

	<b>PEDESTAL FAIR LEAD</b>	<b>DIN 81 906</b>
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**Objections by 30<sup>th</sup> June 1972**

Observe preface with application warning on page 6.

The admission of this standard is provided by the Office for Industrial Safety - Port Authority/Ocean Shipping - Hamburg (AfA), by the Inland Navigation Professional Association (BSBG), by the Maritime Professional Association (SBG), by the German Lloyd (GL) and by the German Ships Revision and Classification (DSRK).

Dimensions in mm

**COMPILATION**

Identification

Nominal size 8 is illustrated

Example of an installation  
see page 6

Description of a fair lead of nominal size 8 :

**FAIR LEAD 8 DIN 81 906**

Nominal Size	For the Tractive Force kN	$d_1$	$d_3$	$d_4$	$d_{14}$	$h_1$	$l_1$	$r_1$	Weight kg/Unit ≈
1	10	160	210	195	60	80	50	25	
2	20	200	265	245	70	102	50	32	
3	32	250	330	300	85	126	50	42	
5	50	320	420	390	106	160	50	55	
8	80	400	530	490	125	208	60	73	
12	125	450	610	560	160	256	85	95	
20	200	500	640	620	190	278	100	111	
32	320	560	780	740	230	348	150	125	

\*) 10 kN corresponds to the force of weight of a load of 1 t (= 1000 kg); for an exact calculation the figure 9.30665 is to be used instead of 10.

**IDENTIFICATION:**

Fair leads must be identified clearly and permanently with the nominal size (e.g. 8) and manufacturer's symbol. Fair leads which conform to all parts of this standard may be identified with the association's symbol **DIN** or the name DIN (see DIN 31); however only in connection with the symbol of origin. By using this identification the manufacturer certifies that the version conforms with the standards.

Fair lead equipment, overall view see DIN 81 900

Continued on pages 2 to 6  
Explanations on page 7

Engineering Standards Committee for Shipbuilding (HNA) in the German Standards Committee (DNA)

Exclusive sale of the standards by Beuth Verlag GmbH, Berlin 30 and Cologne *Design DIN 81 906 Jan. 1972*  
*Price group 6*

**In comparison with DIN 81 905, issue November 1967 note:** Contents completely revised. See explanations for details.

**PARTS LIST**

Serial Number	Quantity	Description		For Nominal Size
		Description	Abbreviation and Comments	
1	1	Roll	1- ... <sup>1)</sup> DIN 81 906	1 to 32
2	1	Column	2- ... <sup>1)</sup> DIN 81 906	1 to 32
3	1	Bushing	3- ... <sup>1)</sup> DIN 81 906	1 to 32
4 <sup>2)</sup>	1	Bushing	4- ... <sup>1)</sup> DIN 81 906	1 to 32
5	1	Disk	5- ... <sup>1)</sup> DIN 81 906	1 to 32
6	2	Hexagon-head Screw	M10 x 20	1
			M10 x 20	2
			M10 x 25	3
			M16 x 25	5
			M16 x 30    DIN 933-5.6	8
			M20 x 35	12
			M24 x 45	20
			M30 x 50	32
7	1	Felt Washer <sup>3)</sup>	70	1
			80	2
			95	3
			115    DIN 5419 F2	5
			135	8
			170	12
			Felt Strip <sup>4)</sup>	16 x 12 DIN 5419 F2, 750 mm long
		16 x 12 DIN 5419 F2, 890 mm long		32

<sup>1)</sup> Quote nominal size when ordering.  
<sup>2)</sup> Bushing in roll (serial no. 1) glued in with suitable adhesive.  
<sup>3)</sup> A felt strip to DIN 5419 may be used instead of the felt washer.  
<sup>4)</sup> The length of the felt strip includes an excess for fitting which is sufficient for overlapping.

**ASSEMBLY AND PERMISSIBLE DIMENSIONAL TOLERANCES**

The permissible difference accuracy averages according to DIN 7168 apply to the dimensions given for the individual parts without a tolerance. When determining tolerances for the roll dimensions  $h_3$ ,  $h_4$  and  $h_5$ , the column dimension  $l_2$  and  $l_3$  as well as the bushing dimensions  $l_3$ ,  $m$  and  $h$  it must be observed that a clearance of 1 to 2 mm between the cover disk (serial no. 5) and roll hub is to be maintained after assembly. In addition, dimension  $z$  (space from the roll underside to the surface of the base) should not be exceeded, see example of an installation on page 6.

1 ROLL

Nominal size 8 is shown

Surfaces Series 2 DIN 3141

*Detail X*  
(ring nut)

*Rib*

*Identification*

Nominal size 1

Other dimensions as per adjacent figure

Description of a roll (serial no. 1) for nominal size 8:

**ROLL 1- 8 DIN 81 906**

For Nominal Size	$d_1$	$d_2$	$d_3$	$d_4$	$d_5$	$d_6$ H7	$d_7$ H12	$d_8$ H12	$d_9$	Discharge Holes			$e$	$f$
										Qty <sup>1)</sup>	$d_{10}$	$d_{11}$		
1	160	170	210	195	110	90	72	89	-	-	-	-	-	-
2	200	240	265	245	120	100	82	99	130	4	155	6	-	-
3	250	290	330	300	140	115	97	116	155	4	190	6	-	-
5	320	370	420	390	180	144	117	140	195	4	240	8	-	-
8	400	460	530	490	220	170	137	164	240	4	290	8	290	29
12	450	520	610	560	270	205	172	203	285	4	340	10	340	34
20	500	540	640	620	320	250	208	239	330	6	380	10	380	46
32	560	650	780	740	380	300	252	383	390	6	430	10	430	52

