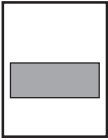


SEALS FOR HYDRAULICS & PNEUMATICS**BFT WEAR / GUIDE RING / STRIPS****Features :**

Guide ring is a PTFE+ Bronze strip available in long length and cut to the size.

Material : PTFE+ Bronze compound

Properties :

Low friction, Free of stick slip, High abrasion resistance, Wide temperature Range, Good thermal conductivity, Low wear and high extrusion resistance, Wide fluid application range, Resistance against cold flow,

Application :

Mobile Hydraulics, Injection molding machines, Machine tools, Material Handling Equipments, Control and regulating apparatus.

General Technical Data :

Maximum speed 5 m/s

Load bearing capacity

15 N/mm² at 20 °C

10 N/mm² at 60 °C

5 N/mm² at 120 °C

(permitted specific surface pressing*)

* The permissible load of the guide strip is calculated from the projected area multiplied by the permissible specific surface pressing. The non linear contact pressure distribution, produces by the load with relation to temperature and tolerances, is taken into account in the value of the permissible load.

The material is compatible with hydraulic mineral oil, lubricating oil, water based and synthetic fire resistant fluids and lubricating grease. Although the material is rated at 200°C, the recommended maximum temperature for bearing application is 60°C.

Surface finish :

Roughness depth R(max) Ra

Sliding surface ≤ 2.5 μm 0.05-0.3 μm

Bottom of groove ≤ 6.3 μm ≤ 1.6 μm

Side of groove ≤ 15 μm ≤ 3μm

Gap dimension :

The radial clearance S min controls the minimum metal to metal clearance between the gland and rod or bore and piston. S max control the maximum extrusion gap seen by a seal associated with the guide ring. The radial clearance S and the given tolerances are guidelines. Use of the guide and tolerances are to be designed in accordance with the used seal. The radial clearance S given in the table of dimensions is to be seen exclusively as reference to the guide ring. The corresponding diameter of the seal housing is to be adjusted to the sealing component. The cut gap Z arising after fitting is necessary due to thermal expansion.

Determination of the stretched length L2 of guide strip :

The stretched length is the circumferential length of the centre line of the strip when installed.

Calculation of stretched length $L2 = p \times (\text{ØDN} - T) - Z$

Guide strip tolerances :

Width L (mm) Thickness T (mm)

- 0.1 to - 0.6 - 0.02 to - 0.06

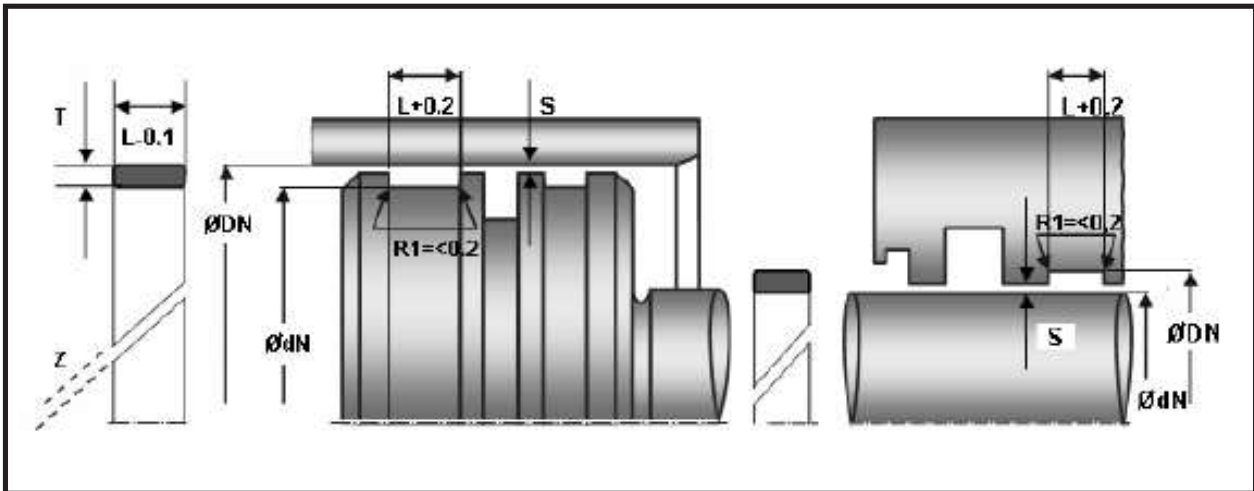
Installation : Fitting is prerequisite for perfect functioning of the guide ring.

