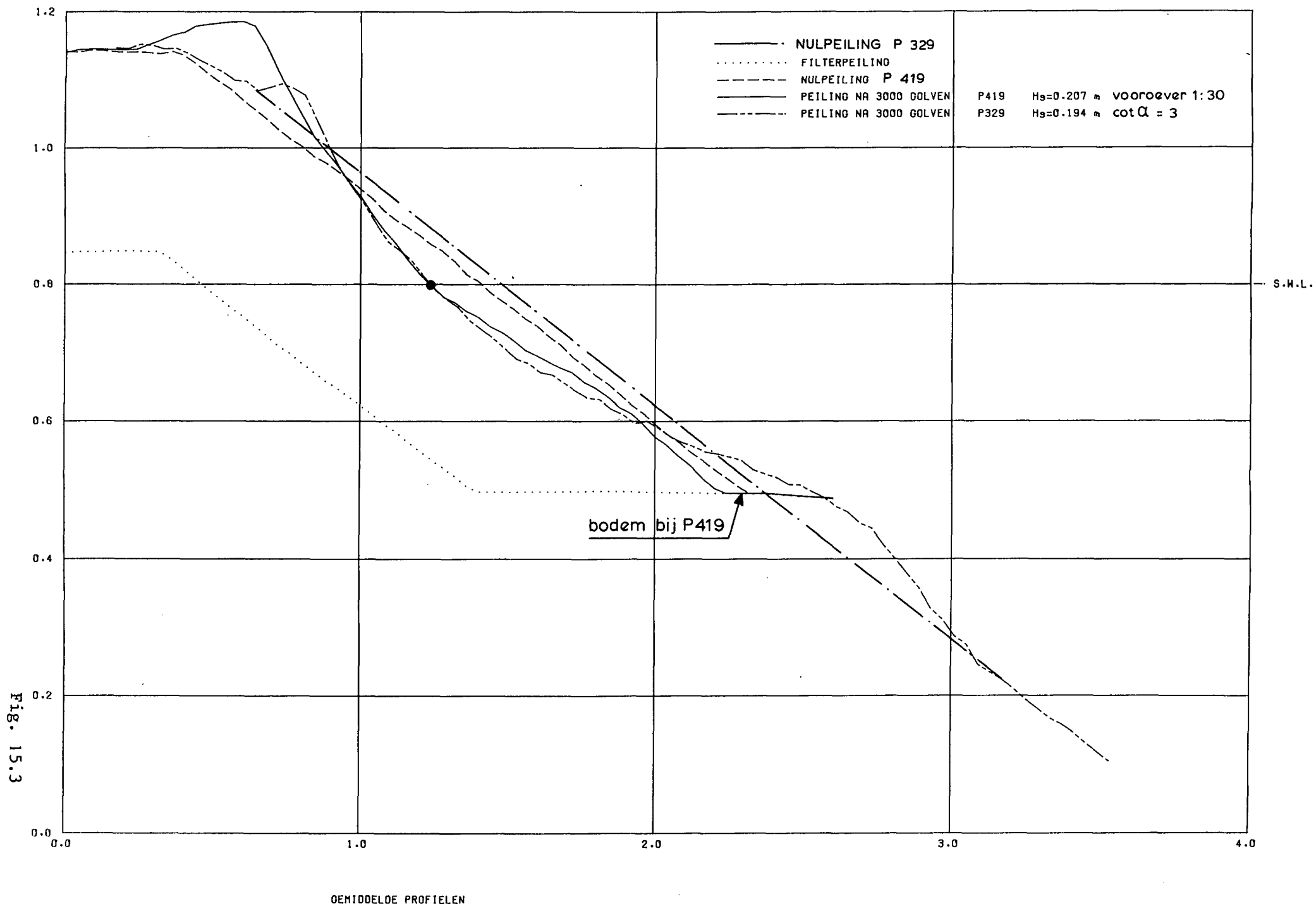
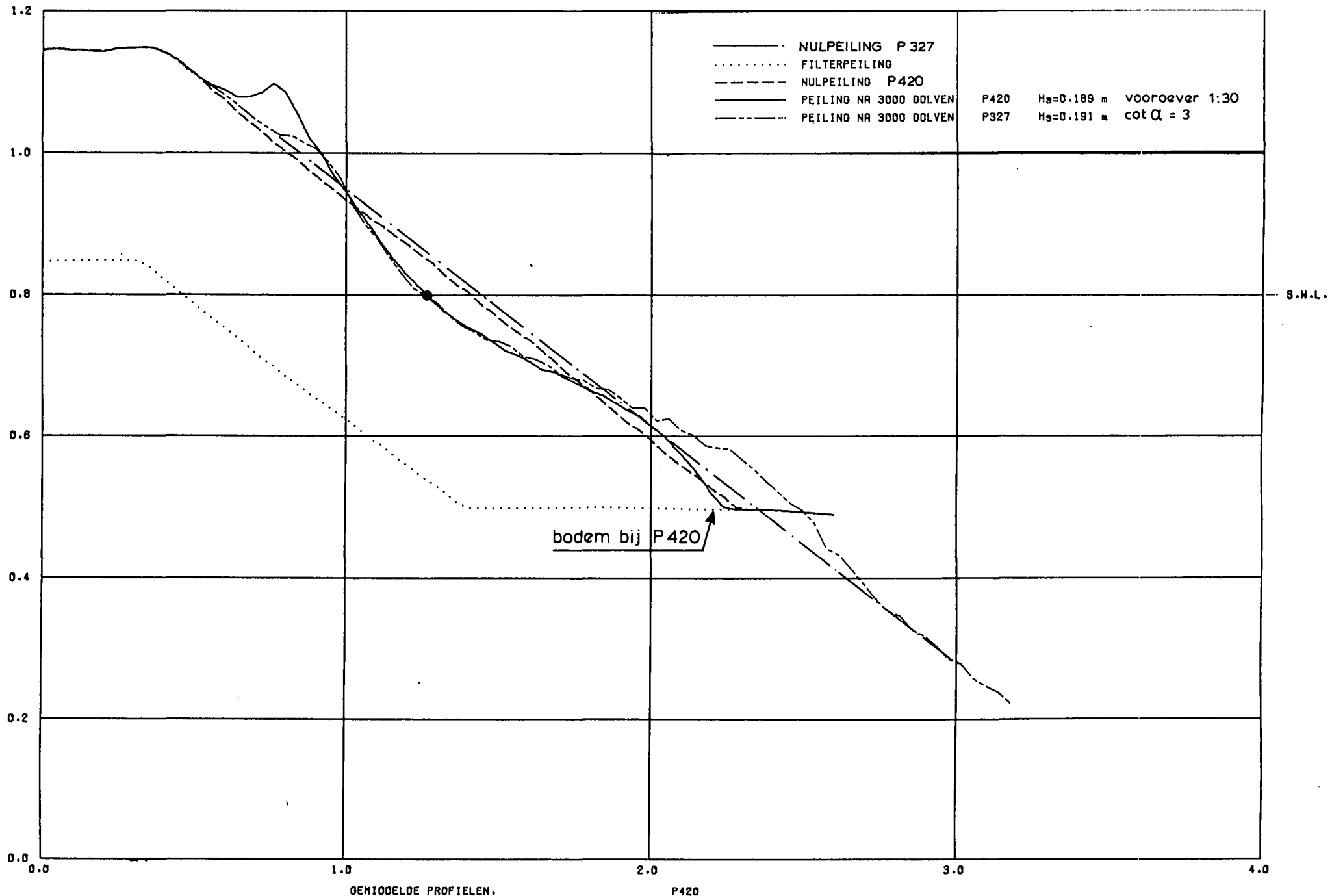


