

FI



The Aston Seals FI type guide rings have been developed to substitute traditional bronze guides in hydraulic cylinders. They guide the rod and prevent metallic contact with the cylinder head when radial forces act perpendicular to the direction of movement.

Chamfered edges prevent splintering of the material during assembly and make the installation into the groove easier.

The compound used for these guides is a medium viscosity glass fibre reinforced acetal resin characterized by high strength, rigidity, hardness, impact resistance, resilience and excellent stability to high and low temperature.

- Extended service life
- Excellent wear-resistance
- Simple design of groove and assembly
- Reduce vibrations
- Low friction
- Good resistance to loads
- Good mechanical stability at high temperature
- Easy installation without expensive auxiliaries

MATERIAL



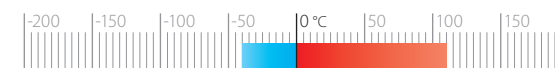
Type
Designation Acetal resin with glass fibre
BEARITE

FIELD OF APPLICATION

Speed
≤ 1 m/s



Temperature
-40°C ÷ +110°C



Fluids

Hydraulic oils (mineral oil based)
For other fluids contact our technical department

SURFACE ROUGHNESS

Dynamic surface
Static surface

$R_a \leq 0.3 \mu\text{m}$ $R_t \leq 2.5 \mu\text{m}$
 $R_a \leq 2 \mu\text{m}$ $R_t \leq 10 \mu\text{m}$

CHOICE OF GUIDE RING WIDTH

A rough estimate of guide width can be calculated with the following formula:

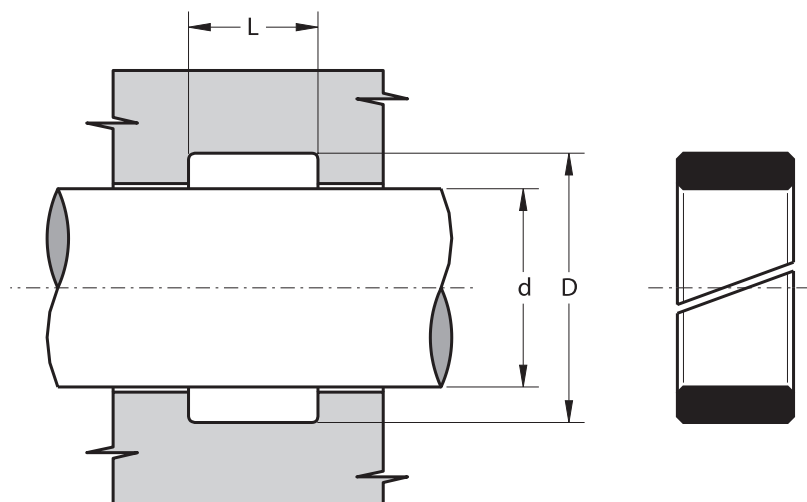
$$h_{mm} \geq \frac{F_N \times k}{p_{N/mm^2} \times d_{mm}}$$

where

- h_{mm} • Guide ring width in mm
- F_N • Radial load in N
- k • Safety factor (generally 2)
- d_{mm} • Rod diameter in mm
- p_{N/mm^2} • Surface pressure N/mm²
40 a 20 °C
30 a 70 °C

Before assembly good cleanliness and lubrication are recommended.

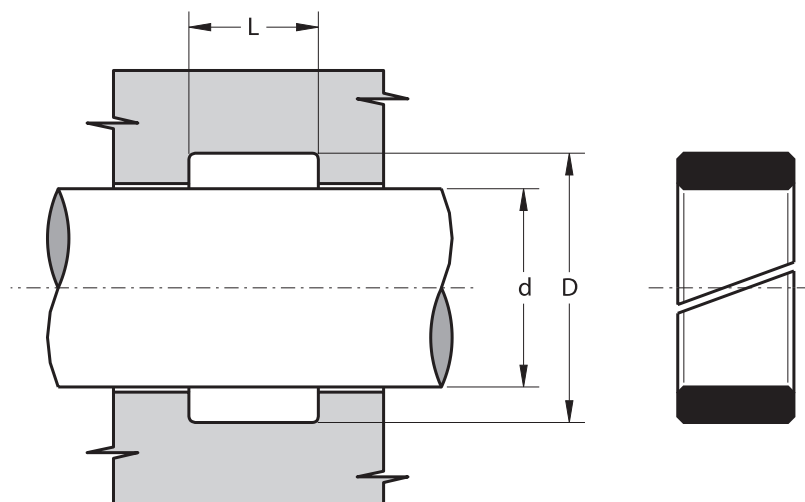
The above data are maximum values, they may be maintained for short periods and can not be used at the same time simultaneously.