Gurudev Says : Anger

Have you noticed, when you are angry at somebody, that person occupies your total mind?
Anger subsides or goes to the background, but the thought of that person persists... your whole mind gets clouded.
You become a lump of anger and distrust, you no longer remain as an individual, a person.

SEALS FOR HYDRAULICS & PNEUMATICS

BFT WEAR / GUIDE RING / STRIPS



SIZES IN MM

CROSS SECTION (L X T)	USE UP TO DIA RANGE ØDN H9	GROOVE DIA Ødn h8	GROOVE WIDTH L +0.2	S (Max.)	CUT GAP Z(min)	STD.ROLL LENGTH (MTR.)	Price Per Mtr.	CROSS SECTION (L X T)	USE UP TO DIA RANGE ØDN H9	GROOVE DIA Ødn h8	GROOVE WIDTH L +0.2	S (Max.)	CUT GAP Z(min)	STD.ROLL LENGTH (MTR.)	Price Per Mtr.
5 X 1.6	10-40	ØDN-3.20	5	0.25	0.8-2.0	15	459.00	15 X 2							1,809.00
5.6 X 2.5	20-140	ØDN-5.00	5.6	0.4	1.0-3.0	10	621.00	15 X 2.5	60-200	ØDN-5.00	15	0.4	2.0-3.5	10	1,674.00
5.6 X 3.17							1,107.00	15 X 3							2,160.00
5.7 X 2.5							675.00	15 X 4	160-900	ØDN-8.00	15	0.5	3.0-5.0	6	3,780.00
6 X 1.60							594.00	15.85 X 3.17	60-250	ØDN-6.35	15.85	0.5	2.0-4.0	8	3,159.00
6 X 2	20-60	ØDN-4.00	6	0.3	1.0-2.0	12	756.00	19 X 2.5							2,475.00
6 X 2.5	25-140	ØDN-5.00	6	0.4	1.0-3.0	10	945.00	19 X 3							2,700.00
6 X 4	70-200	ØDN-8.00	6	0.5	2.0-3.5	6	1,296.00	19.05 X 3.17	80-380	ØDN-6.35	19.05	0.5	2.0-4.0	8	3,807.00
6 X 4.5	100-200	ØDN-9.00	6	0.5	2.5-4.0	5	1,701.00	20 X 1.6							2,025.00
8 X 2	25-80	ØDN-4.00	8	0.3	1.0-3.0	12	999.00	20 X 2	50-180	ØDN-4.00	20	0.3	2.0-3.5	12	2,511.00
8 X 2.5	30-160	ØDN-5.00	8	0.4	1.0-3.0	10	1,080.00	19.8 X 2.5							2,700.00
8 X 4	100-400	ØDN-8.00	8	0.5	2.0-4.0	6	2,025.00	20 X 2.5	80-300	ØDN-5.00	20	0.4	2.0-3.5	10	2,700.00
9.5 X 1.7							900.00	20 X 3.2	100-400	ØDN-6.40	20	0.5	2.0-4.0	8	4,023.00
9.5 X 3.17	60-160	ØDN-6.35	9.5	0.4	2.0-3.5	8	1,890.00	22.5 X 2.5							3,150.00
9.5 X 4	120-500	ØDN-8.00	9.5	0.5	2.0-4.0	6	2,403.00	22.5 X 3							3,420.00
9.7 X 2.5	40-160	ØDN-5.00	9.7	0.4	2.0-3.5	10	1,080.00	25 X 1.60							2,511.00
10 X 1.60							999.00	25 X 2							3,159.00
10 X 2	40-100	ØDN-4.00	10	0.3	2.0-3.5	12	1,269.00	25 X 2.5	100-400	ØDN-5.00	25	0.4	3.0-5.0	10	3,375.00
10 X 2.5							1,350.00	25 X 3							3,675.00
10 X 3							1,470.00	25.4 X 3.17	100-400	ØDN-6.35	25.4	0.5	3.0-5.0	8	5,076.00
10 X 4							2,160.00	30 X 1.60							3,024.00
12 X 2.5							1,620.00	30 X 2	100-225	ØDN-4.00	30	0.3	3.0-5.0	12	3,780.00
12 X 3							1,800.00	30 X 2.5	100-400	ØDN-5.00	30	0.4	3.0-6.0	10	4,050.00
12.5 X 2.5	50-180	ØDN-5.00	12.5	0.4	2.0-3.5	10	1,971.00	30 X 3							3,975.00
12.7 X 3.17	50-200	ØDN-6.35	12.7	0.5	2.0-3.5	8	2,538.00	35 X 1.60							3,537.00
14.80 X 2.50	60-200	ØDN-5.00	15	0.4	2.0-3.5	10	1,974.00	40 X 3							P.O.R.
15 X 1.60							1,512.00	50 X 3							10,125.00