Fig. 15.4



16. Invloed getij:
uitgerekte getijcyclus

De profielen in 16.1-16.12 zijn niet verschoven. De profielen in 16.13-16.24 wel

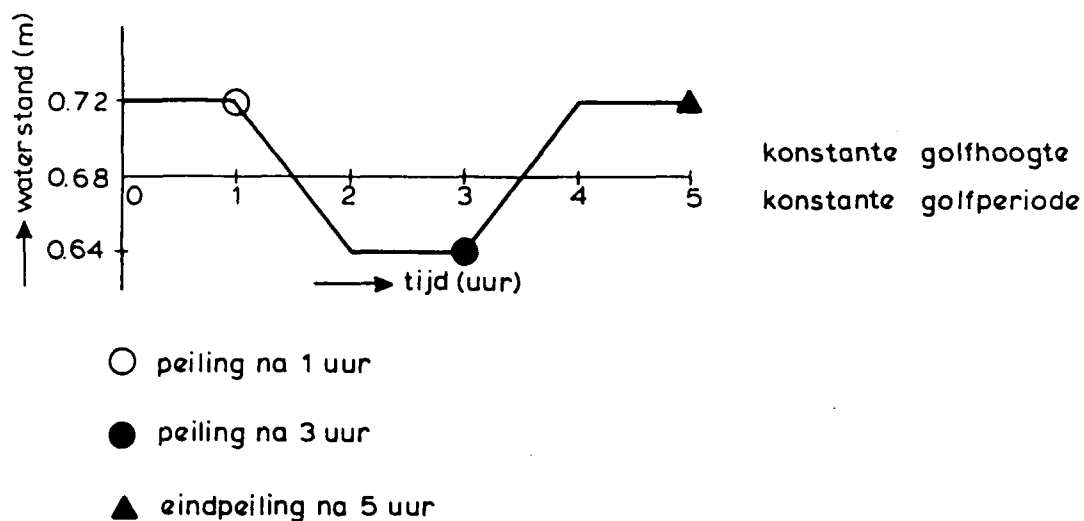


Fig 16a UITGEREKE GETIJCYCLUS

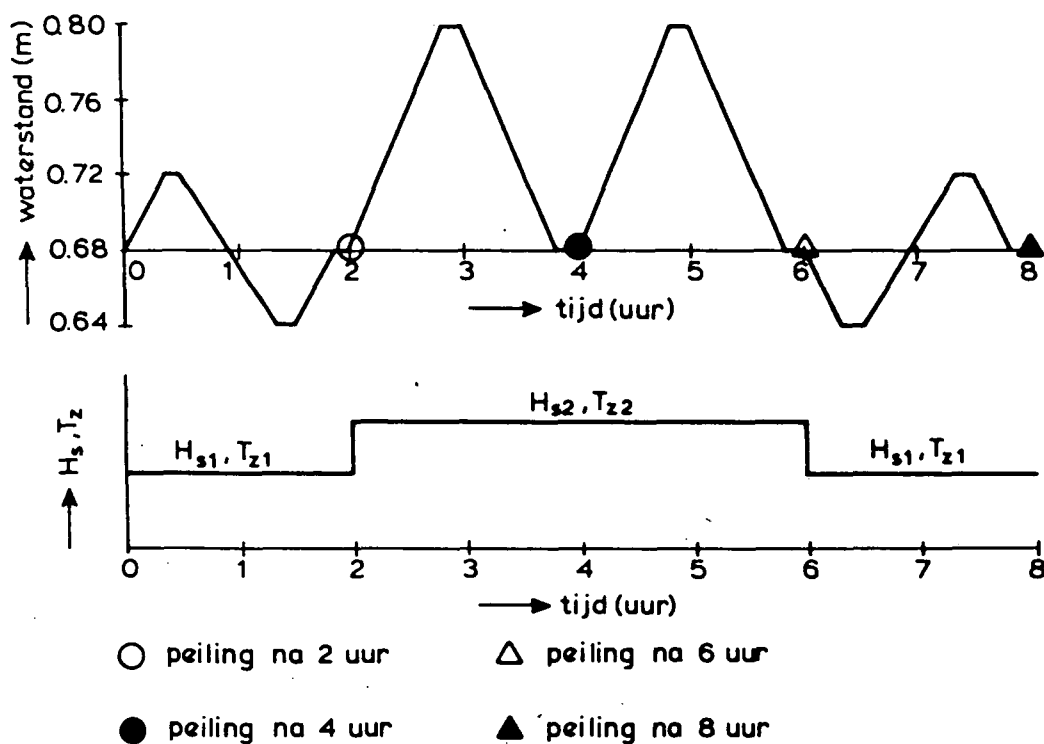


Fig 16b STORMPROGRAMMA

RANDVOORWAARDEN BIJ GETIJ-PROEVEN
PROEVEN 360-377

WATERLOOPKUNDIG LABORATORIUM

M 1983

FIG. 16.0

Fig. 16.1

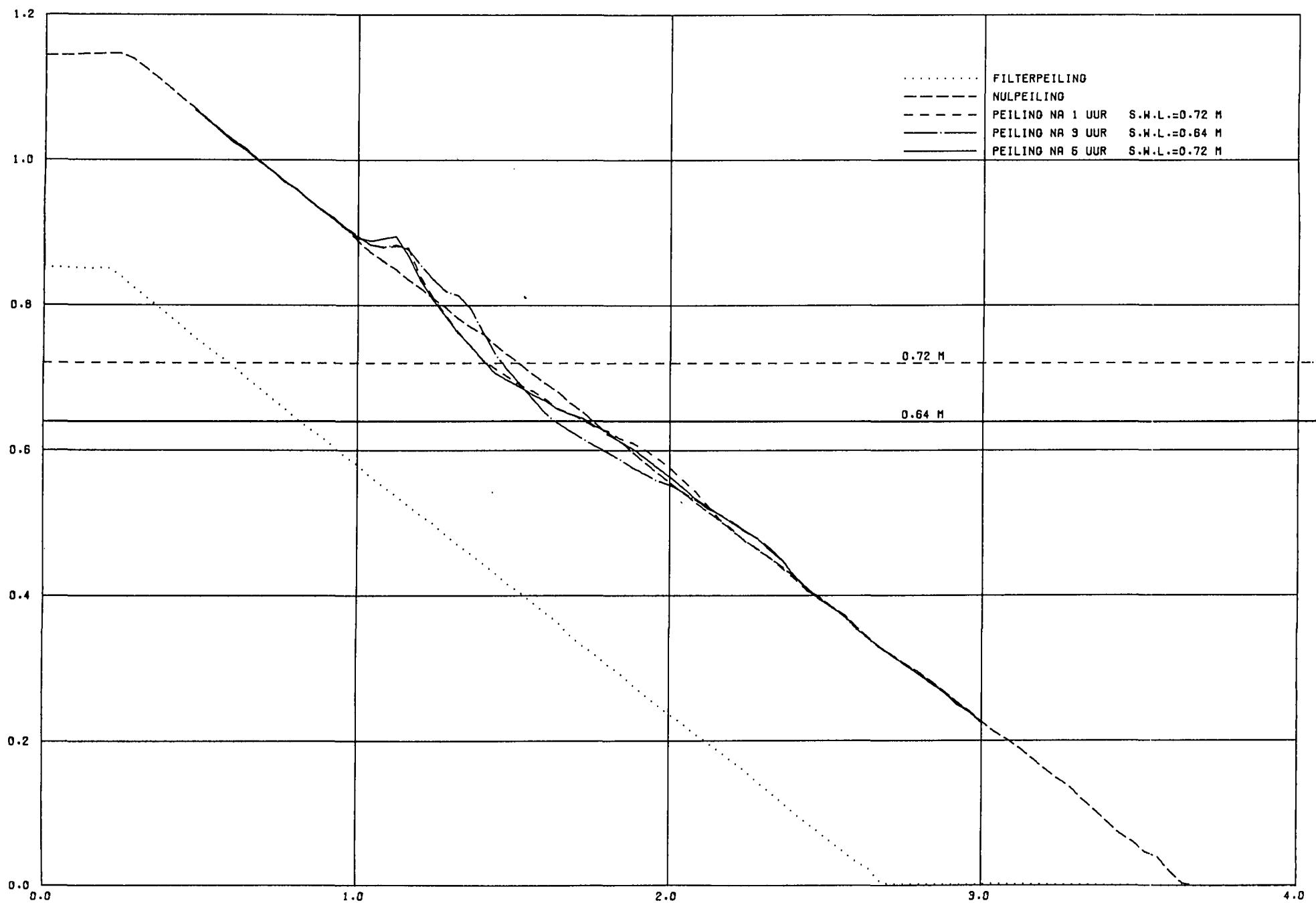


Fig. 16.2

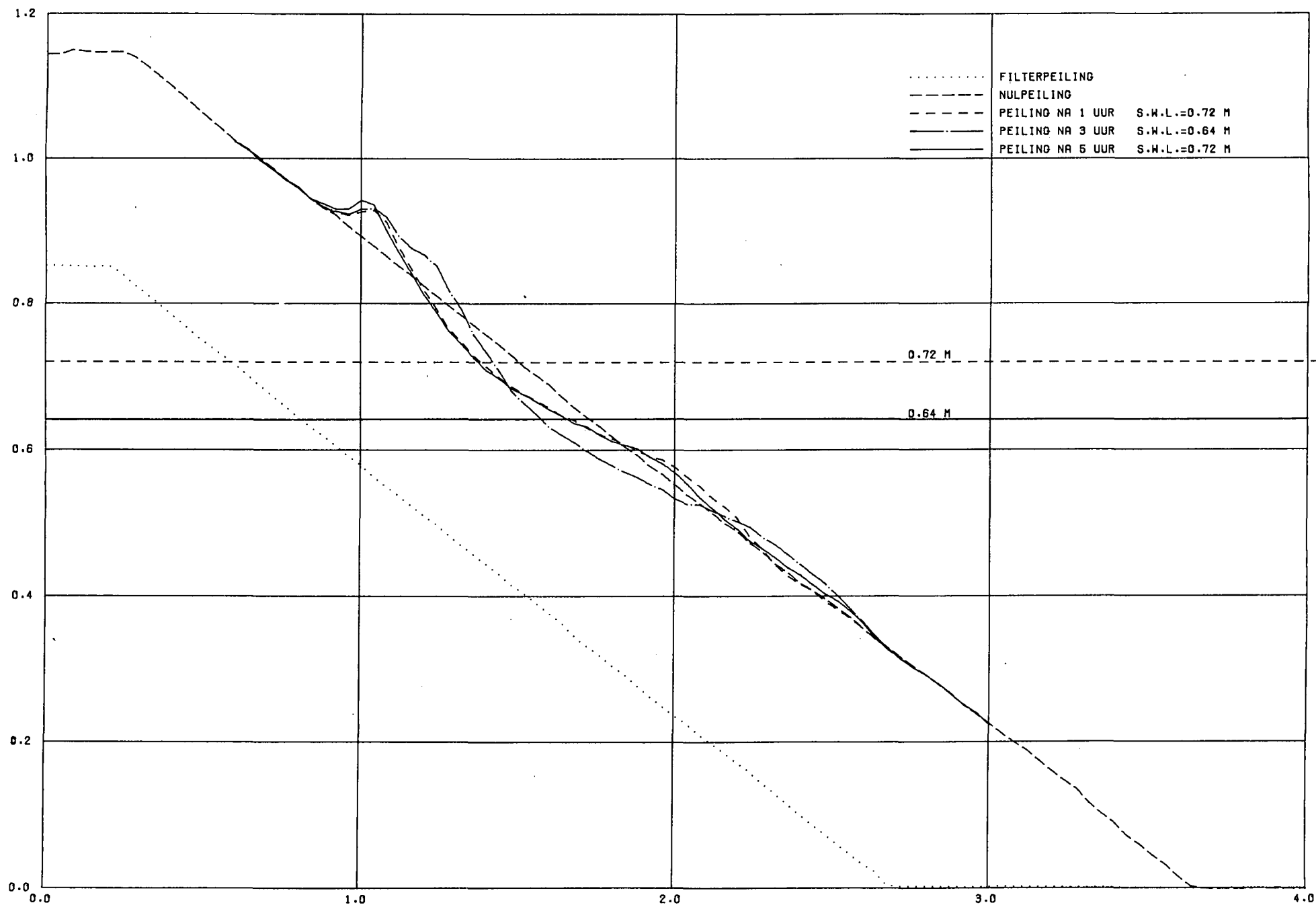


Fig. 16.3

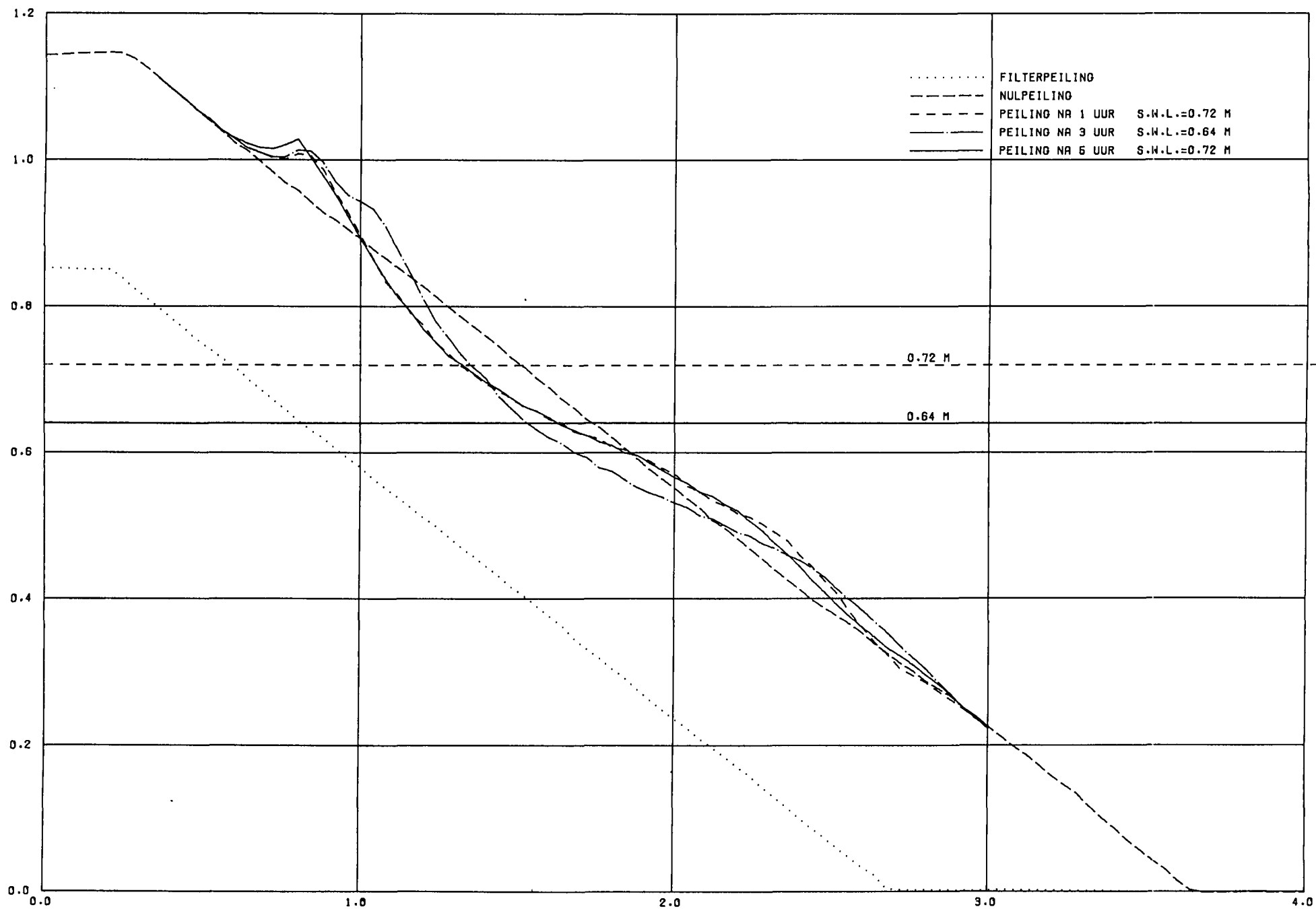


Fig. 16.4

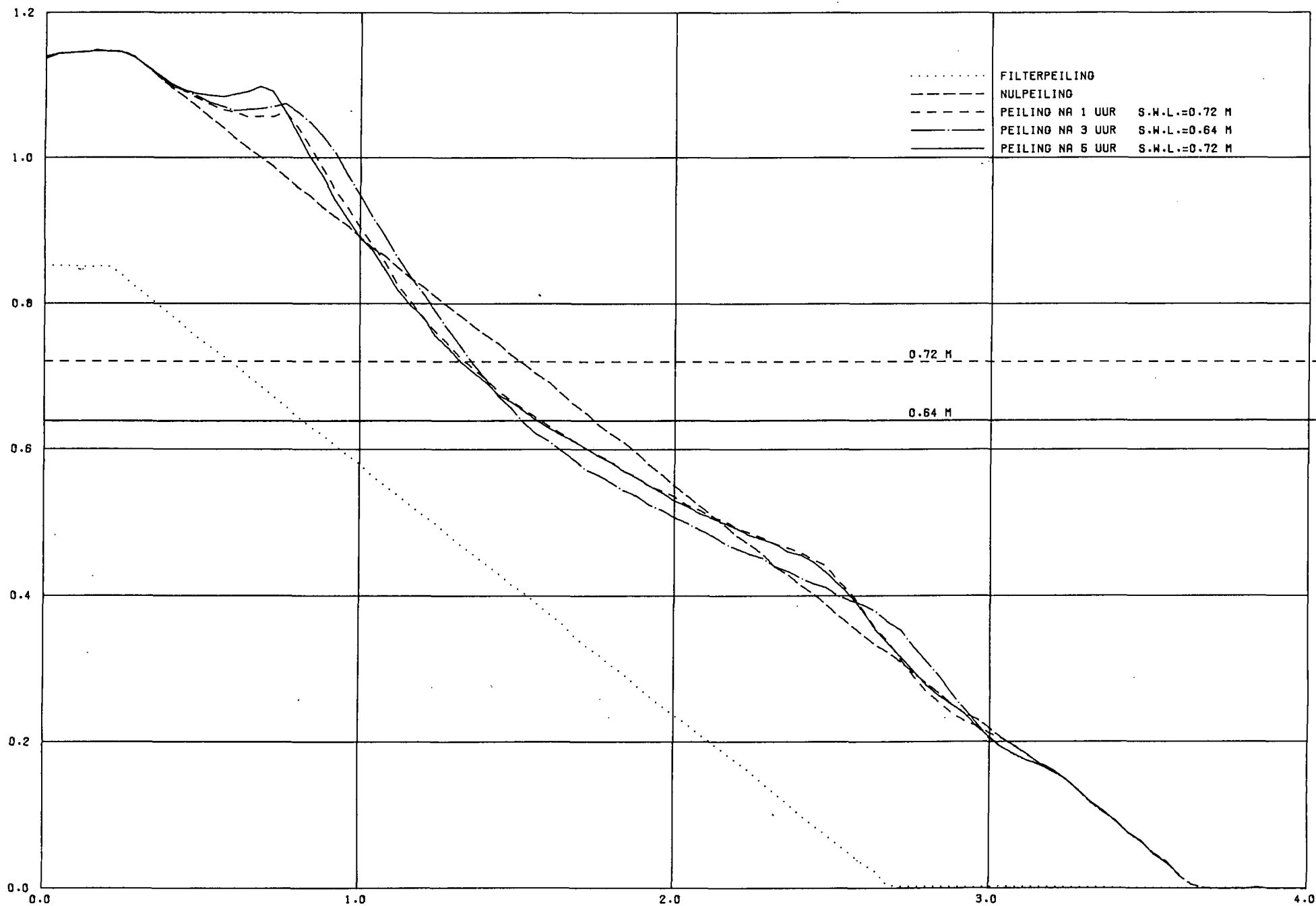


Fig. 16.5

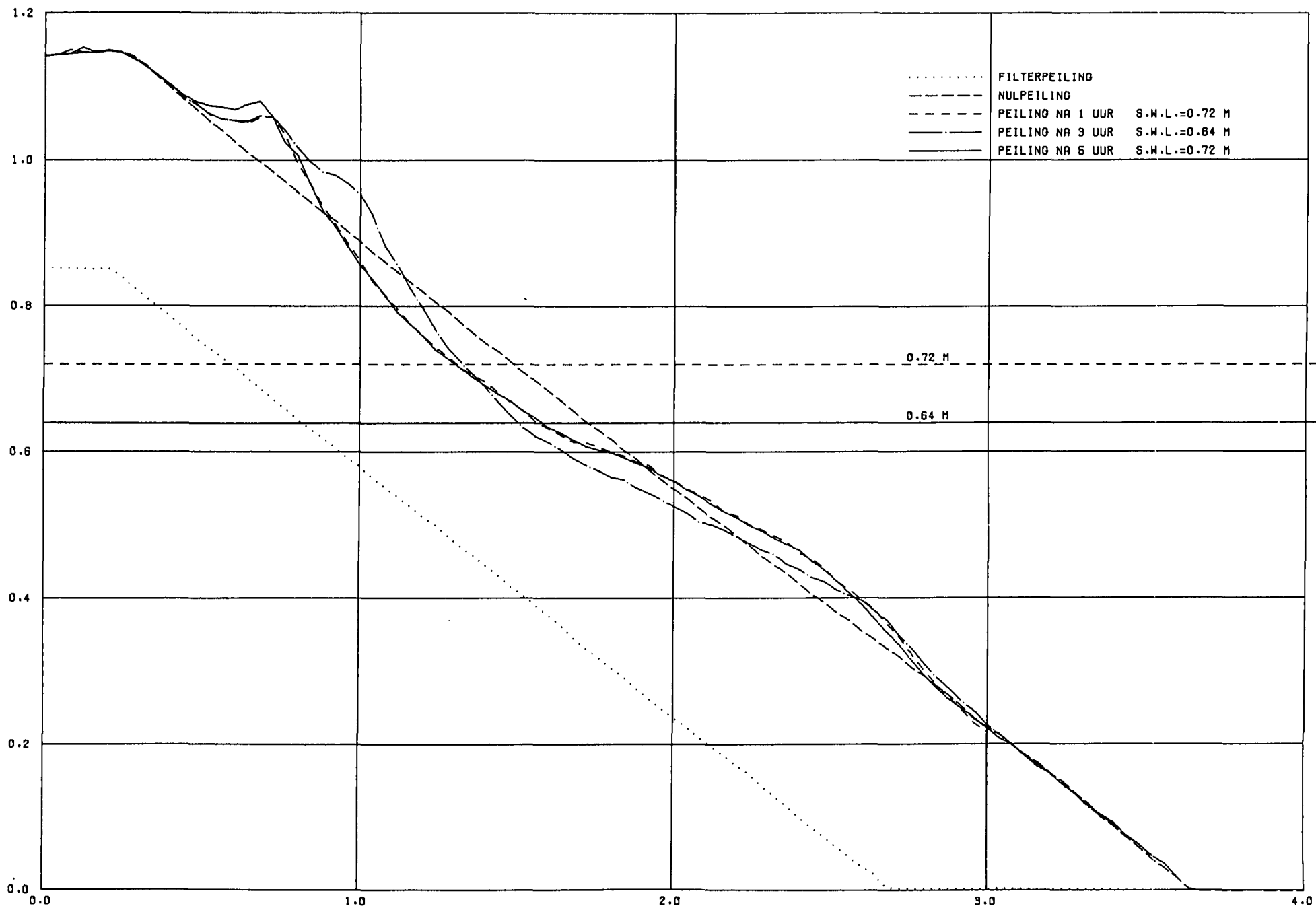


Fig. 16.6

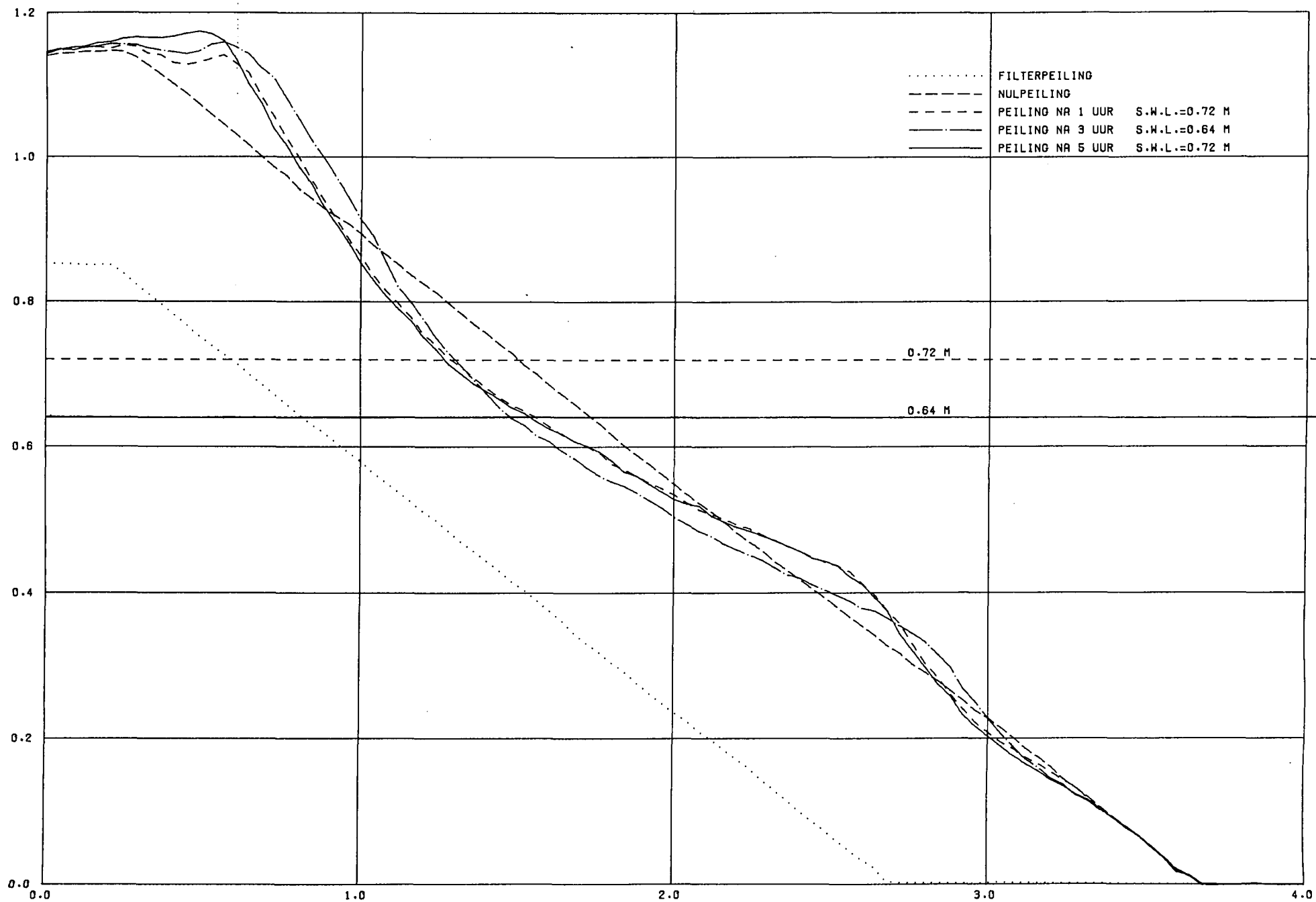
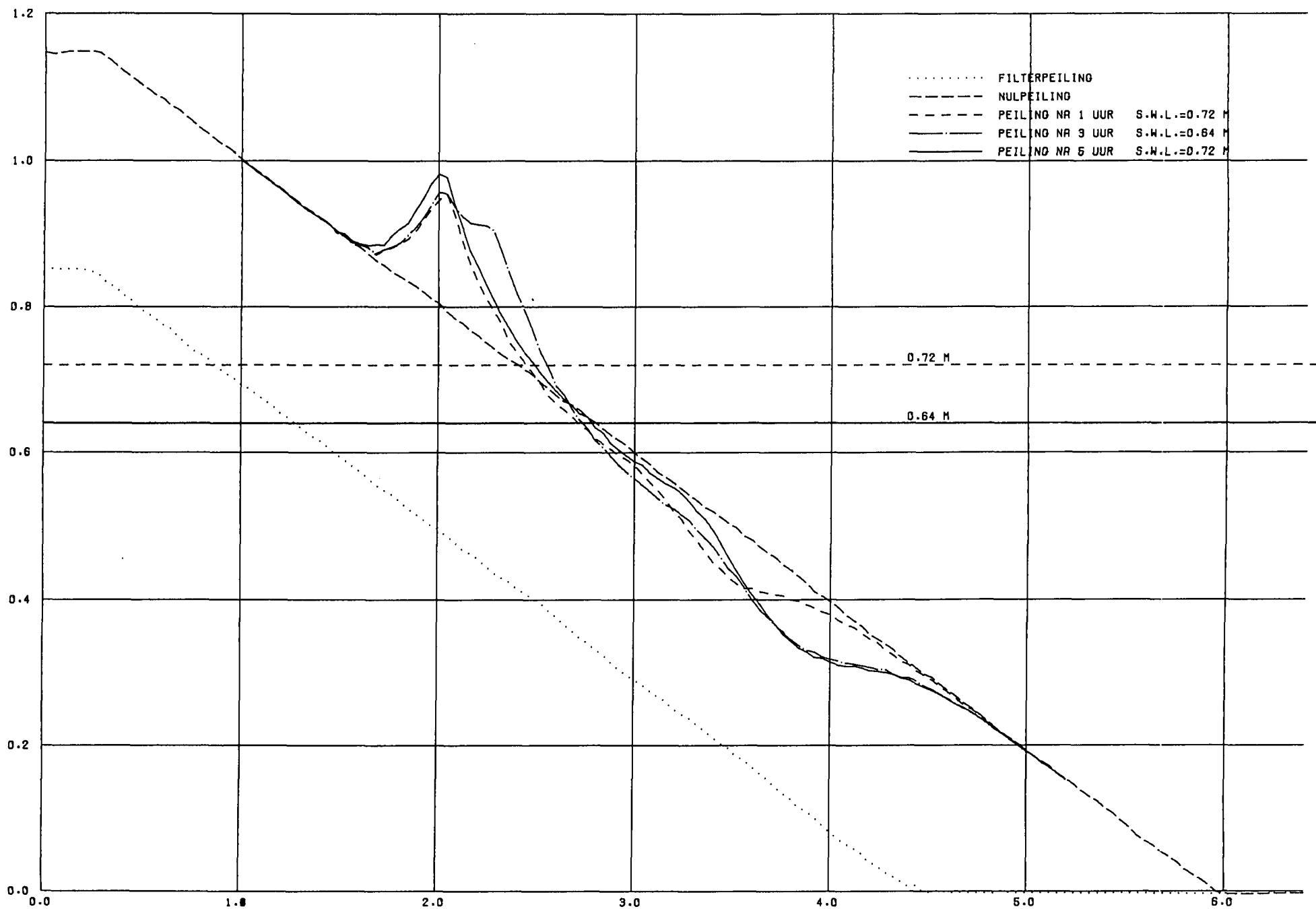