Part.	d ^{f7}	D ^{+0.05}	L ^{+0.25}
FI 12	12	16	9.6
FI 14	14	18	9.6
FI 15	15	19	9.6
FI 16	16	20	9.6
FI 16 20 5.6	16	20	5.6
FI 16 20 8	16	20	8.0
FI 18	18	22	9.6
FI 19 22 3.2	19	22	3.2
FI 20	20	24	9.6
FI 20 23.7 6.35	20	23.7	6.35
FI 20 26 9.6	20	26	9.6
FI 20.4 22.4 4	20.4	22.4	4.0
FI 22	22	26	9.6
FI 22.22 25.22 12.3	22.22	25.22	12.3
FI 25	25	29	9.6
FI 25 28 5.6	25	28	5.6
FI 25 31 9.6	25	31	9.6
FI 25.2 29.2 12.7	25.2	29.2	12.7
FI 26	26	30	9.6
FI 28	28	32	9.6
FI 28 31 5.6	28	31	5.6
FI 28 32 8.2	28	32	8.2
FI 30	30	34	9.6
FI 30 33 5.6	30	33	5.6

Part.	d ^{f7}	D ^{+0.05}	L ^{+0.25}
FI 30 36 9.6	30	36	9.6
FI 31.5 35.5 12.7	31.5	35.5	12.7
FI 32	32	36	9.6
FI 32 35.1 4	32	35.1	4.0
FI 32 38 10	32	38	10.0
FI 34	34	38	9.6
FI 34.1 38.1 12.7	34.1	38.1	12.7
FI 35	35	39	9.6
FI 35 39 12.8	35	39	12.8
FI 35 41 9.6	35	41	9.6
FI 36	36	40	9.6
FI 36 42 9.6	36	42	9.6
FI 38	38	42	9.6
FI 38 42 12.7	38	42	12.7
FI 40	40	44	9.6
FI 40 44 6.3	40	44	6.3
FI 40 46 9.6	40	46	9.6
FI 40 46 12.8	40	46	12.8
FI 42	42	46	9.6
FI 45	45	51	9.6
FI 45 51 12.8	45	51	12.8
FI 46	46	52	9.6
FI 48	48	54	9.6
FI 50	50	56	9.6

Part.	d ^{f7}	D ^{+0.05}	L ^{+0.25}
FI 50 54 6.3	50	54	6.3
FI 50 56 12.8	50	56	12.8
FI 52	52	58	9.6
FI 52 60 20.5	52	60	20.5
FI 53	53	59	9.6
FI 55	55	61	9.6
FI 55 61 12.8	55	61	12.8
FI 56	56	62	12.8
FI 60	60	66	12.8
FI 60 66.36 12.7	60	66.36	12.7
FI 63	63	69	12.8
FI 63 67 6.3	63	67	6.3
FI 65	65	71	12.8
FI 66	66	72	12.8
FI 70	70	76	12.8
FI 72	72	78	12.8
FI 72 80 20.5	72	80	20.5
FI 73	73	79	12.8
FI 75	75	81	12.8
FI 76	76	82	12.8
FI 78	78	84	12.8
FI 79 85 15	79	85	15.0
FI 80	80	86	12.8
FI 80 84 8.1	80	84	8.1