Note : P. O. R. means prices available on request.

Gurudev Says : Ashram

“Ashram” means what?
 Where you come and all the efforts,
 all the strains of the mind,
 heart and body – everything drops.
 All fears drop, insecurities drop,
 you get such a deep rest.
 You know there is some power, someone,
 who is really caring for you – not just someone,
 there is just ONE caring for you, and taking care.
 Relax.....rest.....

SEALS FOR HYDRAULICS & PNEUMATICS

TERKKITE / CFT / WEAR GUIDE RING / STRIPS

CARBON FILLED P.T.F.E. STRIP

Size	Price Per Mtr.
5.7 X 2.5	450.00
6 X 4	765.00
8 X 2	600.00
10 X 2.5	765.00
10 X 3	900.00
12 X 2.5	930.00
12 X 3	1125.00
15 X 2.5	1155.00
15 X 3	1350.00
19 X 2.5	1350.00
19 X 3	1425.00
22.5 X 2.5	1665.00
22.5 X 3	1800.00
25 X 2.5	1845.00
25 X 3	2070.00
30 X 2.5	2250.00
30 X 3	2475.00

GREEN TERKKITE

Size	Price Per Mtr.
5.7 X 2.5	810.00
6 X 4	1404.00
8 X 2	1080.00
8 X 2.5	1350.00
9.5 X 1.7	1080.00
10 X 2.5	1620.00
10 X 3	1764.00
10 X 4	2592.00
12 X 2.5	1944.00
12 X 3	2160.00
15 X 2.5	2322.00
15 X 3	2592.00
19 X 2.5	2970.00
19 X 3	3240.00
22.5 X 2.5	3780.00
22.5 X 3	4104.00
25 X 2.5	4050.00
25 X 3	4410.00
30 X 2	3780.00
30 X 2.5	4464.00
30 X 3	4770.00
40 X 3	P.O.R.
50 X 3	12150.00

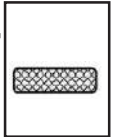
Note: - P.O.R. means prices available on request.

TURKKITE

BFT Self Lubricating Strips / Sheet for Machine Tools



These are high performance engineering thermoplastic material consisting of PTFE and Sintered Bronze having properties of self-lubrication and wear resistant suitable for operating temperature up-to 260 degree centigrade. These are widely used in machine tool OEM's and maintenance / reconditioning and retrofitting of machines like milling machines, machining centers, SPM, Lathes, Grinding Machines, CNC Machines and many more for avoiding metal to metal contact.

WEAR / GUIDE STRIPS**WRFPR (Green Fabric Inserted)**

Material : Polyester fabric with polyester resin + PTFE.

Properties : High load bearing capacity, Low friction, Free of stick slip, High abrasion resistance, Resistance against cold flow, Low wear and high extrusion resistance.

Application : Mobile Hydraulics, Injection moulding machines, Machine tools, Material Handling Equipments, Standard cylinders.

General Technical Data :

Temp. range: - 20°C to +100°C

PV limit lubricated*

Speed (m/s) Load (N/mm²)

0.1 10

1.0 6.0

5.0 0.8

Operating limit :Ultimate compressive strength 360 N/mm²

Load bearing capacity

120 N/mm² at 20 °C80 N/mm² at 60 °C63 N/mm² at 120 °C

(permitted specific surface pressing*)

* The permissible load of the guide strip is calculated from the projected area multiplied by the permissible specific surface pressing. The non linear contact pressure distribution, produces by the load with relation to temperature and tolerances, is taken into account in the value of the permissible load.