Fig. 16.7



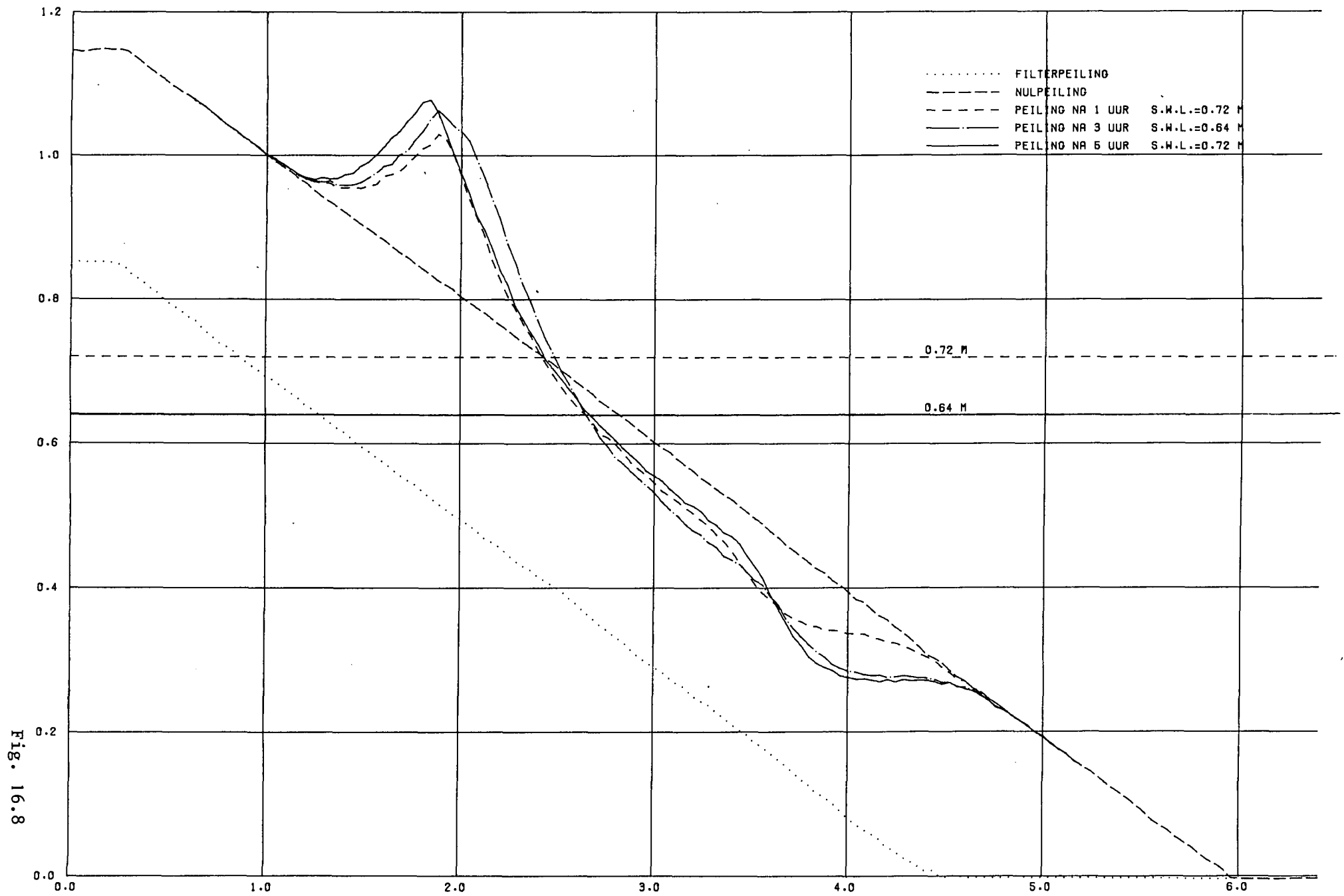


Fig. 16.8

Fig. 16.9

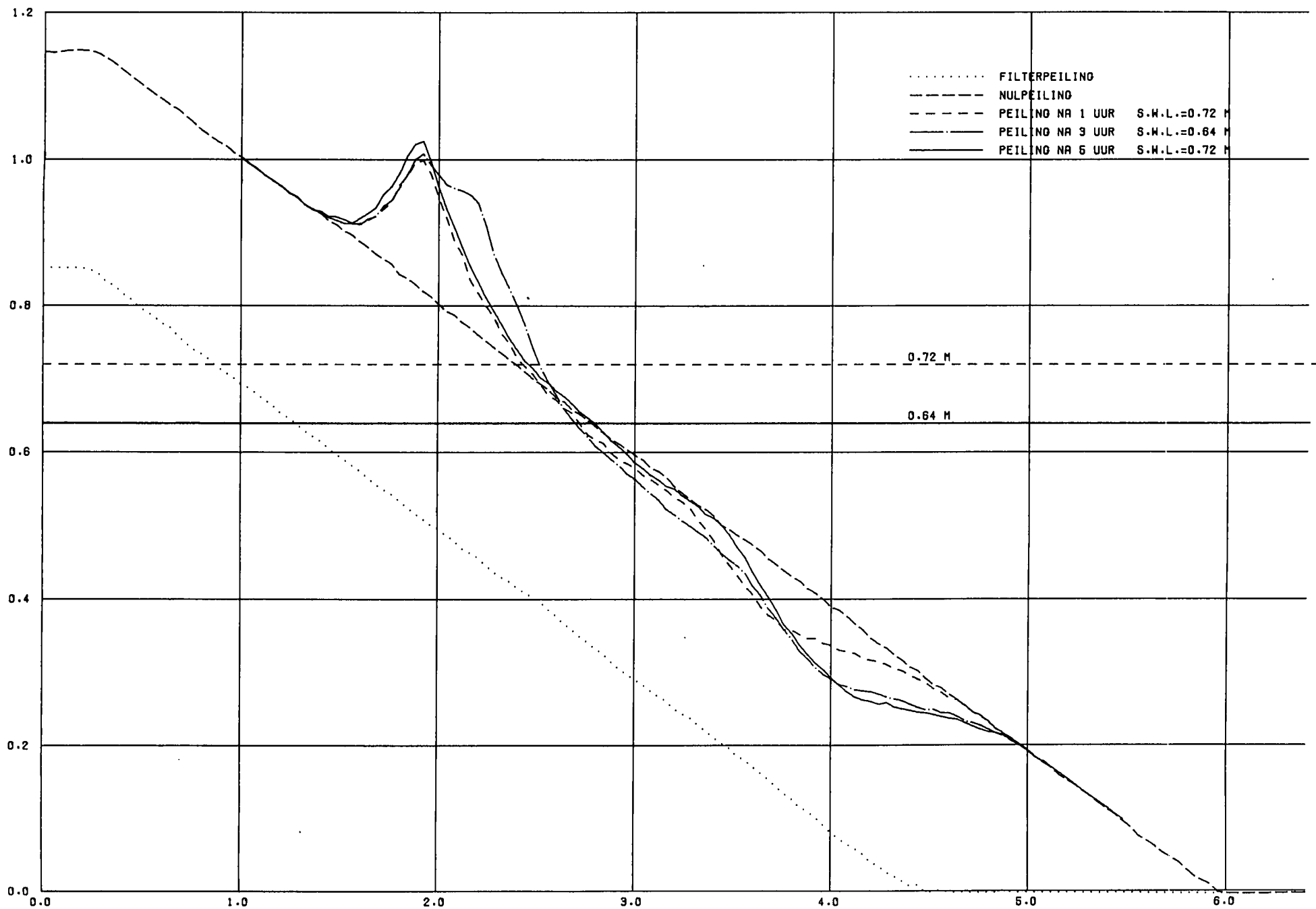


Fig. 16.10

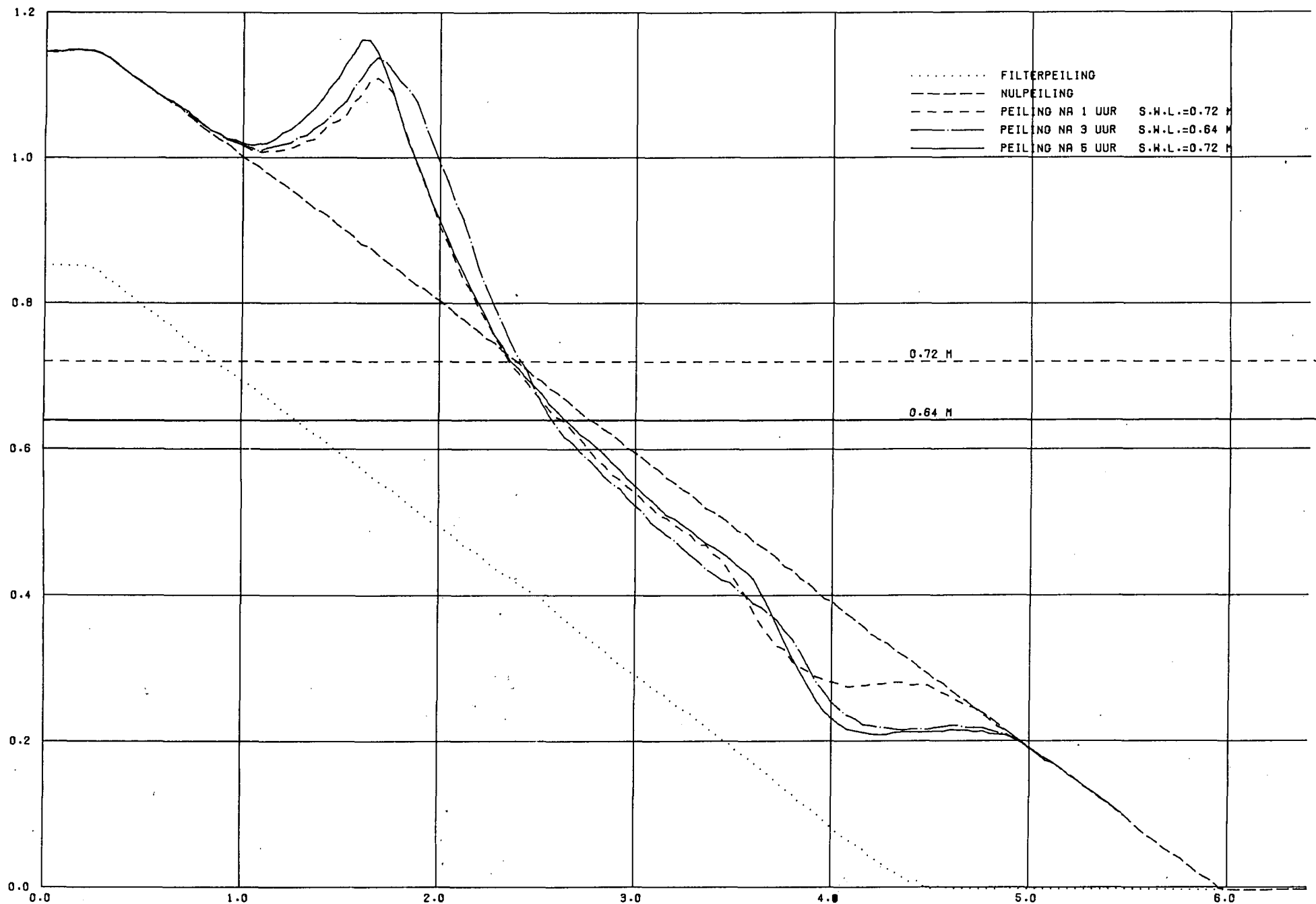


Fig. 16.11

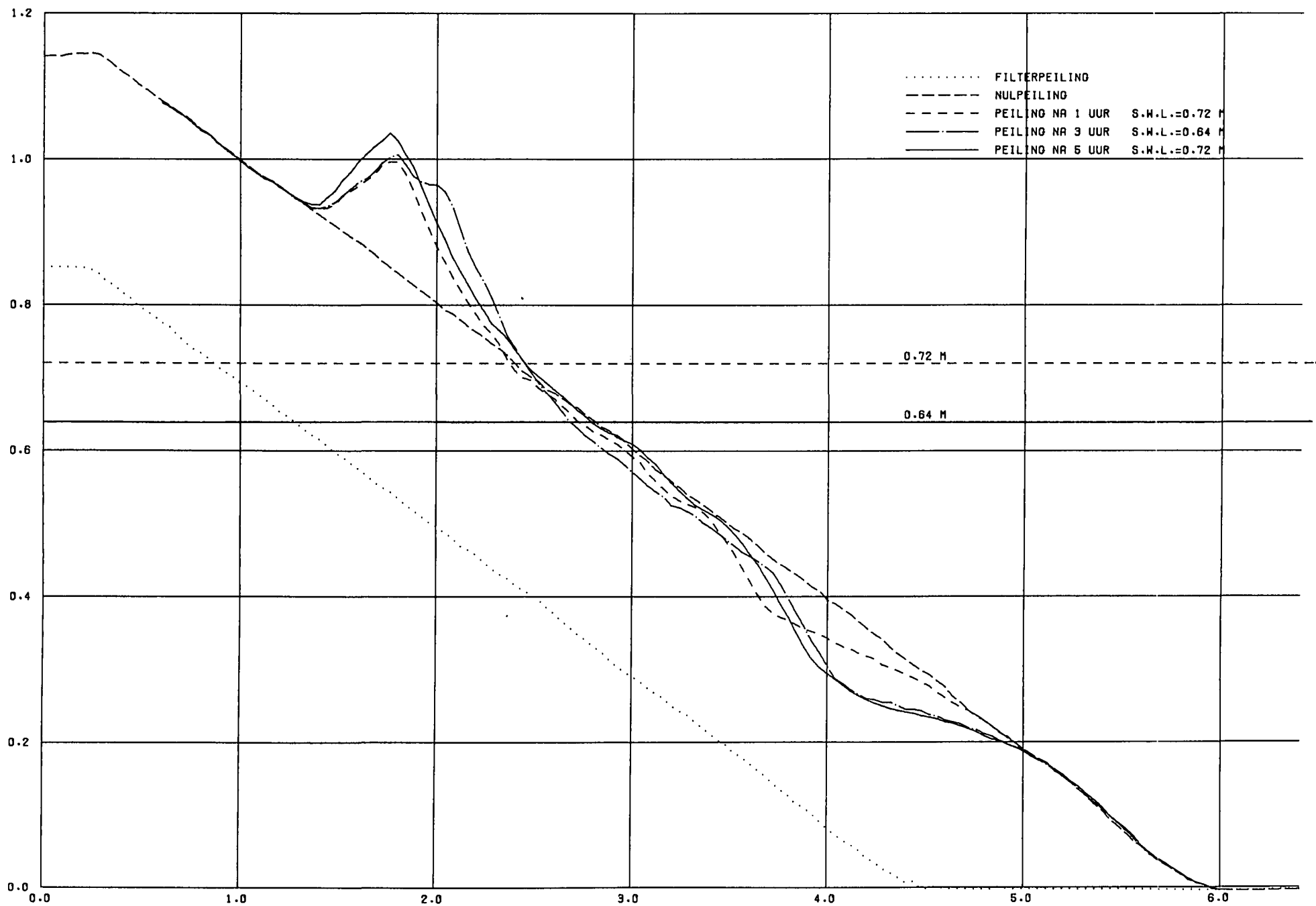


Fig. 16.12

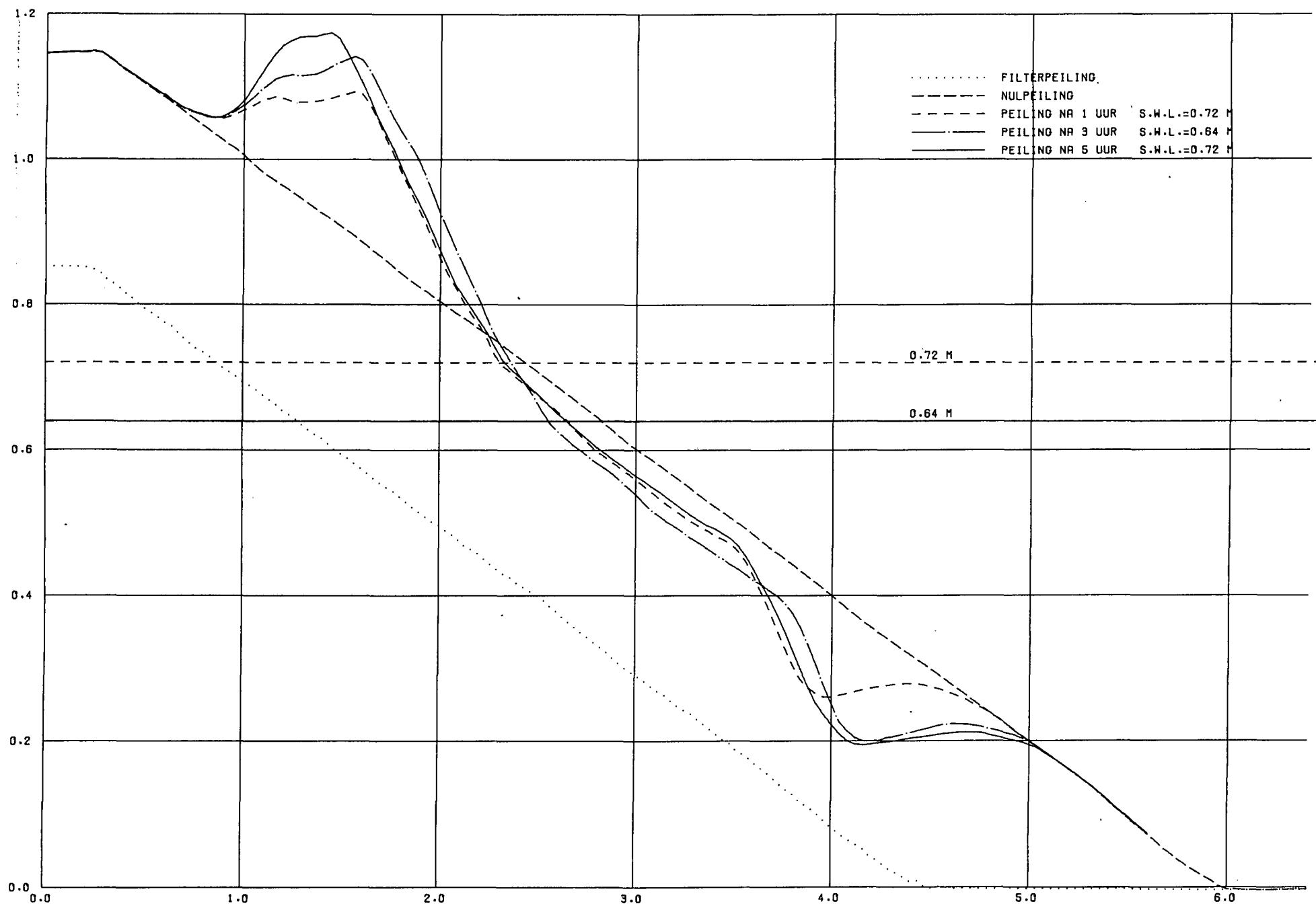
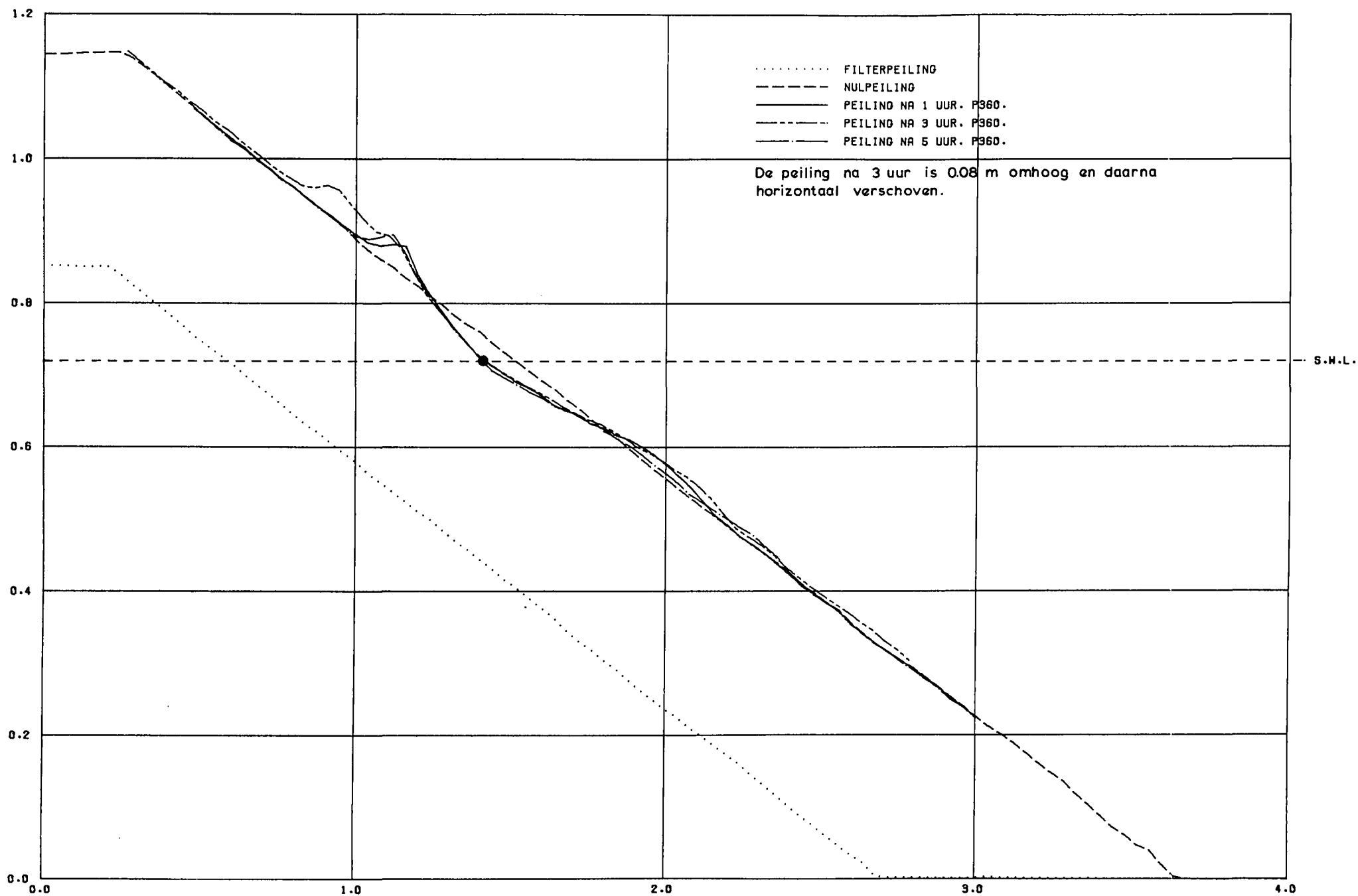