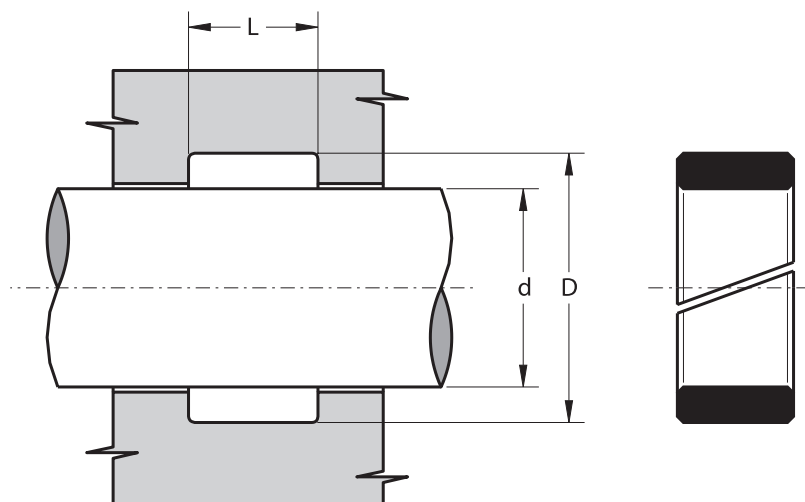
Part.	d ^{f7}	D ^{+0.05}	L ^{+0.25}
FI 80 86 19.2	80	86	19.2
FI 85	85	91	12.8
FI 86	86	92	12.8
FI 90	90	96	12.8
FI 90 96 19.2	90	96	19.2
FI 92 100 20.5	92	100	20.5
FI 95	95	101	12.8
FI 100	100	106	12.8
FI 105	105	111	12.8
FI 110	110	116	12.8
FI 112 120 20.5	112	120	20.5
FI 115	115	121	12.8
FI 120	120	126	12.8
FI 120 126 19.2	120	126	19.2
FI 120 126 25.4	120	126	25.4
FI 123	123	129	12.8
FI 125	125	131	12.8
FI 130	130	136	12.8
FI 130 136 25.4	130	136	25.4
FI 132 140 10.5	132	140	10.5
FI 132 140 20.5	132	140	20.5
FI 135	135	141	12.8
FI 140	140	146	12.8
FI 143	143	149	12.8

Part.	d ^{f7}	D ^{+0.05}	L ^{+0.25}
FI 145	145	151	12.8
FI 150	150	156	12.8
FI 150 156 19.2	150	156	19.2
FI 152 160 20.5	152	160	20.5
FI 154	154	160	19.2
FI 155	155	161	19.2
FI 160	160	166	19.2
FI 160 164 10.2	160	164	10.2
FI 165	165	171	19.2
FI 170	170	176	19.2
FI 172 180 20.5	172	180	20.5
FI 175	175	181	19.2
FI 180	180	186	19.2
FI 180 184 10.2	180	184	10.2
FI 185	185	191	19.2
FI 190	190	196	19.2
FI 195	195	201	19.2
FI 200	200	206	19.2
FI 205	205	211	19.2
FI 210	210	216	19.2
FI 215	215	221	19.2
FI 216 220 10.2	216	220	10.2
FI 220	220	226	19.2
FI 225	225	231	19.2

Part.	d ^{f7}	D ^{+0.05}	L ^{+0.25}
FI 230	230	236	19.2
FI 235	235	241	19.2
FI 240	240	246	19.2
FI 245	245	251	19.2
FI 246 250 20.2	246	250	20.2
FI 250	250	256	19.2
FI 255	255	261	19.2
FI 260	260	266	19.2
FI 265	265	271	19.2
FI 270	270	276	19.2
FI 275	275	281	19.2
FI 280	280	286	19.2
FI 285	285	291	19.2
FI 290	290	296	19.2
FI 295	295	301	19.2

Inch sizes

FI 0750 0875 0510	19.05	22.23	12.95
FI 1000 1125 0385	25.4	28.58	9.78
FI 1000 1250 0375	25.4	31.75	9.52
FI 1125 1375 0510	28.58	34.93	12.95
FI 1250 1375 0510	31.75	34.93	12.95
FI 1250 1375 1000	31.75	34.93	25.4