Surface finish :

Roughness depth R(max) Ra

Sliding surface ≤ 2.5 μm 0.05-0.3 μm

Bottom of groove ≤ 6.3 μm ≤ 1.6 μm

Side of groove ≤ 15 μm ≤ 3μm

Gap dimension :

The radial clearance S min controls the minimum metal to metal clearance between the gland and rod or bore and piston. S max control the maximum extrusion gap seen by a seal associated with the guide ring.

The radial clearance S and the given tolerances are guidelines. Use of the guide and tolerances are to be designed in accordance with the used seal. The radial clearance S given in the table of dimensions is to be seen exclusively as reference to the guide ring. The corresponding diameter of the seal housing is to be adjusted to the sealing component. The cut gap Z arising after fitting is necessary due to thermal expansion. The cut gap Z arising after fitting is necessary due to thermal expansion.

Dimension set up of guide ring :

Various diameters and width are available for WRFPR to meet different cylinder diameters and groove sizes. Calculate the required width L of piston guide by the formula below.

$$L \text{ min} \leq \frac{F \times S}{2.05 \times DN} + 2.4$$

$$1. \text{ In case no lateral loads exist } \quad F = (\text{Piston Weight}) \times \frac{1}{2} (\text{Rod Weight}) + \frac{1}{200} \times \frac{\pi \times DN^2}{4} \times P(\text{max})$$

$$S = 1$$

$$2. \text{ In case lateral loads exist } \quad F = L1 / L2 \left\{ \frac{1}{2} (\text{Rod Weight}) + w \text{ max} \right\} - \text{Piston weight}$$

In case lateral impact loads exist the S=1.5

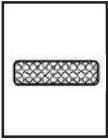
In case no lateral impact loads exist the S=4

L min : minimum guide ring width size (mm)

F : load charged on wear ring (N)

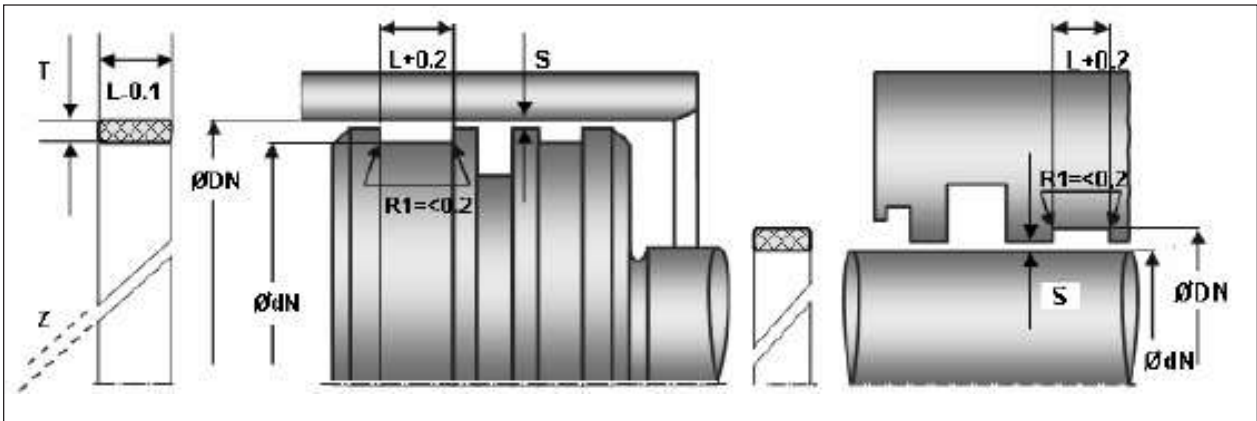
WEAR / GUIDE STRIPS

WRFPR (Green Fabric Inserted)



S : safety coefficient
 DN : bore of the cylinder
 P(max) : maximum pressure (MPa)
 W(max) : maximum lateral load (N)
 L1 : distance between lateral load point to rod bearing width centre line (mm)
 L2 : distance between rod bearing centre point to piston width centre line (mm)
 For example if the calculation result of Ø 100 mm diameter shows L min 18 mm,
 use two WRFPR width of 9.5 mm or one, WRFPR width of 20 mm.