Fig. 16.13



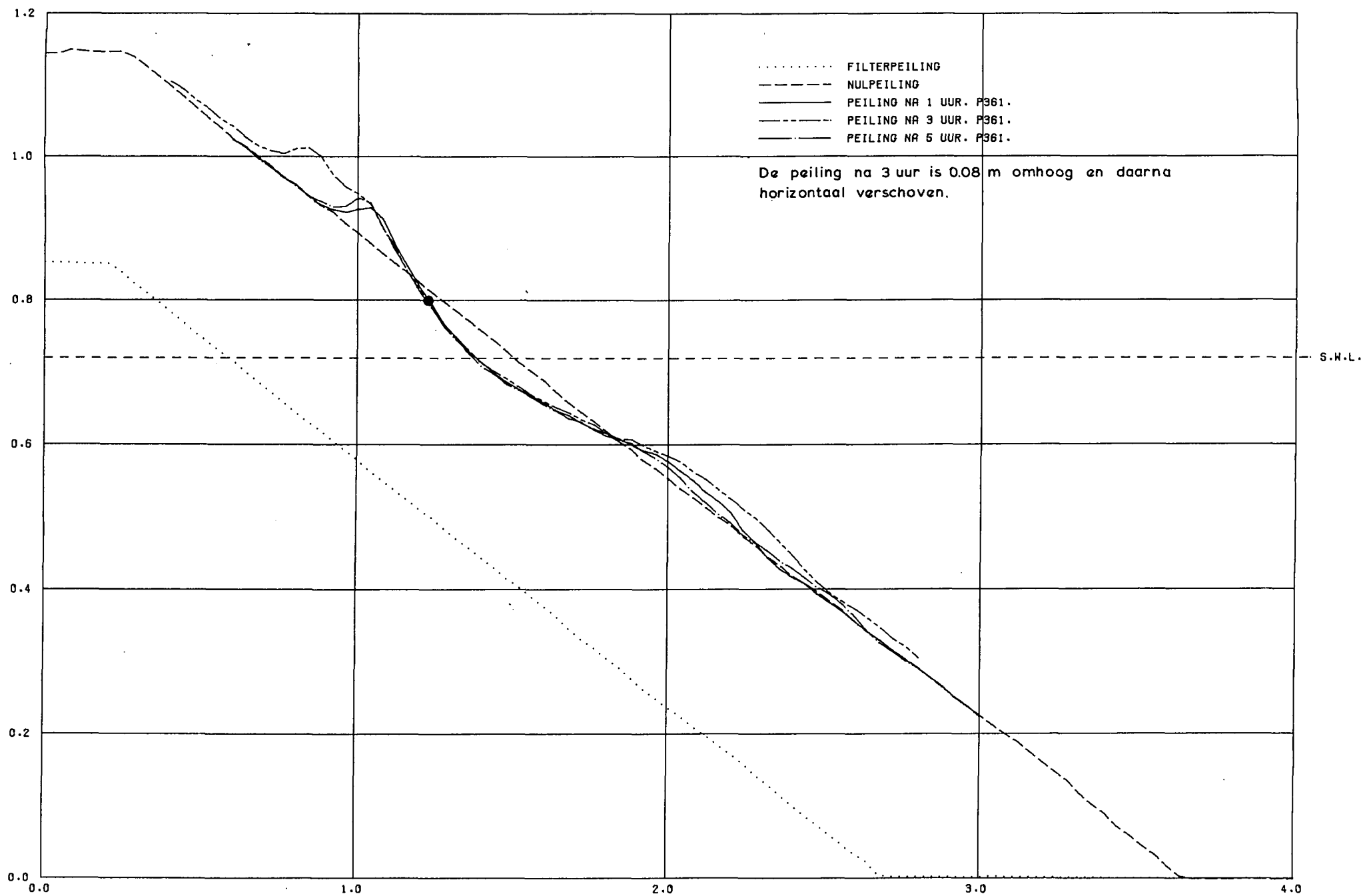


Fig. 16.15

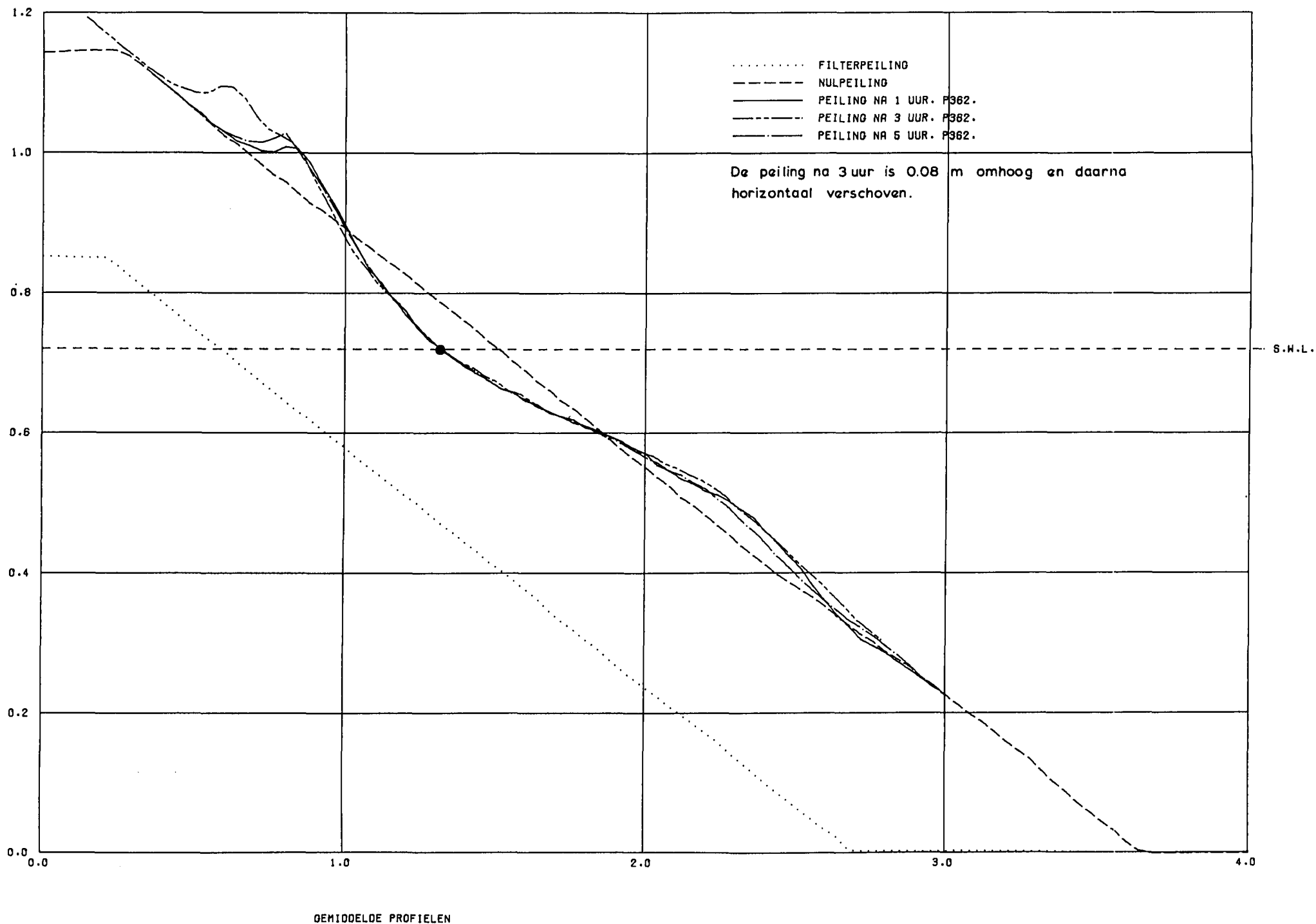
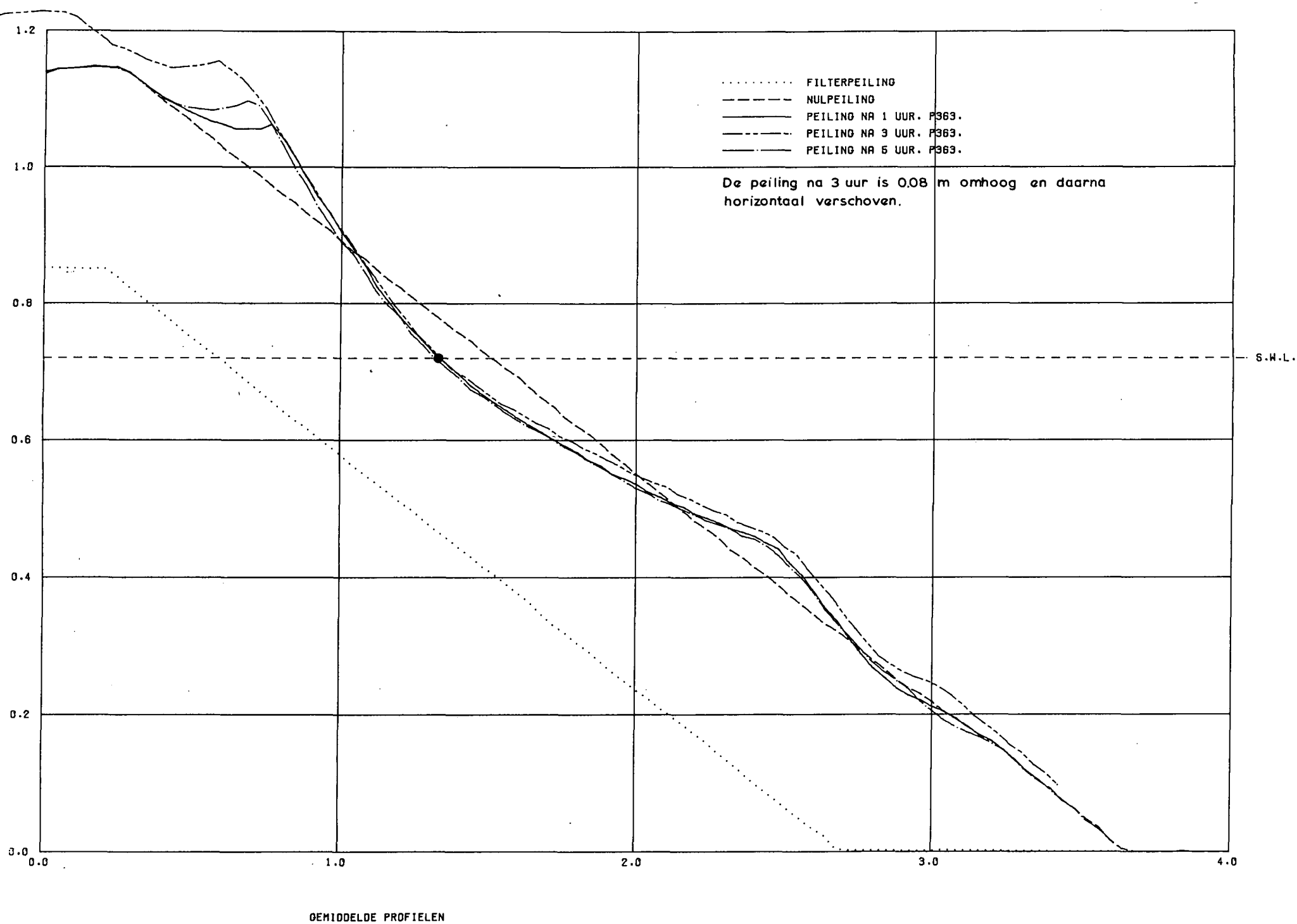


Fig. 16.16



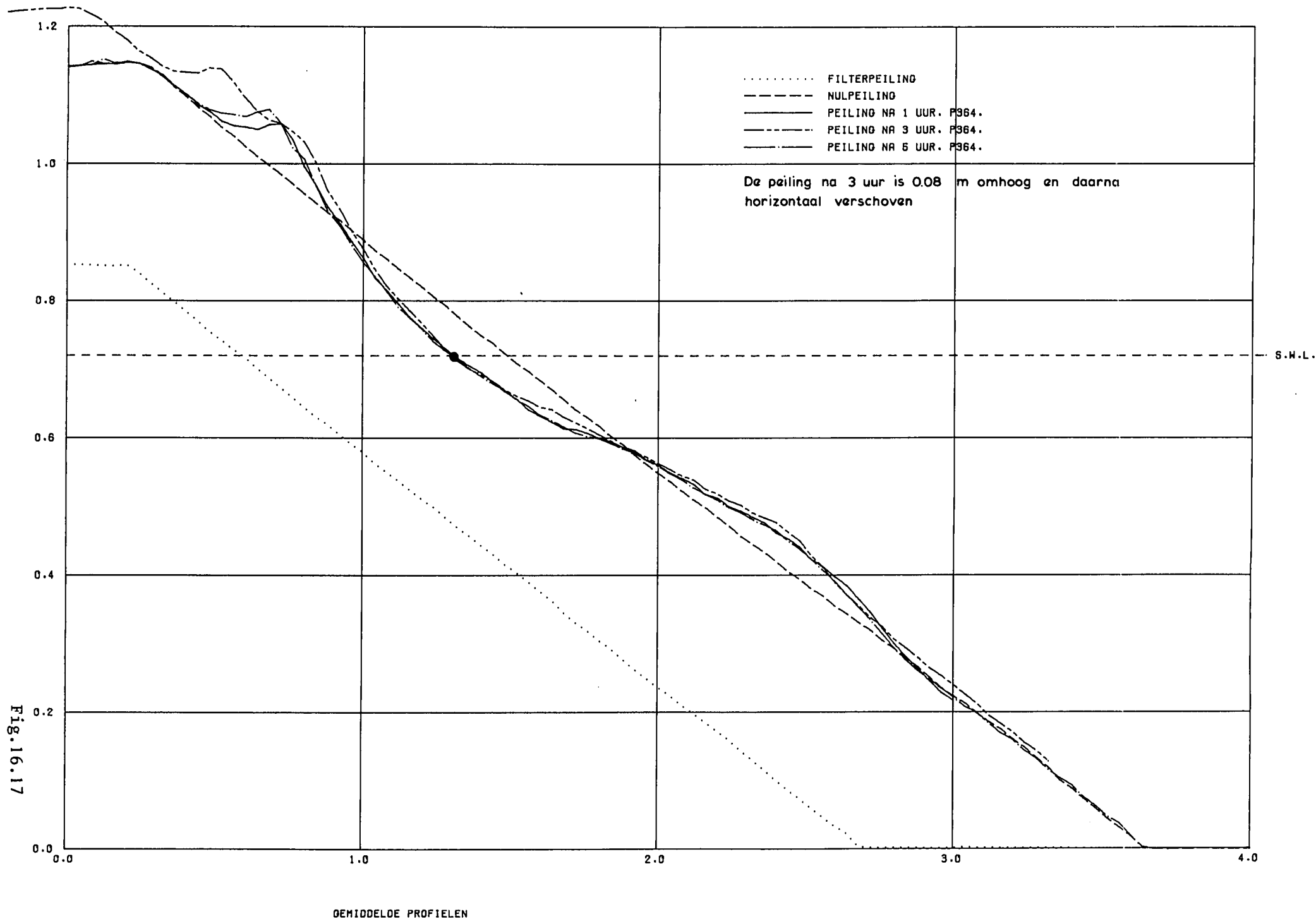


Fig. 16.17

Fig. 16.18

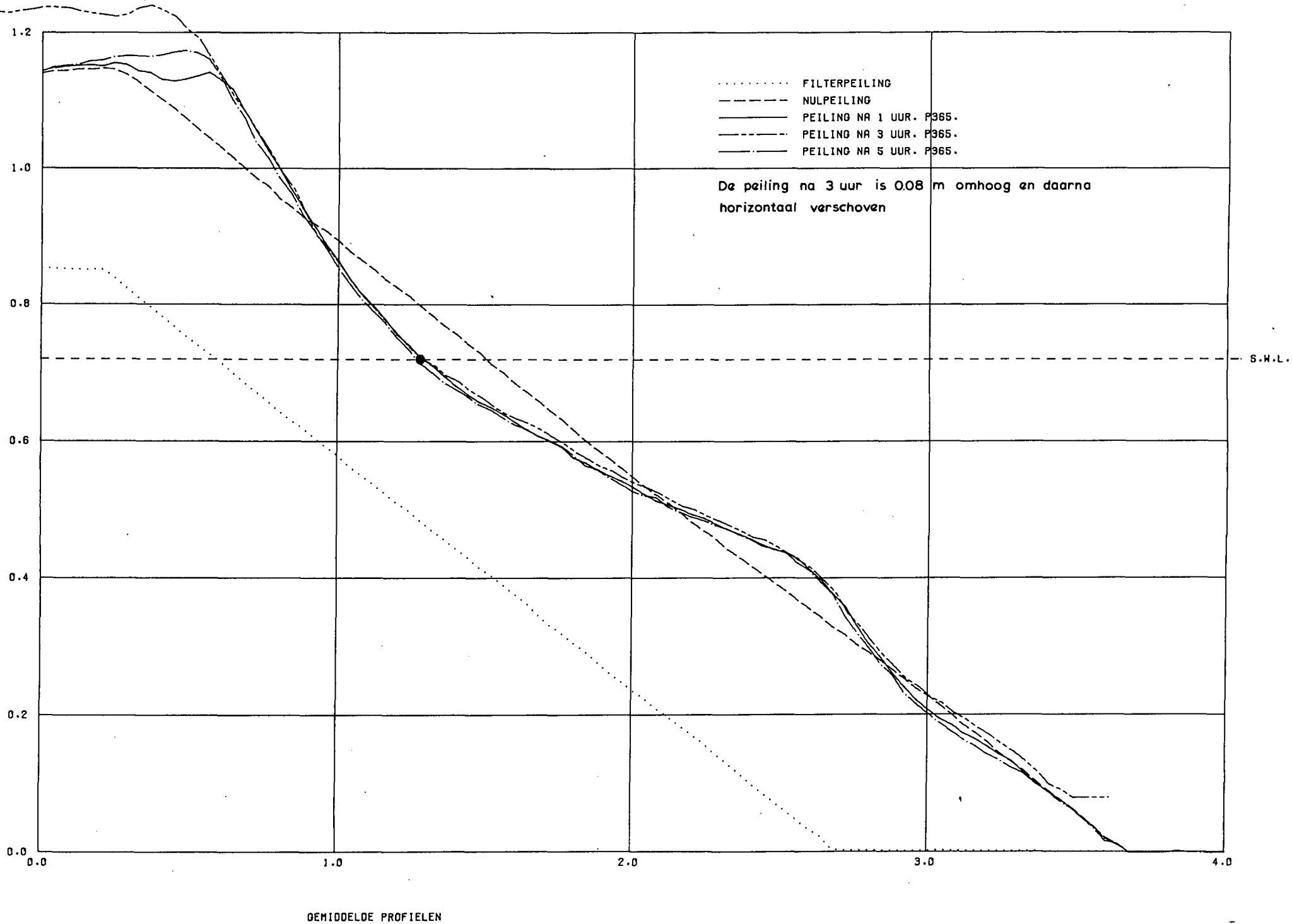
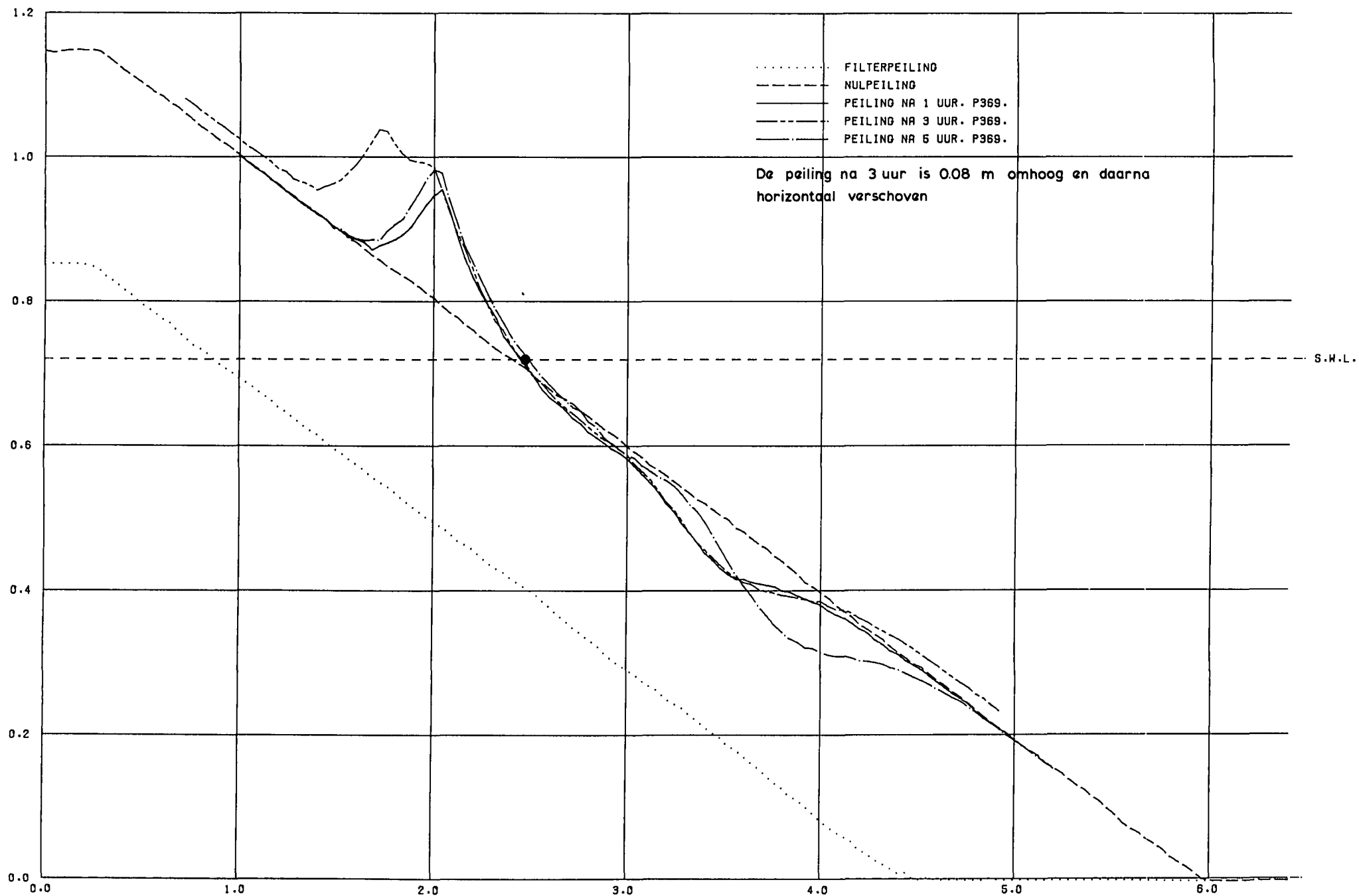