For Nominal Size	$h_1$	$h_2$	$h_3$	$h_4$	$h_5$	$h_6$	$r_1$	$r_2$ =	$s_1$	$s_2$	$t_1$ H13	$t_2$	Ribs	
													Qty <sup>2)</sup>	Thickness
1	80	40	10	40	55	-	25	10	-	-	6	4.5	-	-
2	102	53	10	60	75	5	32	11	10	16	6	4.5	4	15
3	126	68	15	75	92	10	42	12	15	20	7	5	4	15
5	160	85	20	100	118	15	55	15	20	30	8	5	4	15
8	208	110	30	129	150	15	73	19	25	40	9	6	4	20
12	256	136	35	160	183	20	95	21	30	50	10	6.5	4	20
20	278	139	35	180	203	25	111	25	40	60	10	6.5	6	20
32	348	178	40	230	253	25	125	30	50	80	10	6.5	6	20

<sup>1)</sup> One hole always placed between the ribs.

<sup>2)</sup> Ribs are equally spaced.

**Material:** GG-20 (material no: 0.6020) to DIN 1691

**IDENTIFICATION:** The following are permanently marked on the upper roll surfaces (e.g. cast on elevated): Nominal size, symbol of origin and the association symbol DIN or the name "DIN" (see DIN31), if required.

Typeface: Broad type according to DIN 1451

++) Assembly holes for connecting shackles for nominal sizes 8 to 32 only. Fitted on two opposite ribs.

**2      COLUMN**

Surfaces series 2 DIN 3141

**3.      BEARING BUSHING FOR COLUMN**

Surfaces series 3 DIN 3141

Description of a column (serial no. 2)  
for nominal size 8:

Column 2 - 8 DIN 81 906

Description of a bearing bushing (serial no. 2)  
for nominal size 8:

Bushing 3 - 8 DIN 81 906

For Nominal Size	$d_{12}$ $r^s$	$d_{13}$	$d_{14}$	$d_{15}$	$d_{16}$ h6	$d_{17}$ H7	$l_1$	$l_2$	$l_3$	$m_1$	$r_3$	$s_3$	$t_3$	$t_4$ min.	$w$
1	60	85	60	M10	70	60	50	68	61	5	0.8	1	20.5	15	30
2	70	95	70	M10	80	70	50	89	81	5	0.8	1	20.5	15	38
3	85	110	85	M10	95	85	50	111	98	5	0.8	1	25.5	20	48
5	106	140	106	M16	115	106	50	142	124	5	0.8	1	26.5	20	56
8	125	165	125	M16	135	125	60	184	156	5	1	1.5	31.5	25	60
12	160	200	160	M20	170	160	85	222	190	6	1	1.5	37.5	30	100
20	190	245	190	M24	206	190	100	244	212	8	1	1.5	48.5	40	130
32	230	290	230	M30	250	230	150	299	264	10	1.5	2	50	40	170

**MATERIAL**

For the column (serial no. 2): RSt 37-2 (material number: 1.0114) to DIN 17 100

For the bushing (serial no. 3): GZ-Rg7 (material number: 2.1090.03) to DIN 1705

**4 BEARING BUSHING FOR ROLL**

**5 COVER DISK**

Description of a bearing bushing (serial no. 4) for nominal size 8:

Description of a cover disk (serial no. 5) for nominal size 8:

Bushing 4 - 8 DIN 81 906

Disk 5 - 8 DIN 81 906

For Nominal Size	$d_{18}$ 1)	$d_{19}$		$d_{20}$	$d_{21}$	$h_7$	$s_4$	$s_5$	$w$
			Perm. Tolerance						
1	90	70.35	+0.15 0	100	11	40	1	8	30
2	100	80.40	+0.16 0	110	11	60	1	8	38
3	115	95.47	+0.19 0	130	11	75	1	10	48
5	144	116.58	+0.23 0	170	18	100	1	10	56
8	170	135.67	+0.27 0	200	18	129	1.5	12	60
12	205	172.86	+0.34 0	240	22	160	1.5	14	100
20	250	207.03	0.41 0	290	26	180	1.5	16	130
32	300	251.25	+0.50 0	350	33	230	2	20	170

<sup>1)</sup> The tolerance for outer diameter,  $d_{18}$ , of the bushings (serial no. 4) should be obtained from the adhesive manufacturers. The clearance between the outer bore,  $d_6$ , in the roll and bushing outer diameter,  $d_{18}$ , should be as small as possible.

**MATERIAL**

For the bushing (serial no. 4): Plastic (e.g.: PA-PE mixture, see explanations)

For the disk (serial no. 5): Steel

**EXAMPLE OF AN INSTALLATION**

Nominal Size	1	2	3	5	8	12	20	32
$\alpha$ min.	8	10	13	13	16	16	20	20
Hole in the Deck $d_{22}$	62	72	87	108	127	162	192	232
$z \approx$	2	3	3	3	3	3	5	5
Welding Seam Thickness	According to the regulations of the relevant supervisory authority (e.g. classification organisation)							

**MAINTENANCE:**

During assembly the sliding surface of the bearing bushing (serial no. 4) must be well greased. After assembly grease at least 1 x yearly.

This draft standard, the contents of which do not represent the final version of the intended standard, is thus not intended for application. It is submitted to the public for checking and comments in order for it to be improved, if necessary. It includes the planned form of the re-issue of DIN 81 905, issue November 1967. The issue mentioned does not become invalid hereby.

If, exceptionally, this draft standard is used in business it must be agreed by the parties, e.g. the client and contractor.

Please send two copies of objections and proposed changes concerning the design of the standard to the Engineering Standards Committee Shipbuilding (HNA) 2 Hamburg 1, Kirchenallee 57.

German Standards Committee