Installation : Fitting is prerequisite for perfect functioning of the guide ring.



SIZES IN MM

CROSS SECTION (L X T)	USE UP TO DIA RANGE ØDN H9	GROOVE DIA ØdN h8	GROOVE WIDTH L +0.2	S (Max.)	CUT GAP Z(min)	Price Per Mtr.
5.6X2.5	20-140	ØDN-5.00	5.6	0.4	1.0-3.0	900.00
6X2	20-60	ØDN-4.00	6	0.3	1.0-2.0	P.O.R.
6X2.5	25-140	ØDN-5.00	6	0.4	1.0-3.0	P.O.R.
6X4	70-200	ØDN-8.00	6	0.5	2.0-3.5	P.O.R.
6X4.5	100-200	ØDN-9.00	6	0.5	2.5-4.0	P.O.R.
8X2	25-80	ØDN-4.00	8	0.3	1.0-3.0	P.O.R.
8X2.5	30-160	ØDN-5.00	8	0.4	1.0-3.0	P.O.R.
8X4	100-300	ØDN-8.00	8	0.5	2.0-4.0	P.O.R.
9.5X3.17	60-300	ØDN-6.35	9.5	0.4	2.0-3.5	P.O.R.
9.5X4	120-300	ØDN-8.00	9.5	0.5	2.0-4.0	P.O.R.
9.7X2.5	40-160	ØDN-5.00	9.7	0.4	2.0-3.5	960.00
9.8X3						1,080.00
10X2	40-100	ØDN-4.00	10	0.3	2.0-3.5	P.O.R.
10X2.5						1,350.00
12X2.5						1,152.00
12X3						1,320.00
12.5X2.5	50-180	ØDN-5.00	12.5	0.4	2.0-3.5	1,152.00
12.7X3.17	50-200	ØDN-6.35	12.7	0.5	2.0-3.5	1,320.00

CROSS SECTION (L X T)	USE UP TO DIA RANGE ØDN H9	GROOVE DIA ØdN h8	GROOVE WIDTH L +0.2	S (Max.)	CUT GAP Z(min)	Price Per Mtr.
14.8X2.5						1,440.00
14.8X3						1,620.00
15X2.5	60-200	ØDN-5.00	15	0.4	2.0-3.5	1,650.00
15X4	160-300	ØDN-8.00	15	0.5	3.0-5.0	P.O.R.
15.85X3.17	60-250	ØDN-6.35	15.85	0.5	2.0-4.0	1,620.00
19X2.5						1,800.00
19X3						2,160.00
19.05X3.17	80-300	ØDN-6.35	19.05	0.5	2.0-4.0	2,160.00
20X2	50-180	ØDN-4.00	20	0.3	2.0-3.5	1,800.00
20X2.5	80-300	ØDN-5.00	20	0.4	2.0-3.5	1,800.00
20X3.2	100-300	ØDN-6.40	20	0.5	2.0-4.0	2,160.00
25X2.5	100-300	ØDN-5.00	25	0.4	3.0-5.0	2,400.00
25X3						2,700.00
25.4X3.17	100-300	ØDN-6.35	25.4	0.5	3.0-5.0	2,700.00
30X2	100-225	ØDN-4.00	30	0.3	3.0-5.0	2,880.00
30X2.5	100-300	ØDN-5.00	30	0.4	3.0-6.0	2,880.00
30X3						3,240.00

Note :

Guide rings in pre-molded form can be provided up to Ø300 mm thickness up to 10mm & height (L) up to 150mm. P.O.R. means prices available on request.

Gurudev Says : God

God can never be separate, because everything is in God – this entire universe is made up of God.
 God is the cheapest commodity available, because outside of God there can be nothing.
 There is no “outside” at all. Like the bubbles in the water cannot be separate from the water,
 the waves in the ocean cannot be separate,
 cannot exist, they have no separate identity – so everything in this universe exists within God.
 It just needs the vision to see it.