Fig. 16.19



GEMIDDELTE PROFIELEN

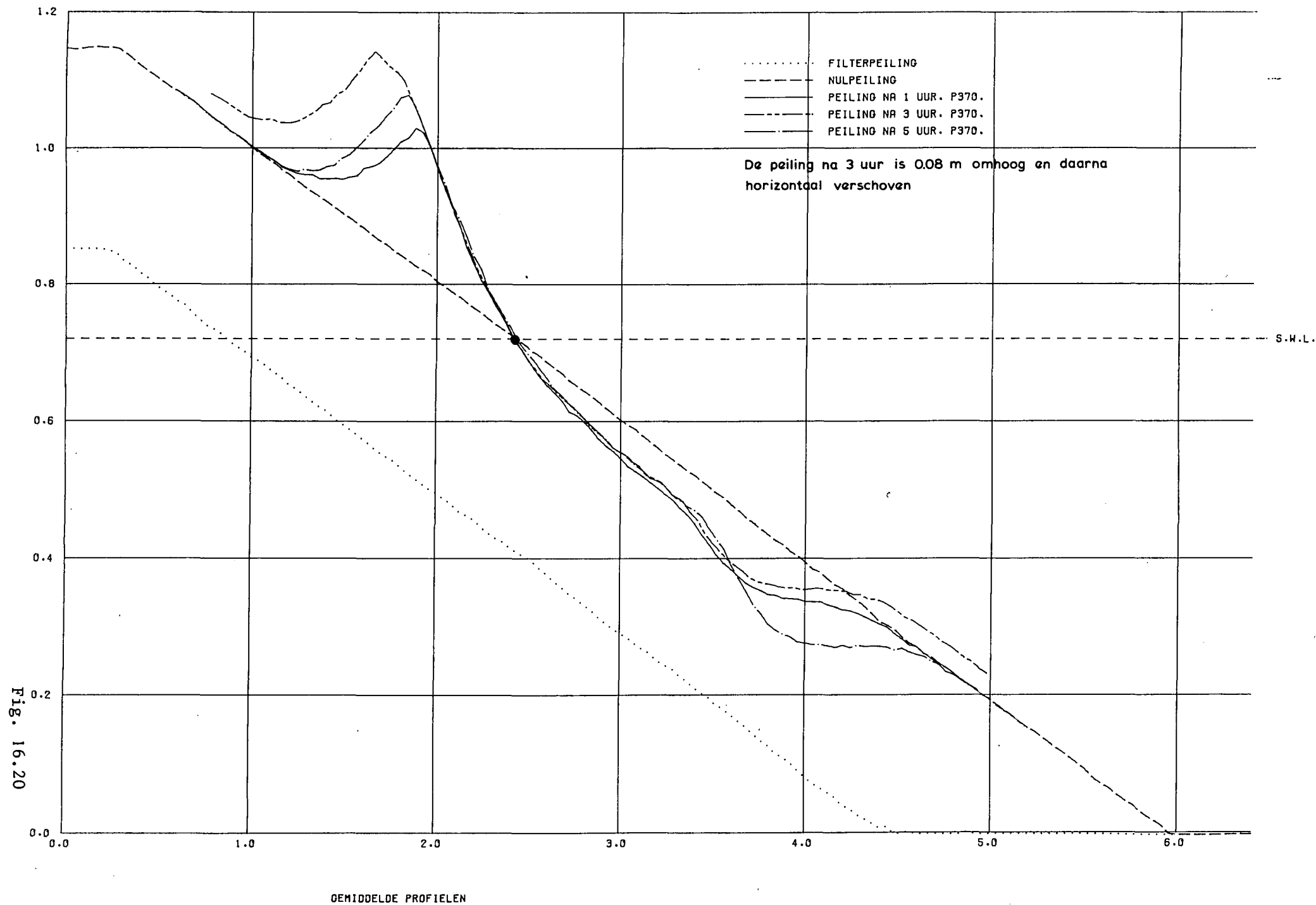


Fig. 16.20

Fig. 16.21

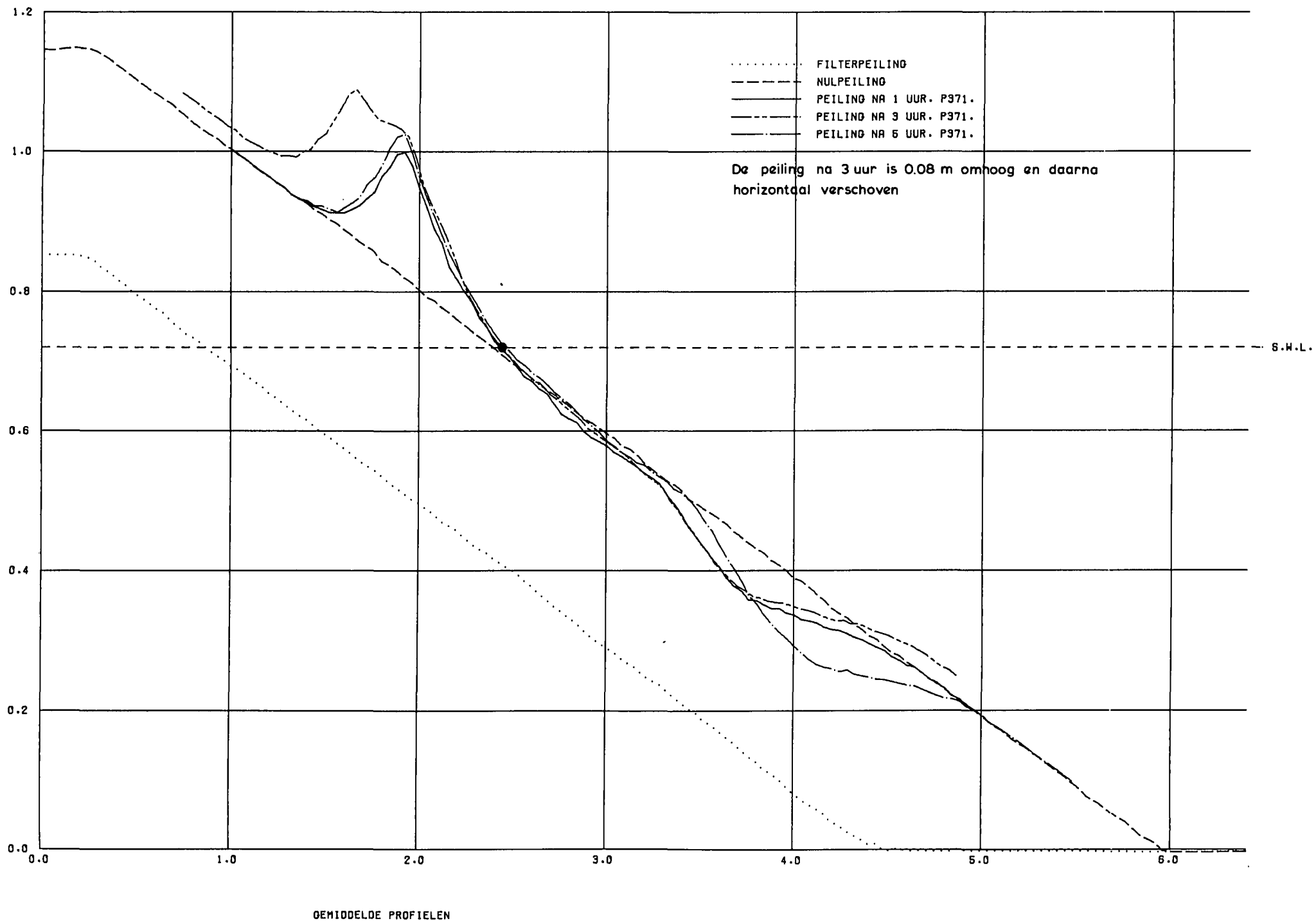
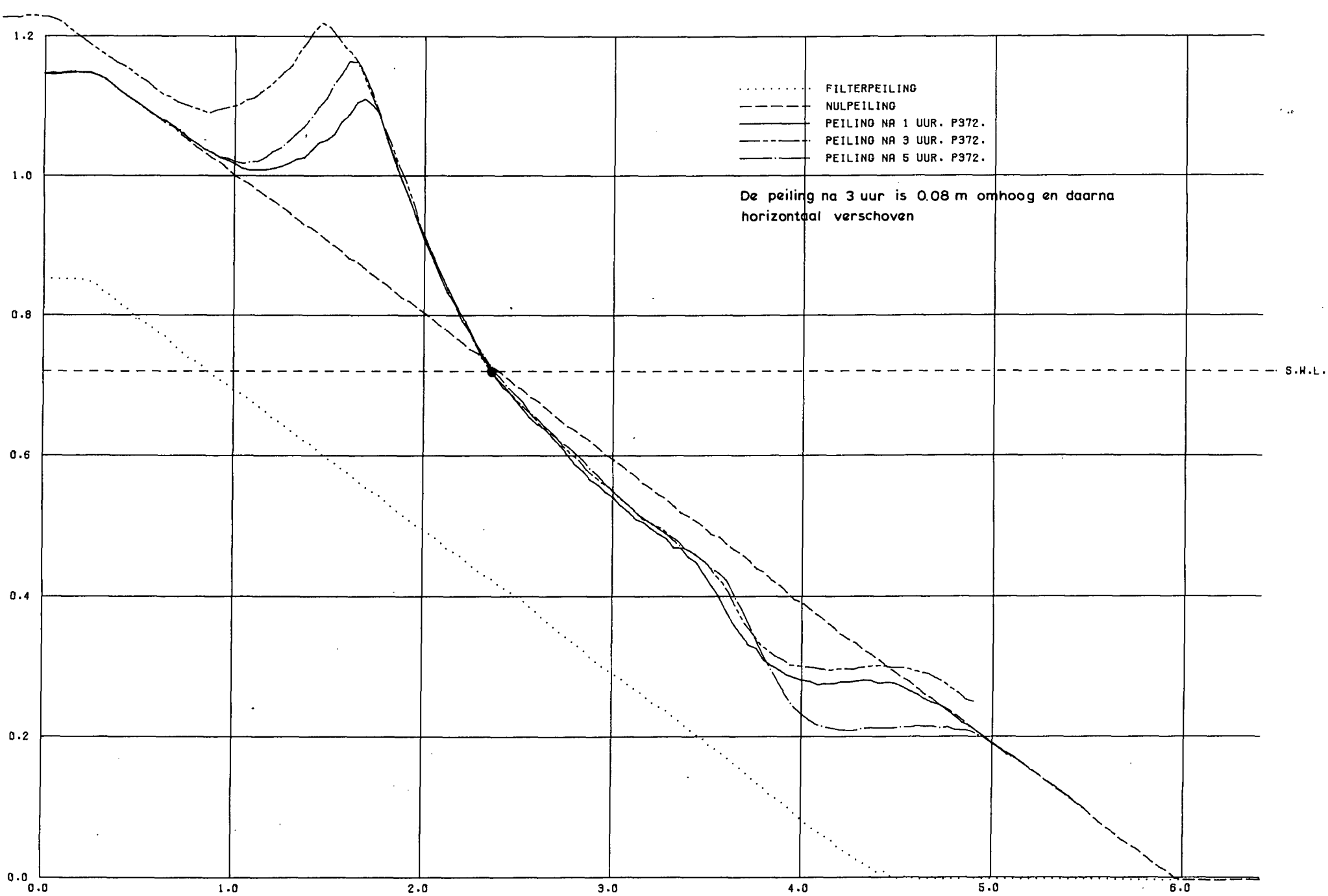


Fig. 16.22



GEMIDDELTE PROFIELEN

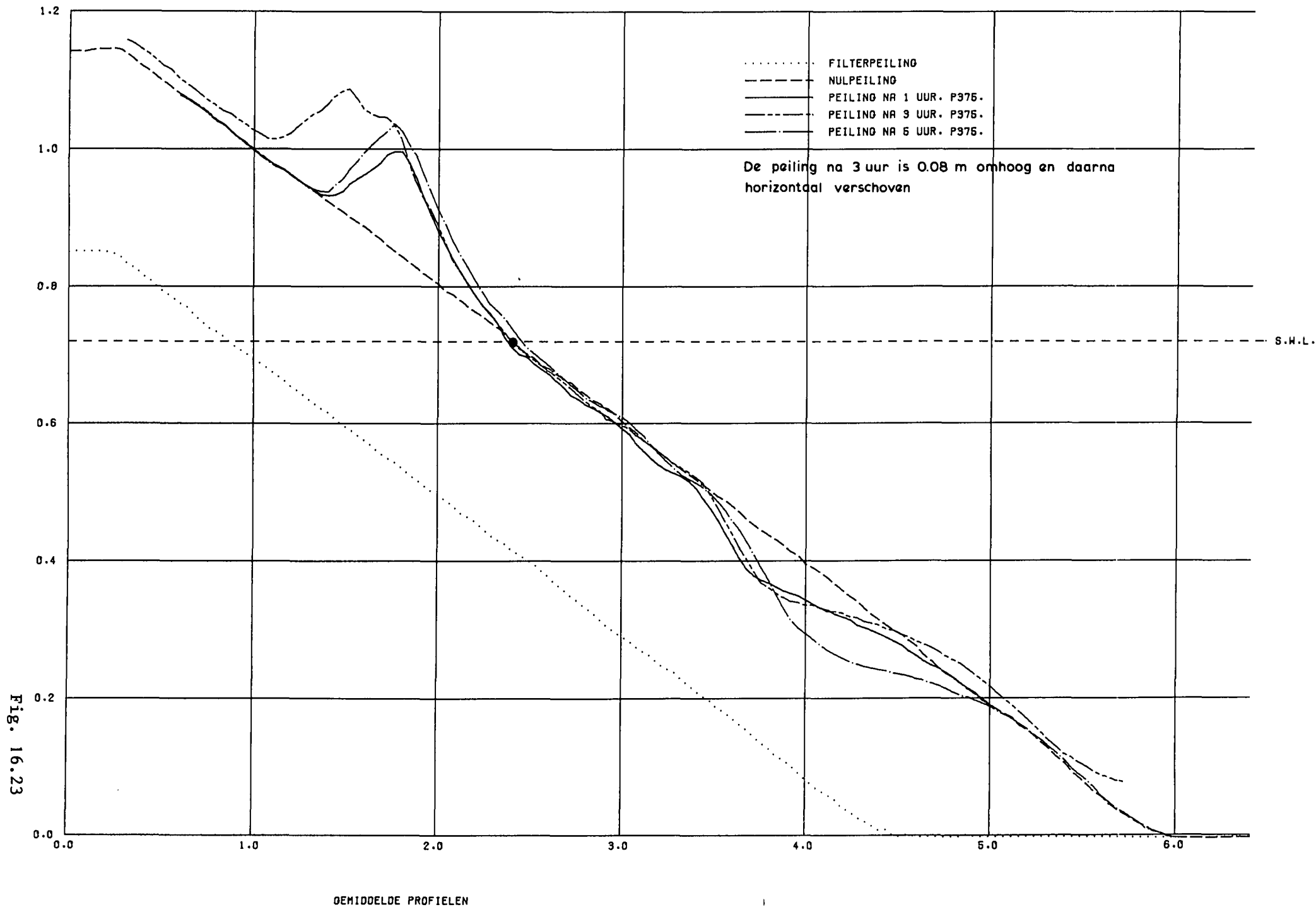
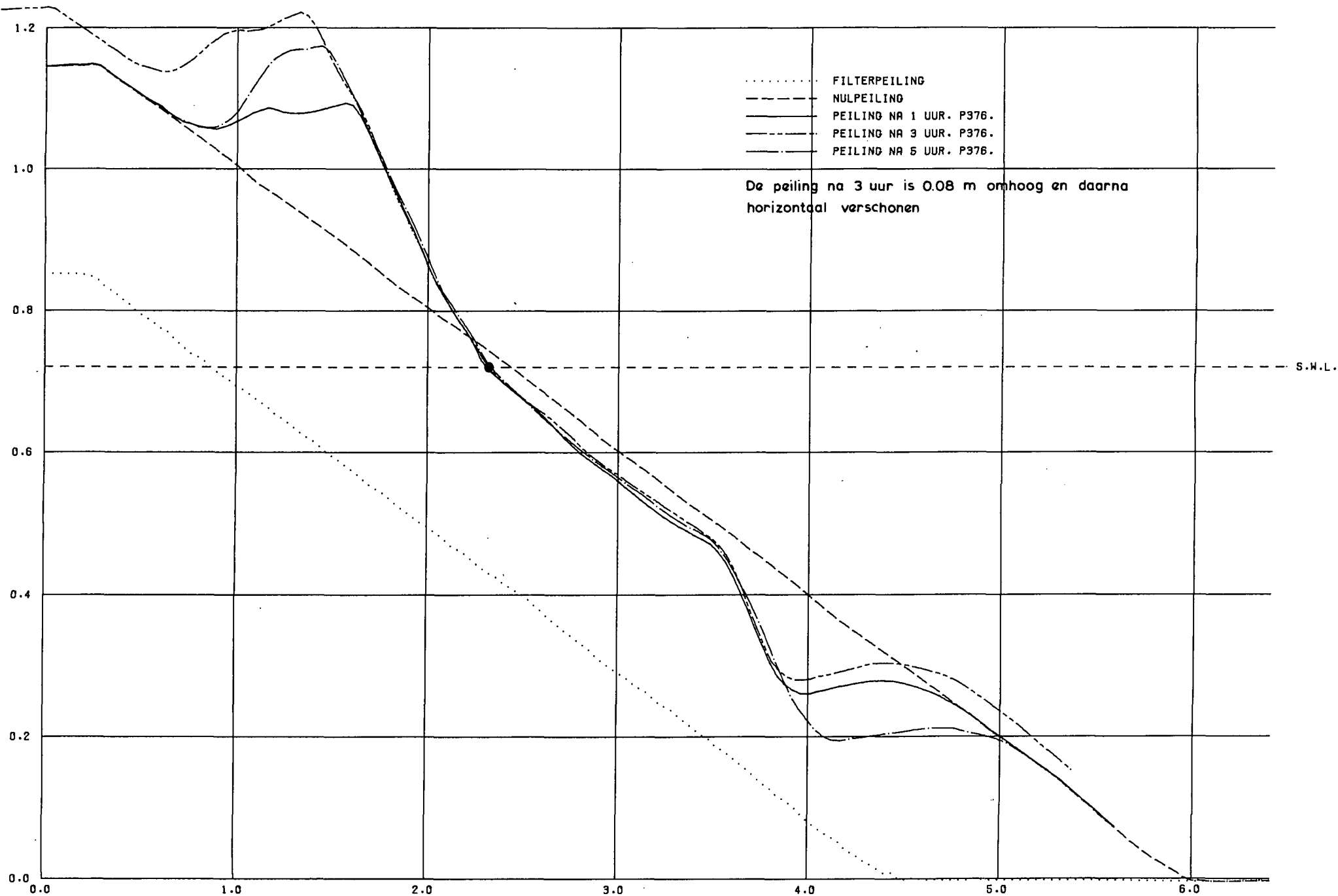
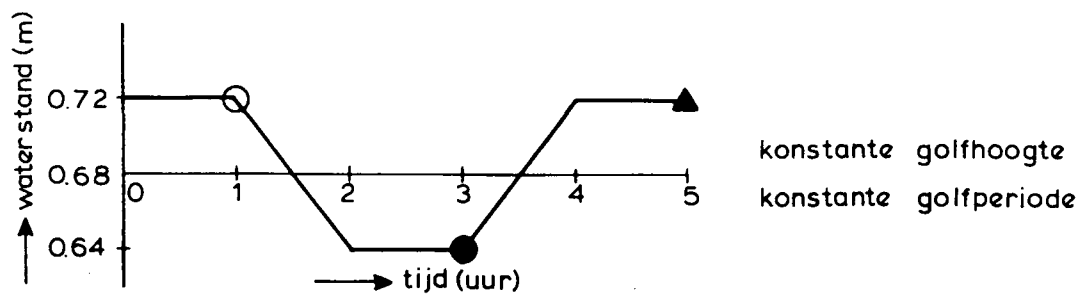


Fig. 16.24



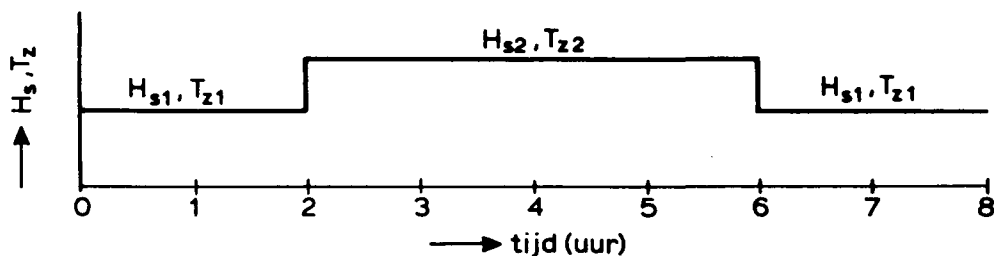
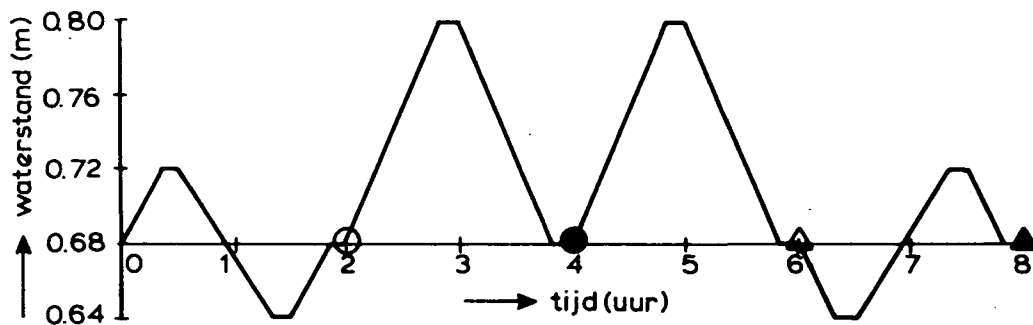
GEMIDDELTE PROFIELEN