Part.	d ^{f7}	D ^{+0.05}	L ^{+0.25}
FI 1250 1500 0260	31.75	38.1	6.6
FI 1250 1500 0375	31.75	38.1	9.53
FI 1250 1500 0500	31.75	38.1	12.7
FI 1250 1500 0510	31.75	38.1	12.95
FI 1375 1500 0312	34.93	38.1	7.92
FI 1375 1625 0510	34.93	41.28	12.95
FI 1500 1625 0822	38.1	41.28	20.89
FI 1500 1750 0380	38.1	44.45	9.65
FI 1500 1750 0500	38.1	44.45	12.7
FI 1500 2000 0500	38.1	50.8	12.7
FI 1750 1870 0822	44.45	47.5	20.89
FI 1750 2000 0380	44.45	50.8	9.65
FI 1750 2000 0510	44.45	50.8	12.95
FI 1813 2000 0197	46.05	50.8	5.0
FI 1875 2125 0750	47.62	53.97	19.05
FI 2000 2250 0375	50.8	57.15	9.53
FI 2000 2250 0385	50.8	57.15	9.78
FI 2000 2250 0510	50.8	57.15	12.95
FI 2000 2250 0755	50.8	57.15	19.18
FI 2000 2250 1010	50.8	57.15	25.65
FI 2125 2375 0510	53.98	60.33	12.95
FI 2250 2500 0250	57.15	63.5	6.35

Part.	d ^{f7}	D ^{+0.05}	L ^{+0.25}
FI 2250 2500 0375	57.15	63.5	9.52
FI 2250 2500 0510	57.15	63.5	12.95
FI 2375 2500 0375	60.33	63.5	9.52
FI 2375 2625 0755	60.33	66.68	19.18
FI 2375 2625 1010	60.33	66.68	25.65
FI 2500 2625 1000	63.5	66.68	25.4
FI 2500 2750 0500	63.5	69.85	12.7
FI 2500 2750 0750	63.5	69.85	19.05
FI 2500 2750 1010	63.5	69.85	25.65
FI 2750 2875 0385	69.85	73.03	9.78
FI 2750 3000 0255	69.85	76.2	6.48
FI 2750 3000 0500	69.85	76.2	12.7
FI 2750 3000 0510	69.85	76.2	12.95
FI 3000 3250 0260	76.2	82.55	6.6
FI 3000 3250 0380	76.2	82.55	9.65
FI 3000 3250 0500	76.2	82.55	12.8
FI 3000 3250 1000	76.2	82.55	25.4
FI 3250 3500 0250	82.55	88.9	6.35
FI 3250 3500 0500	82.55	88.9	12.7
FI 3250 3500 0760	82.55	88.9	19.3
FI 3500 3750 0380	88.9	95.25	9.65
FI 3500 3750 0500	88.9	95.25	12.7

Part.	d ^{f7}	D ^{+0.05}	L ^{+0.25}
FI 3500 3750 0755	88.9	95.25	19.18
FI 3750 4000 0260	95.25	101.6	6.6
FI 3750 4000 0380	95.25	101.6	9.65
FI 3750 4000 0500	95.25	101.6	12.7
FI 3750 4000 1010	95.25	101.6	25.65
FI 4000 4250 0510	101.6	107.95	12.95
FI 4250 4500 0500	107.95	114.3	12.7
FI 4250 4500 1000	107.95	114.3	25.4
FI 4750 5000 0250	120.65	127	6.35
FI 4750 5000 0375	120.65	127	9.53
FI 4750 5000 0500	120.65	127	12.7
FI 4750 5000 1010	120.65	127	25.65
FI 5000 5250 0510	127	133.35	12.95
FI 5250 5500 0500	133.35	139.7	12.7
FI 5500 5750 0500	139.7	146.05	12.7
FI 5750 6000 0385	146.05	152.4	9.78
FI 6000 6250 0510	152.4	158.75	12.95
FI 6750 7000 0500	171.45	177.8	12.7
FI 7000 7250 0510	177.8	184.15	12.95
FI 7750 8000 1000	196.85	203.2	25.4
FI 7875 8000 0385	200.03	203.2	9.78