17. Invloed getij:
stormprogramma



- peiling na 1 uur
- peiling na 3 uur
- ▲ eindpeiling na 5 uur

Fig 17a UITGEREKE GETIJCYCLUS



- peiling na 2 uur
- peiling na 4 uur
- △ peiling na 6 uur
- ▲ peiling na 8 uur

Fig 17b STORMPROGRAMMA

RANDVOORWAARDEN BIJ GETIJ-PROEVEN

PROEVEN 360-377

WATERLOOPKUNDIG LABORATORIUM

M 1983

FIG. 17.0

Fig. 17.1

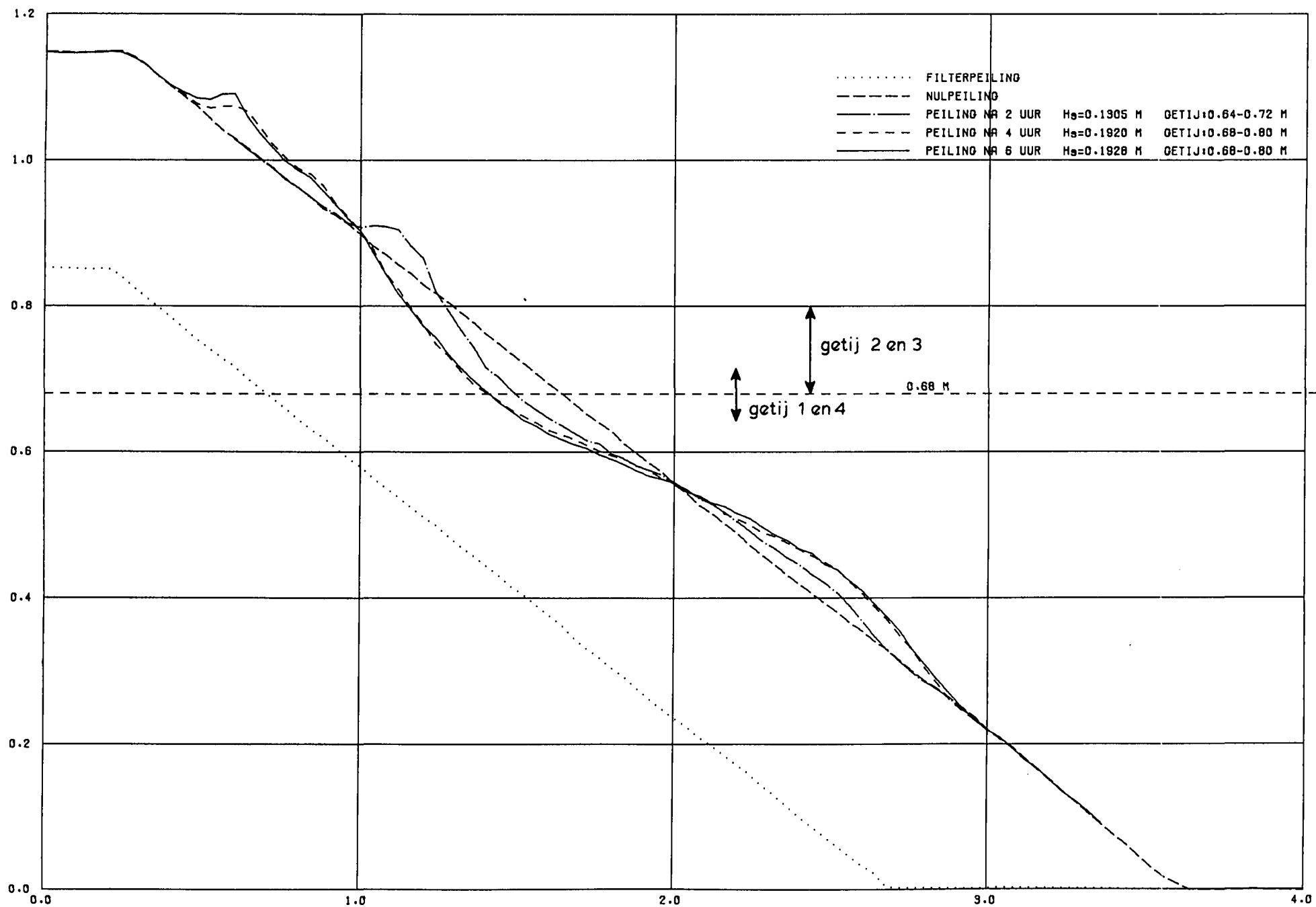


Fig. 17.2

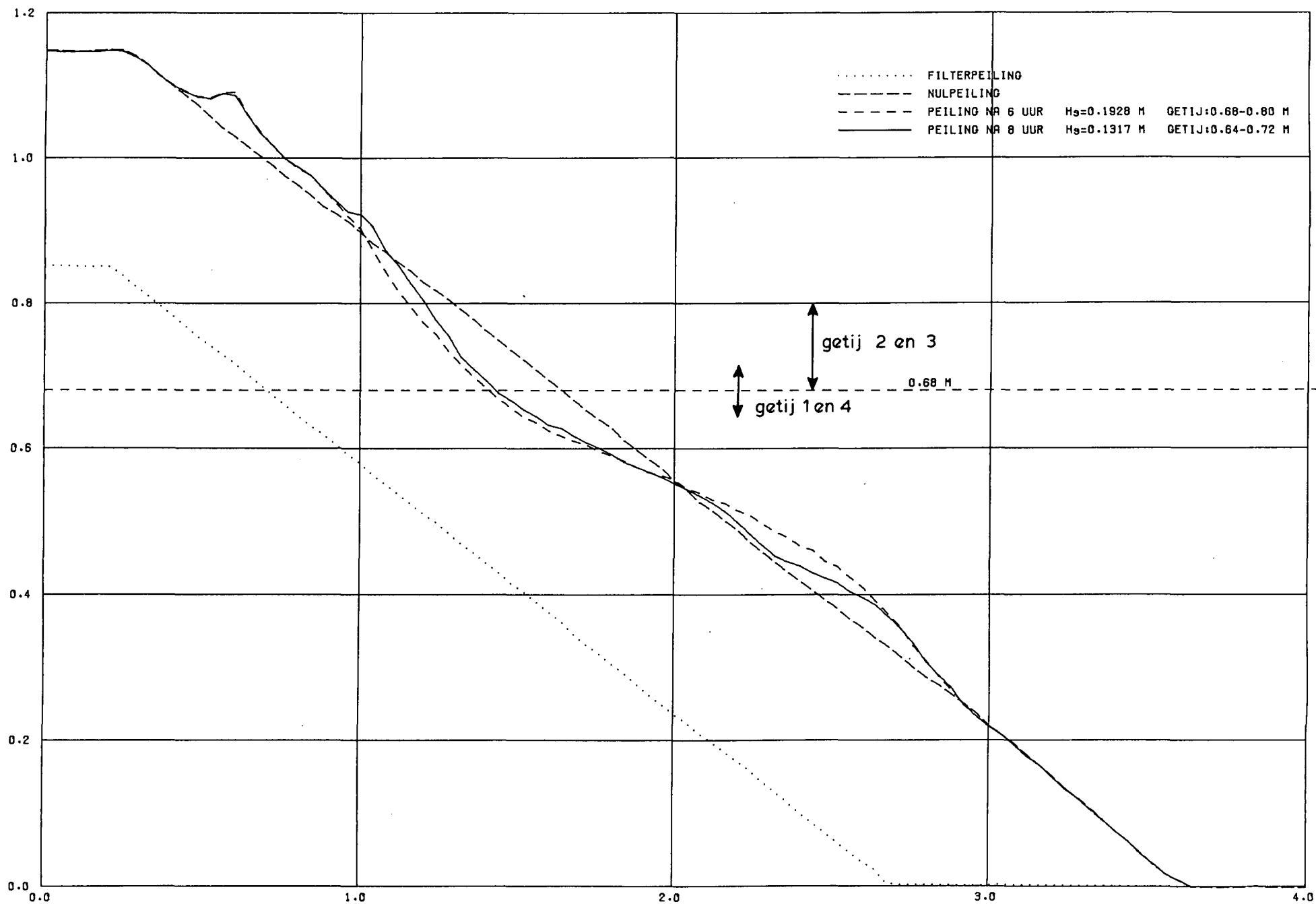


Fig. 17.3

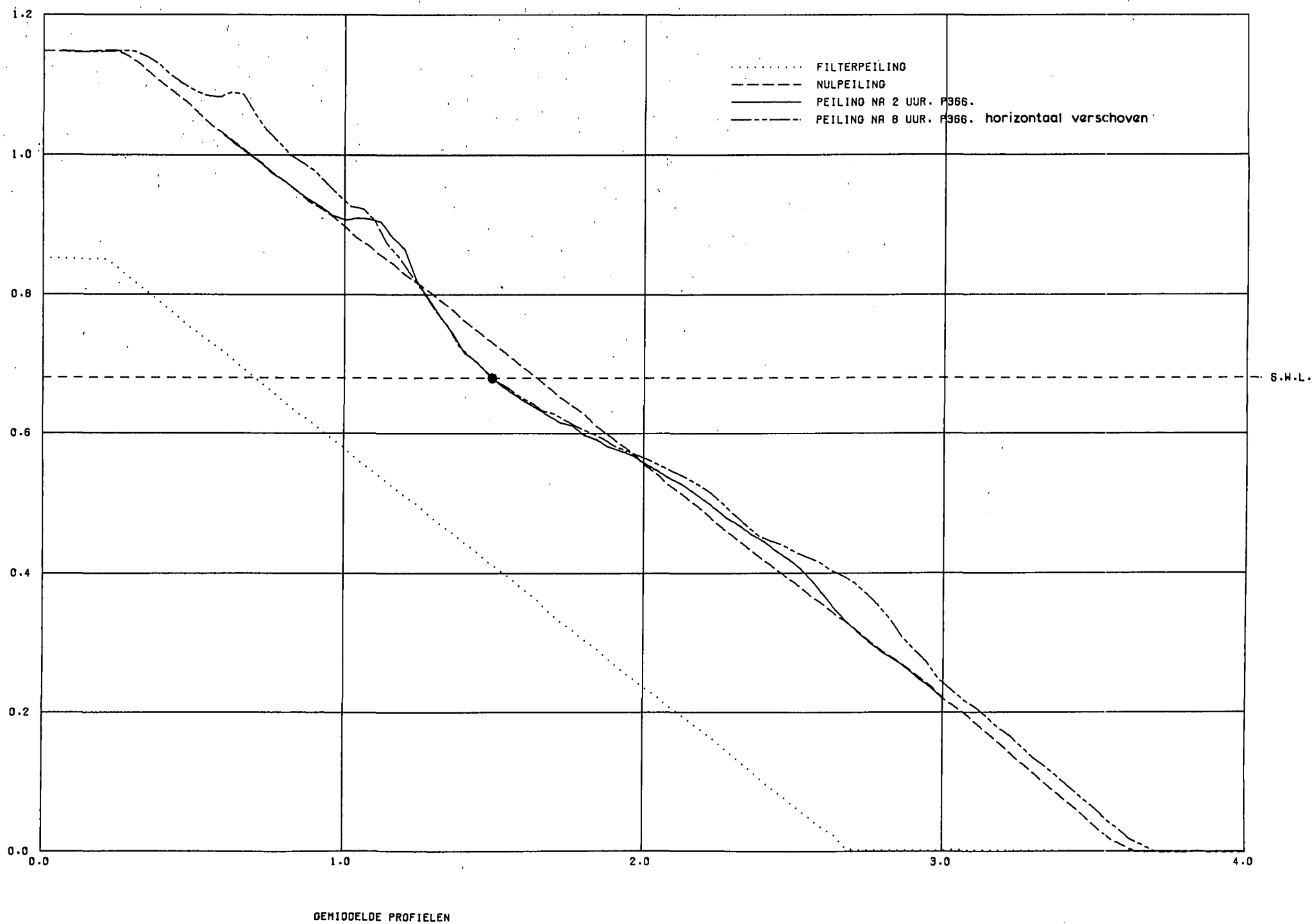


Fig. 17.4

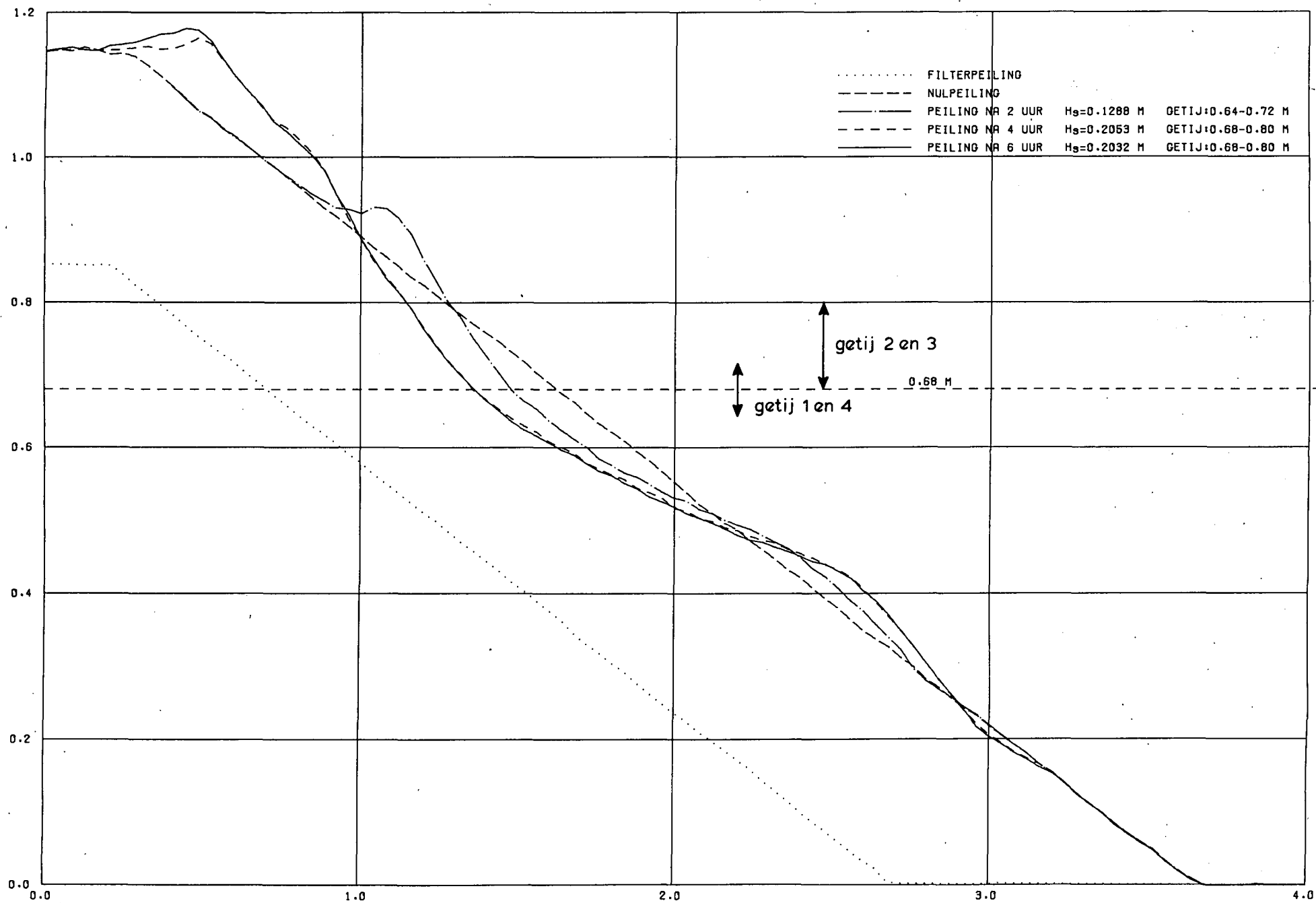
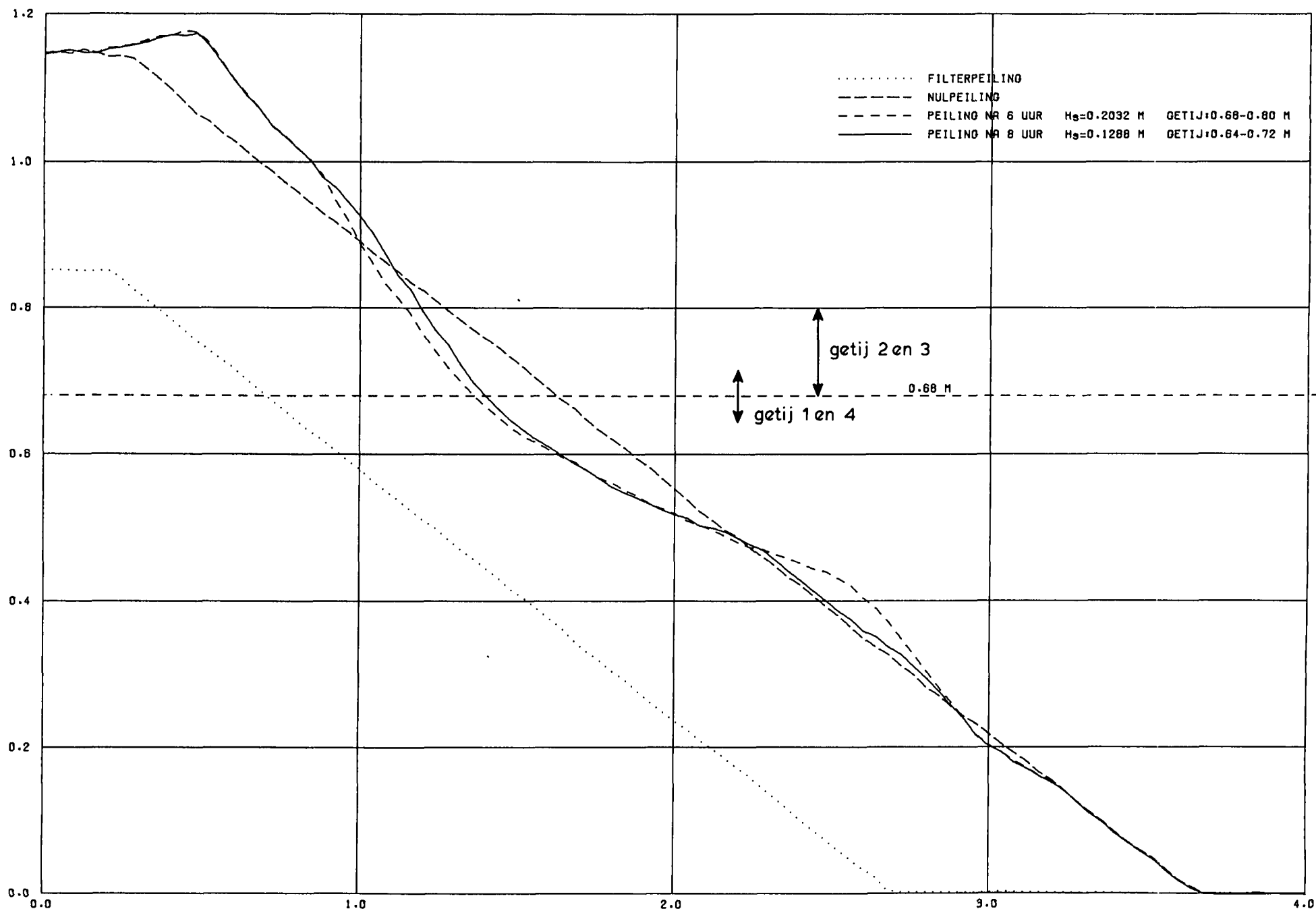
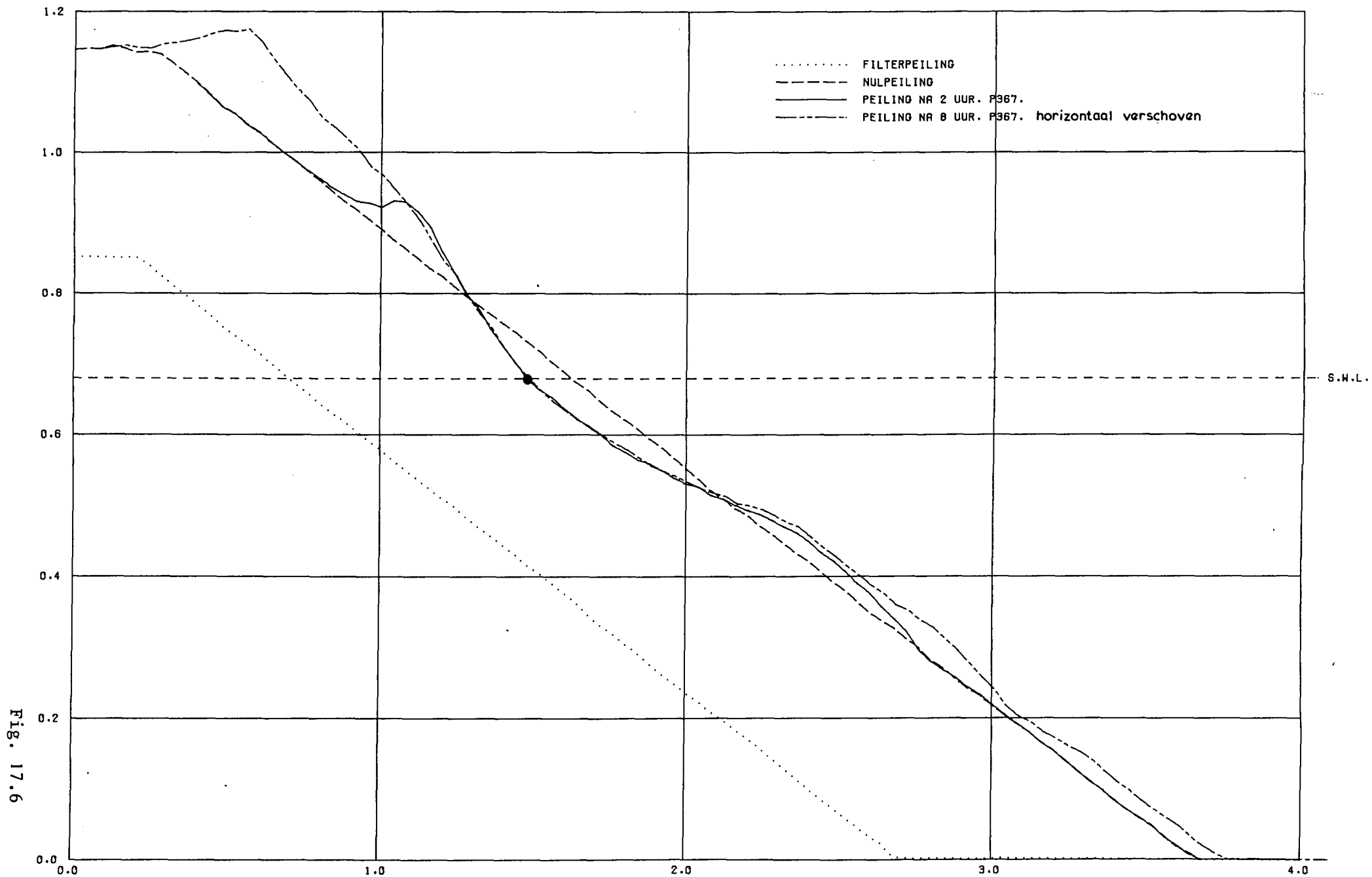


Fig. 17.5





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Fig. 17.7

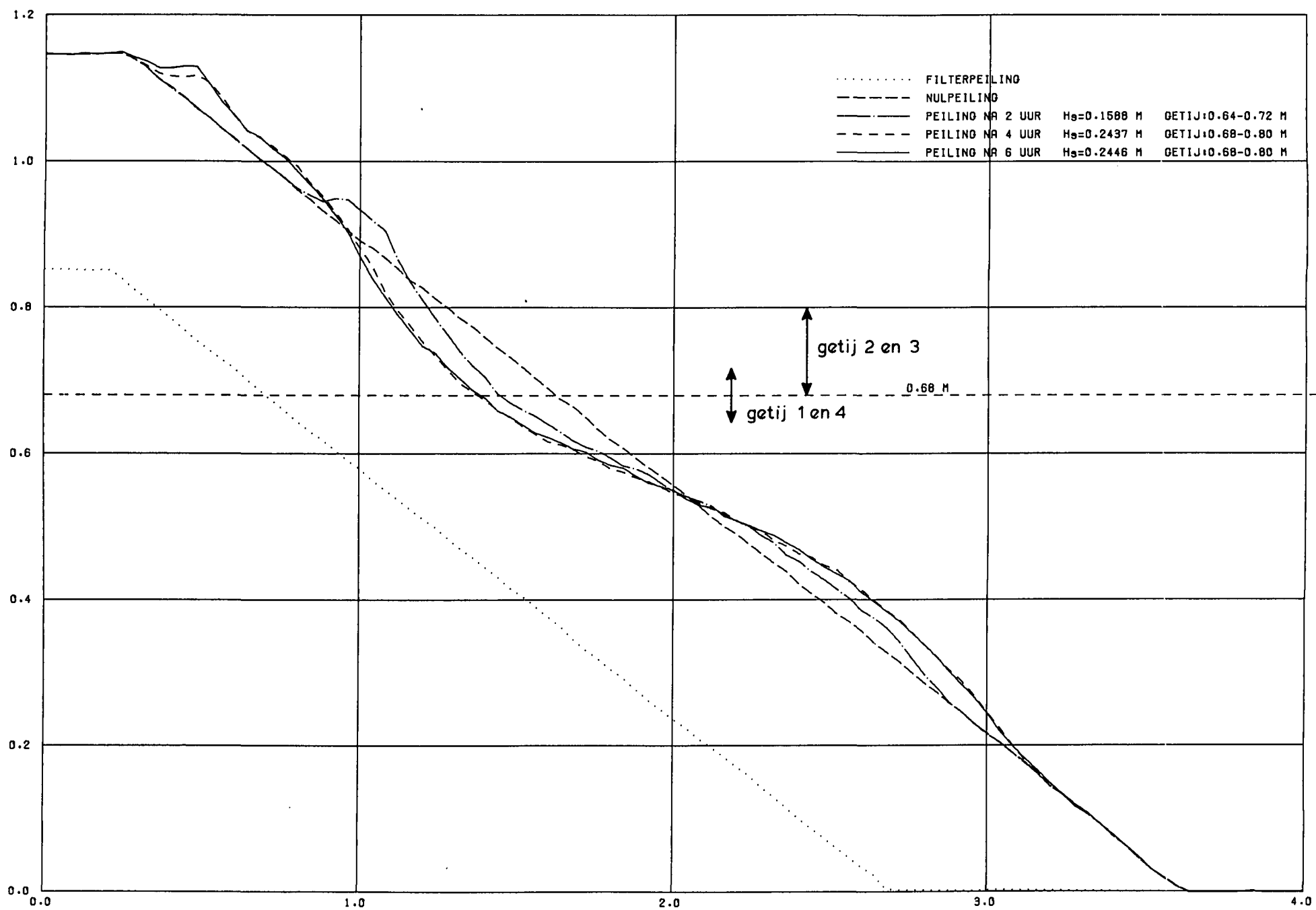


Fig 17.8

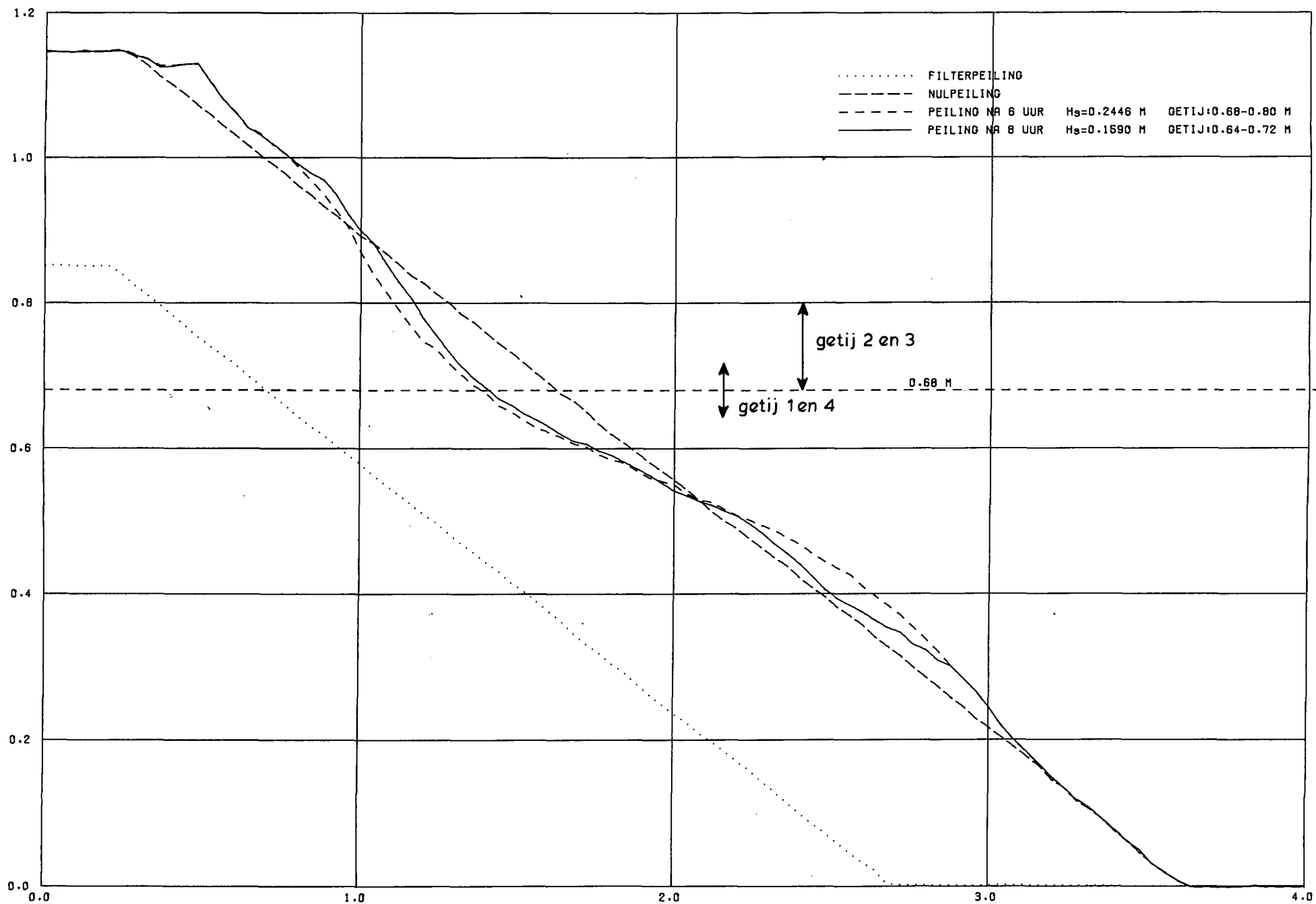
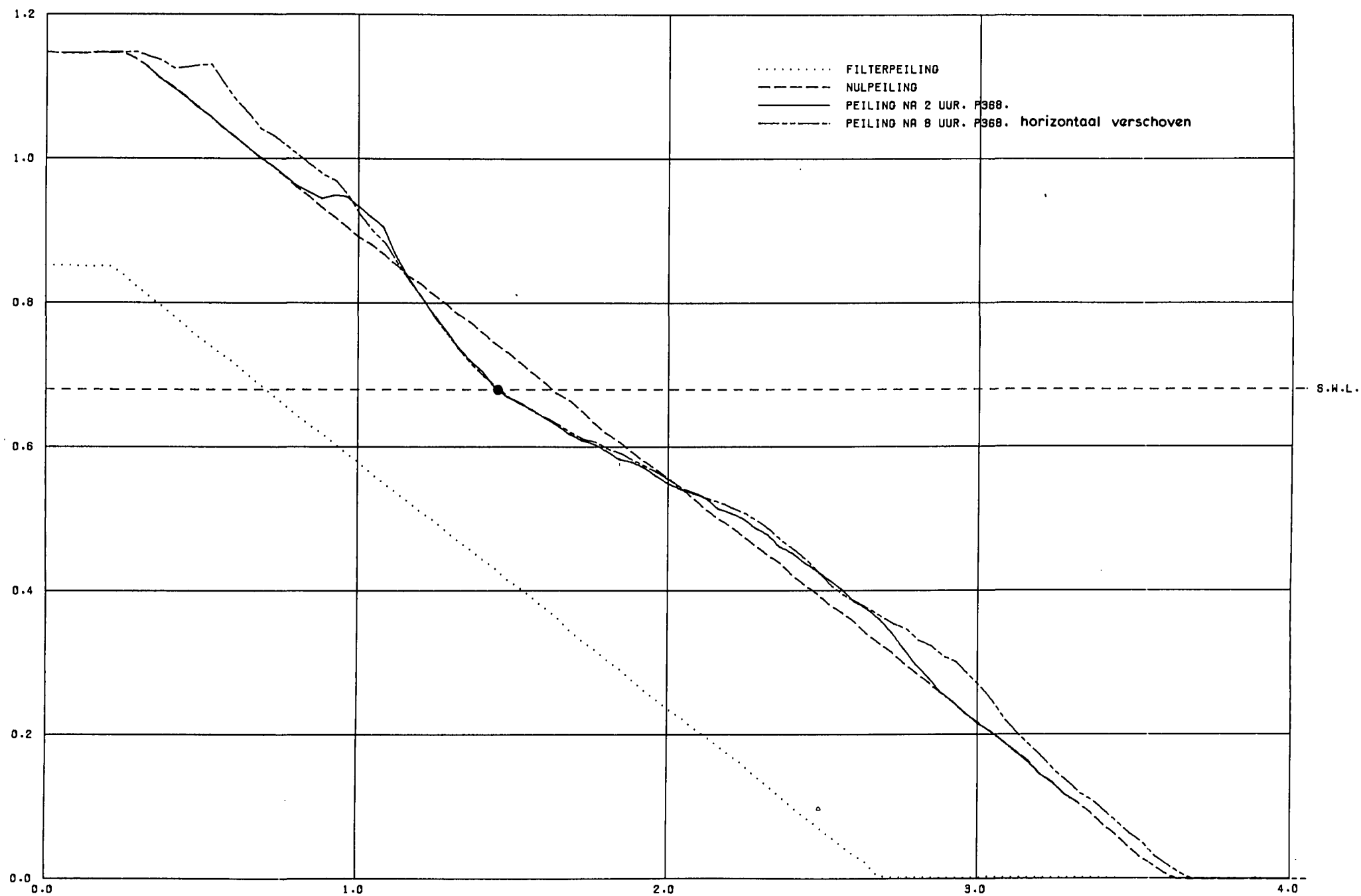


Fig. 17.9



GEMIDDELTE PROFIELEN

Fig. 17.10

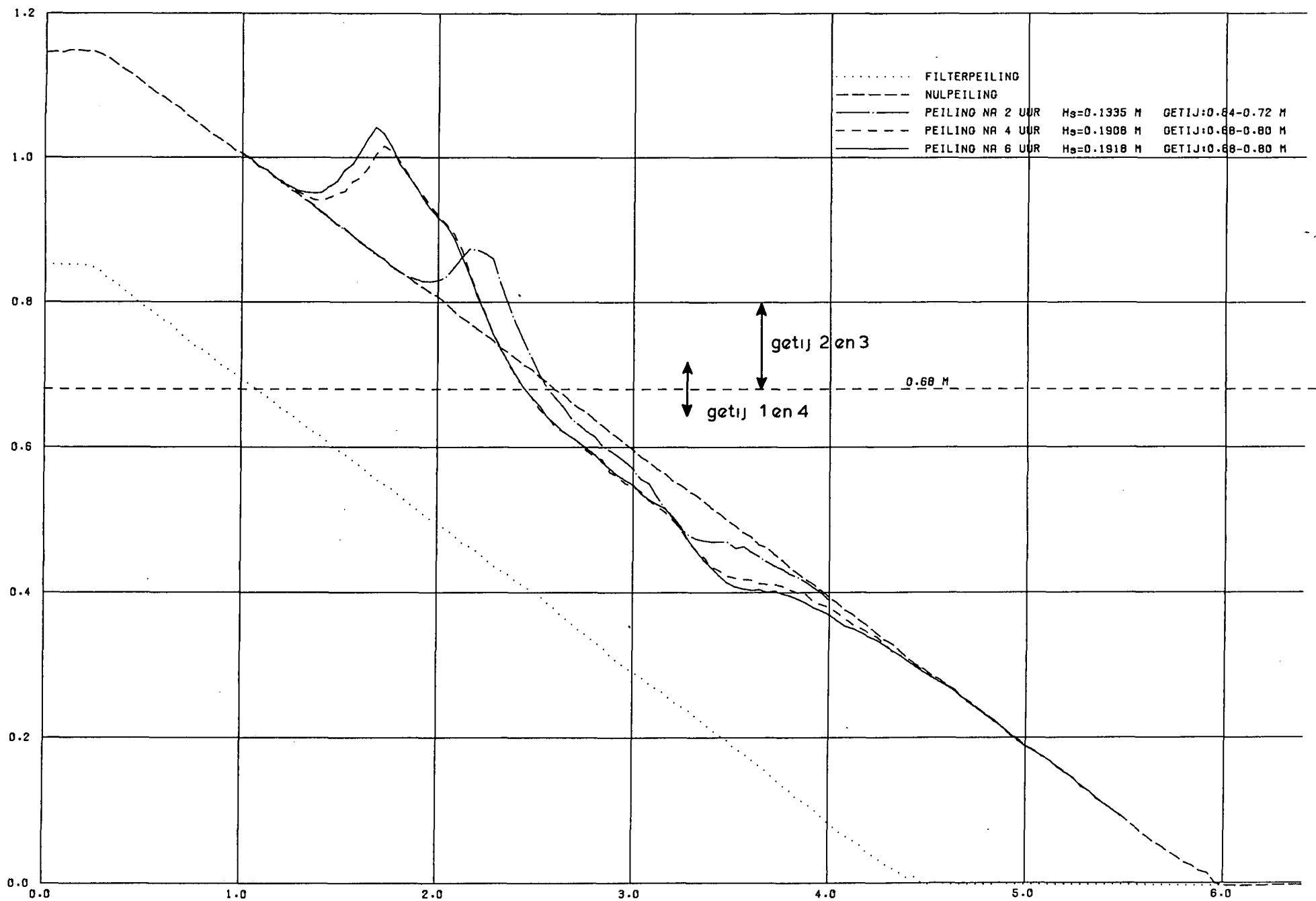
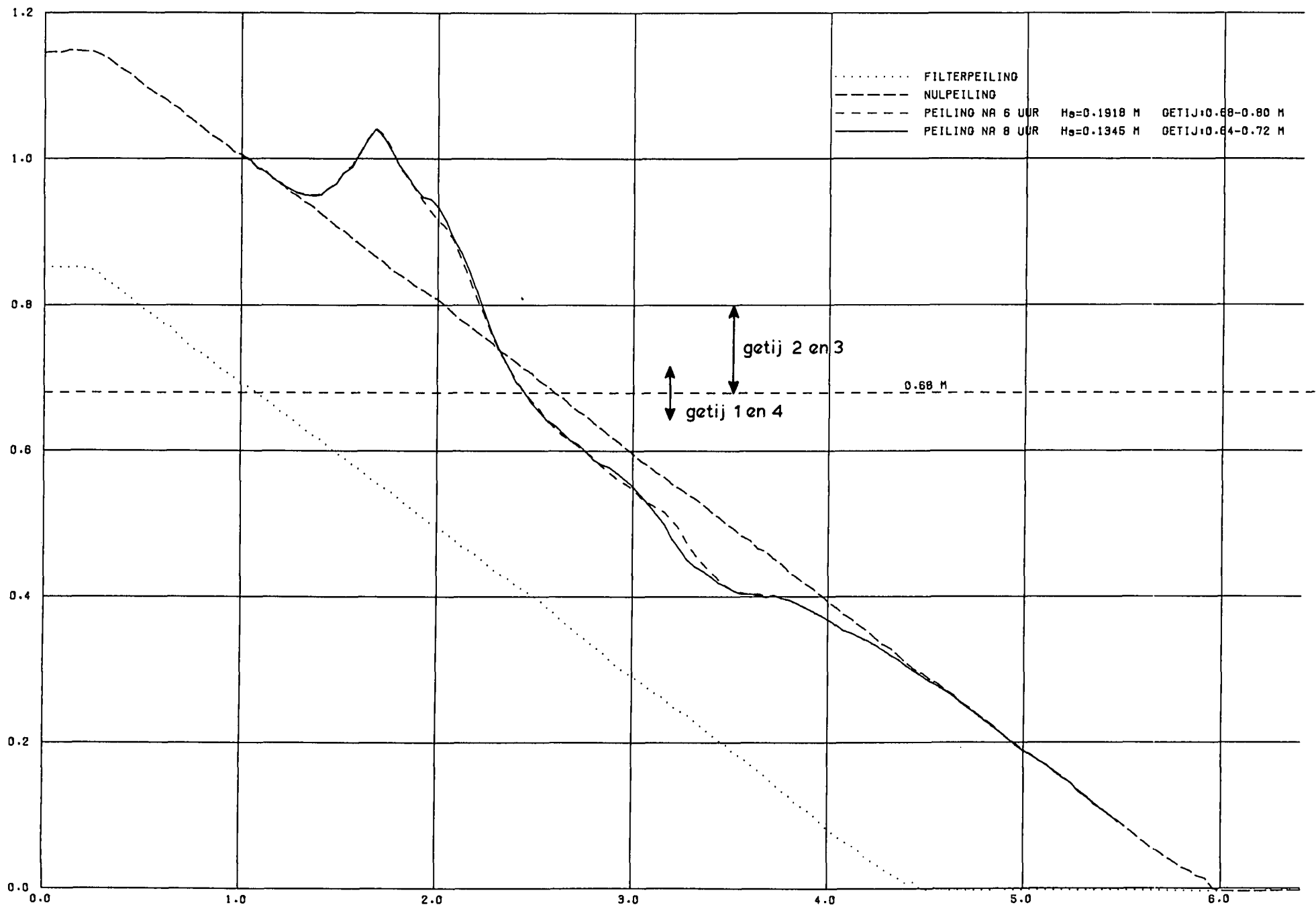


Fig. 17.11



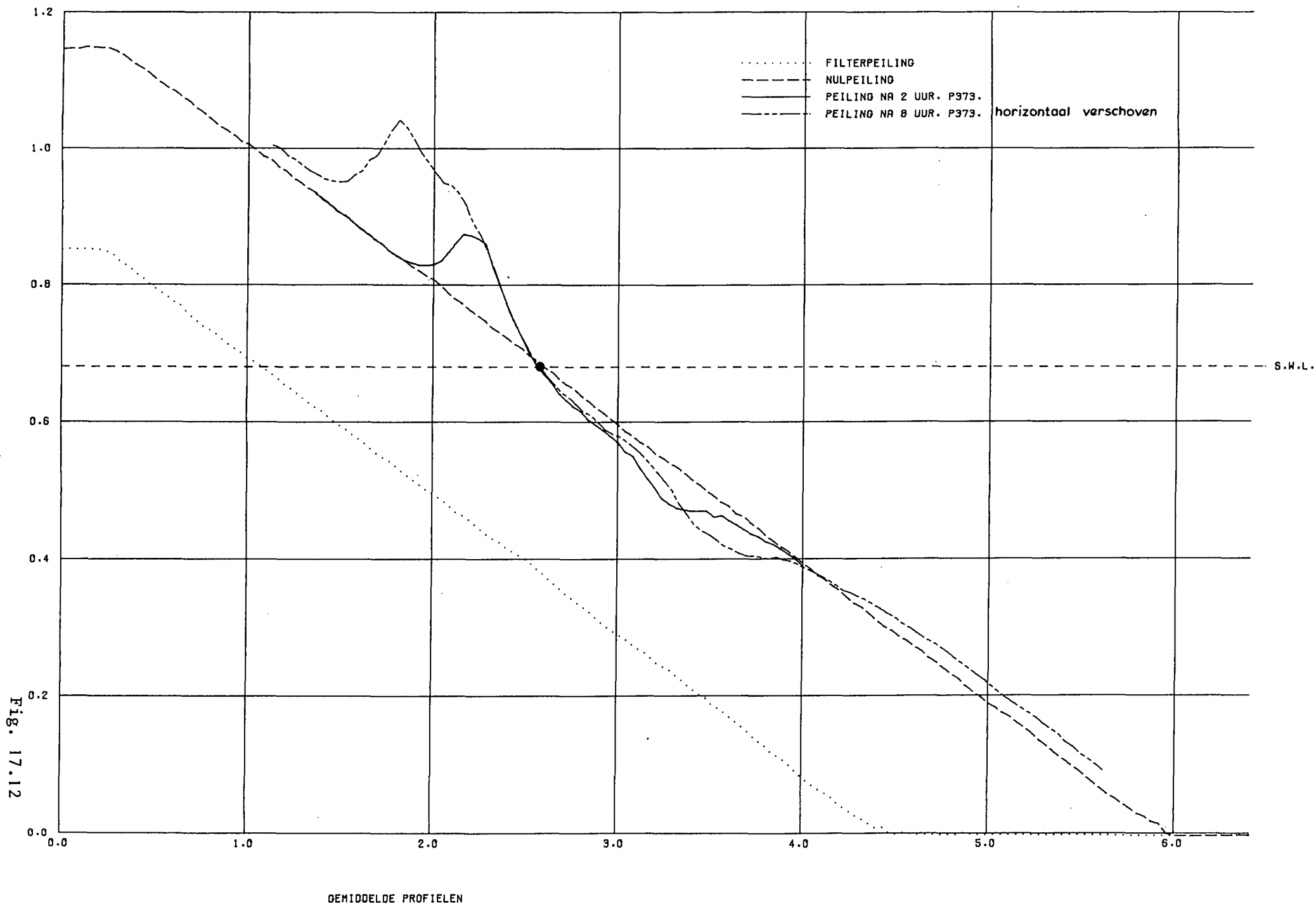


Fig. 17.13

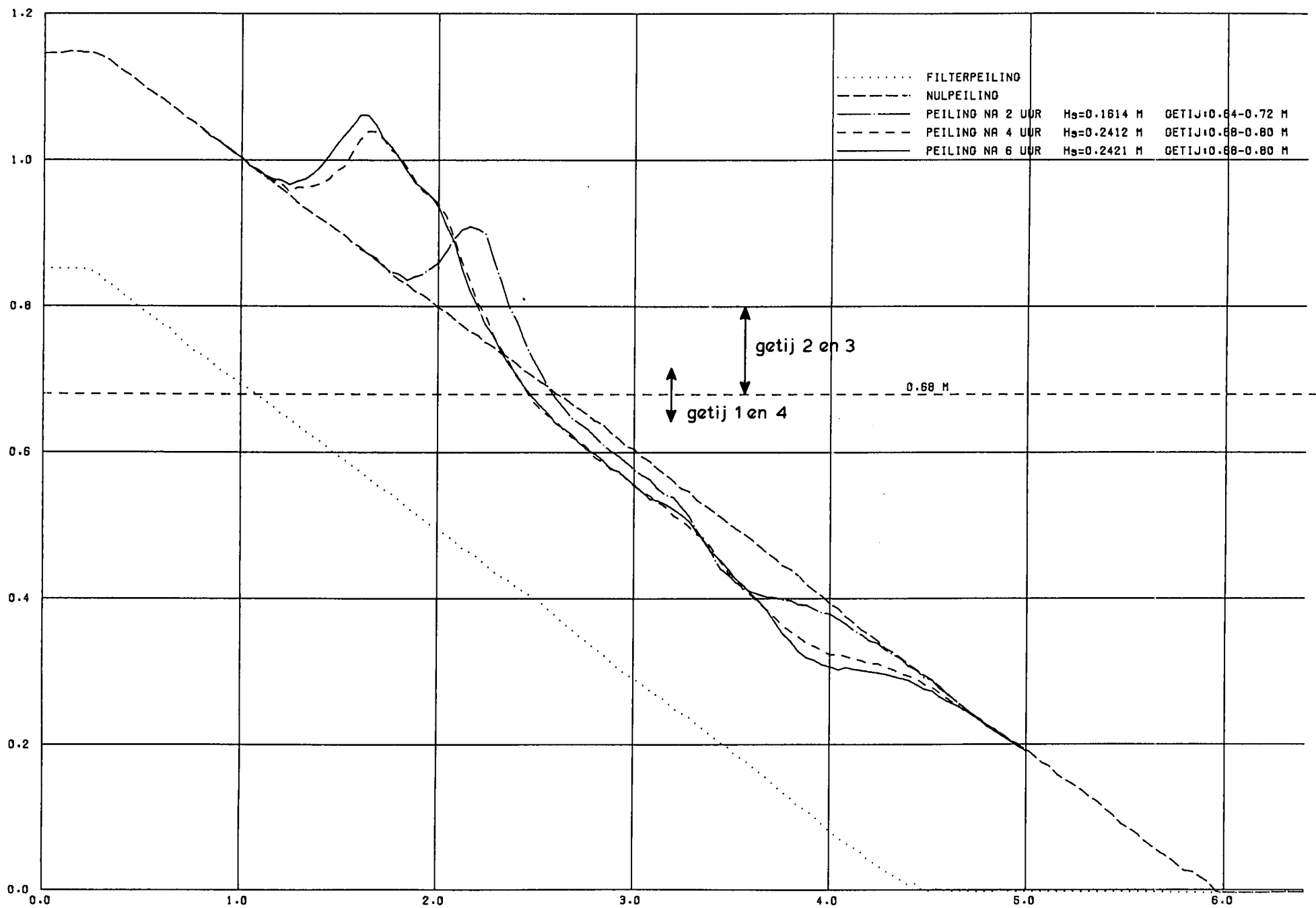


Fig. 17.14

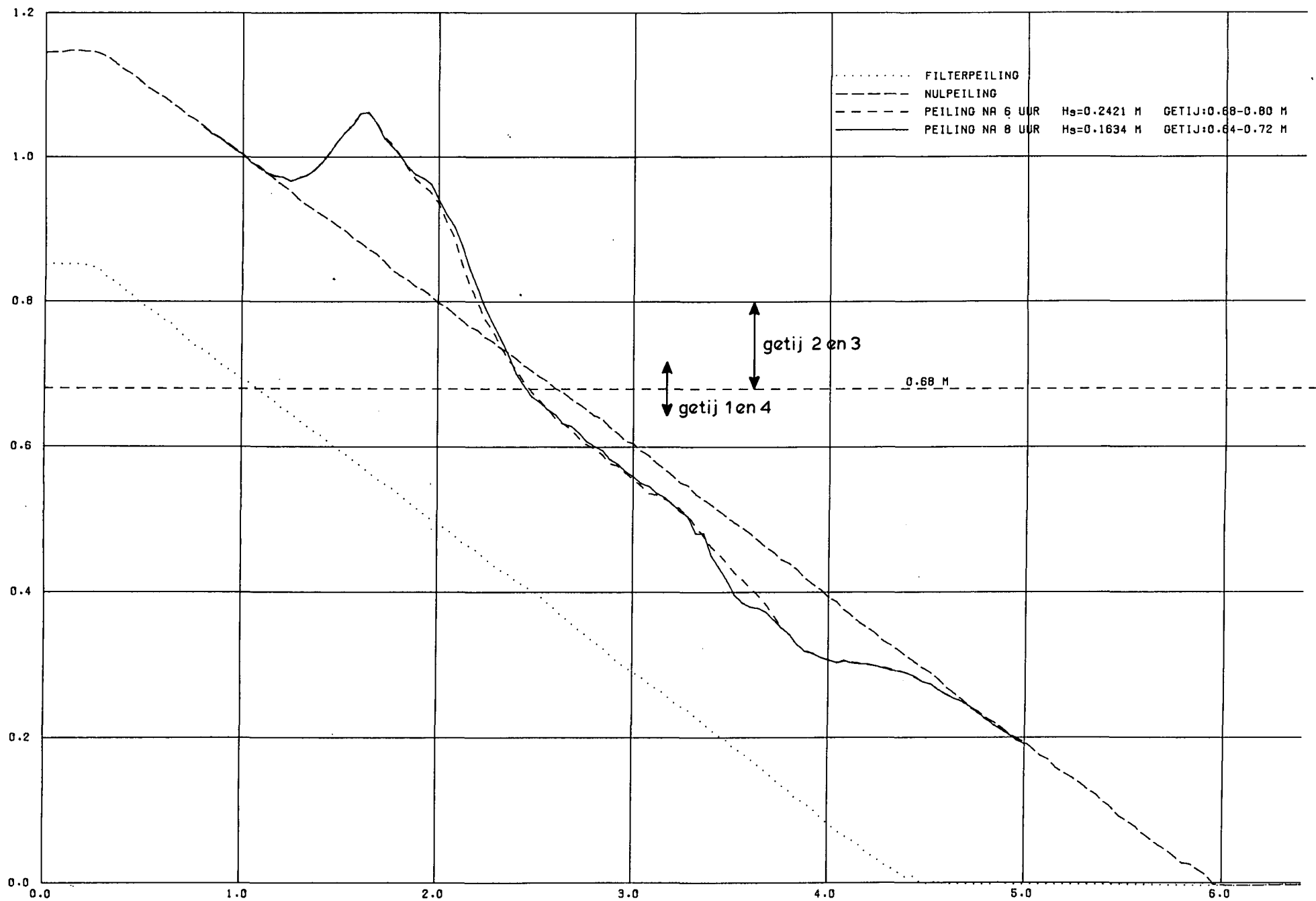
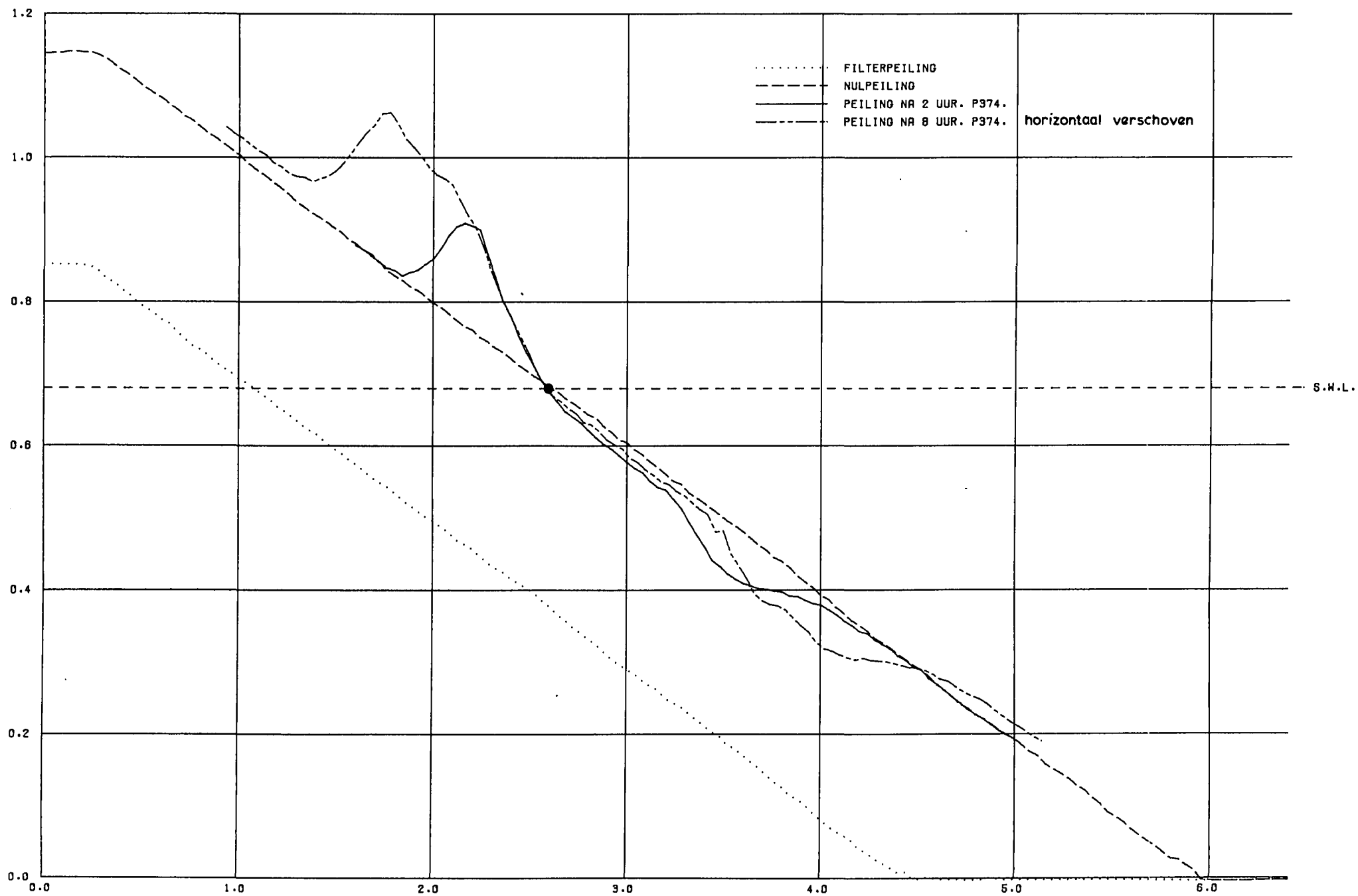


Fig. 17.15



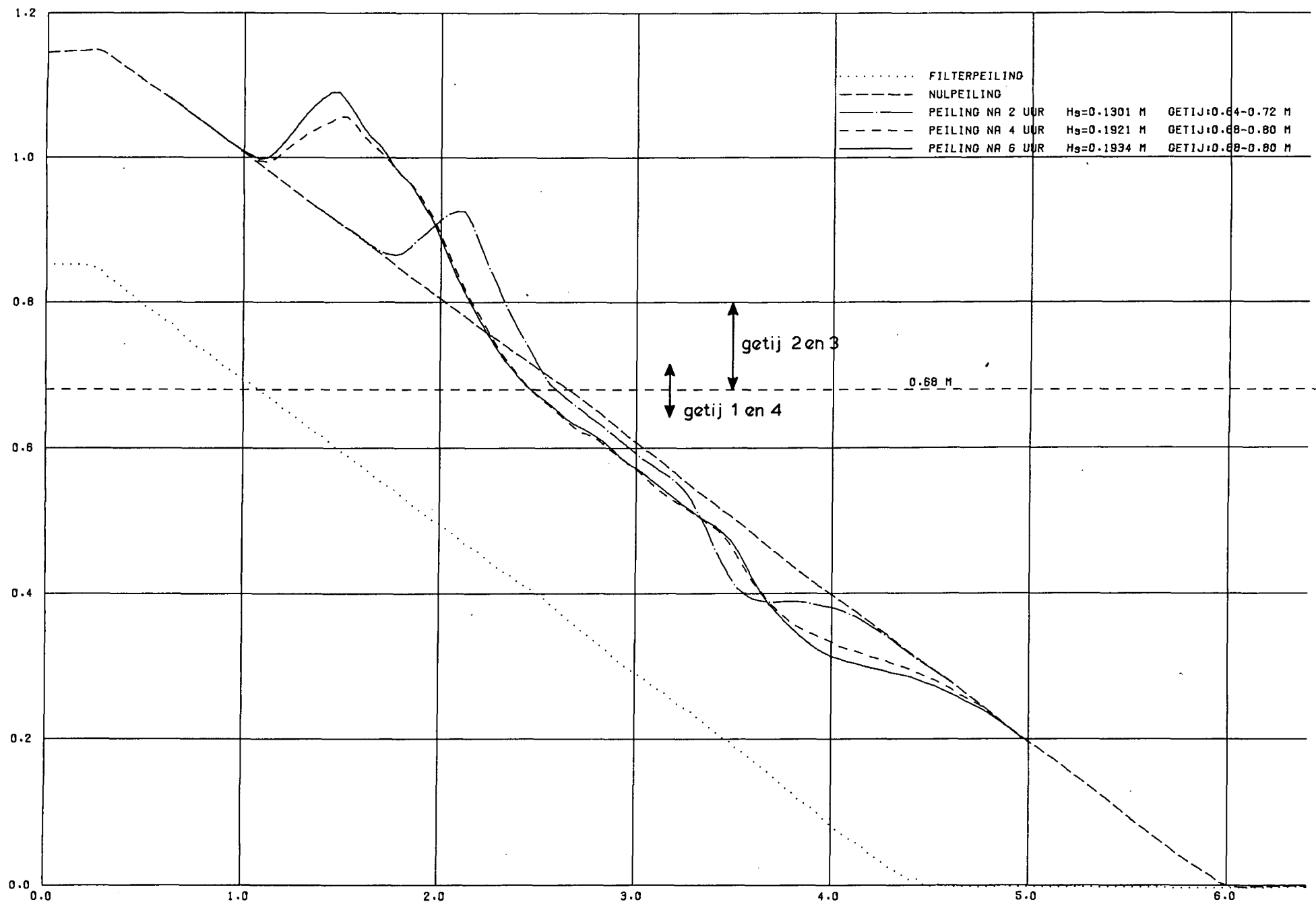
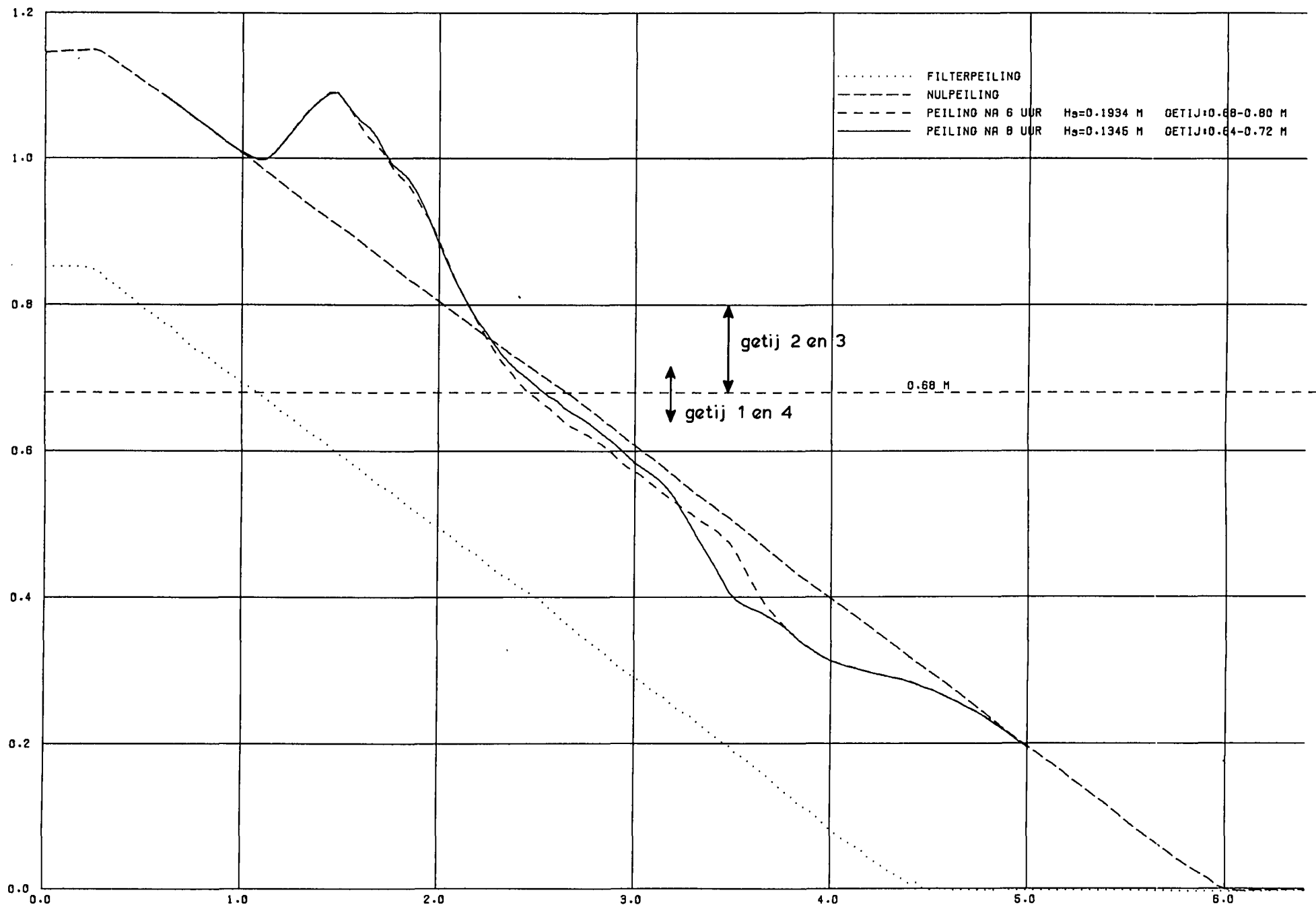
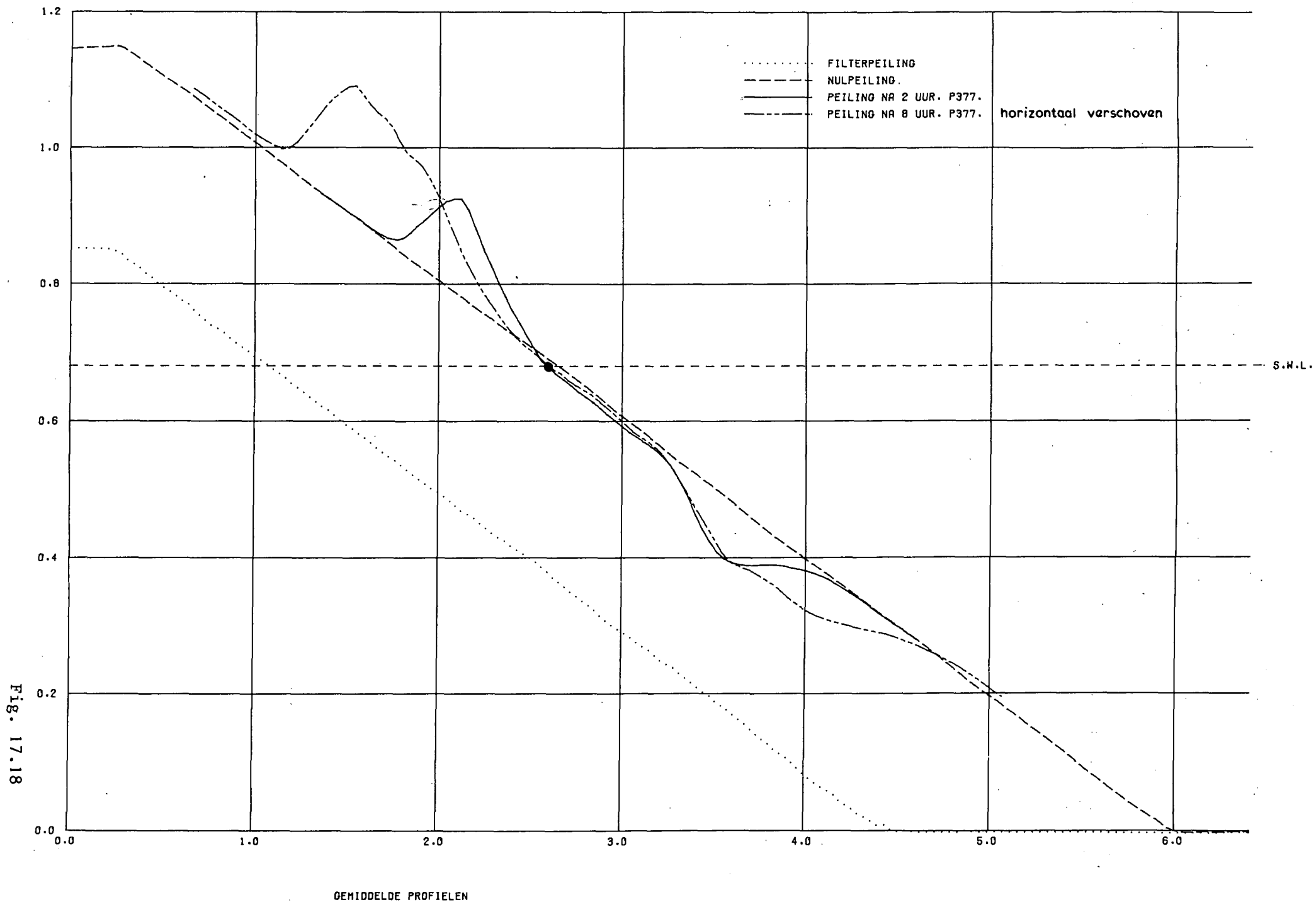
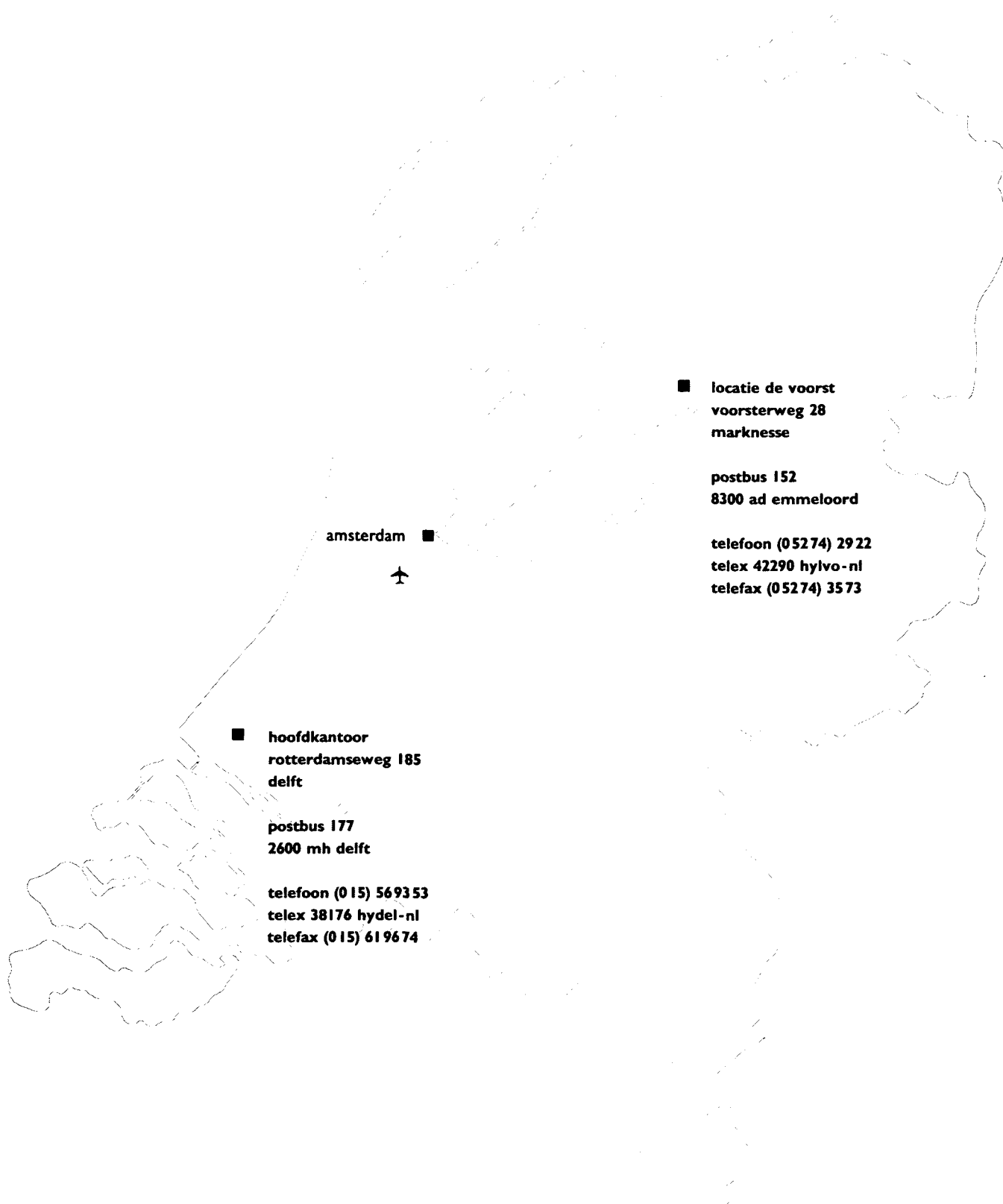


Fig. 17.17







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