

## DP11

### Metal-Polymer Anti-Friction Plain Bearings

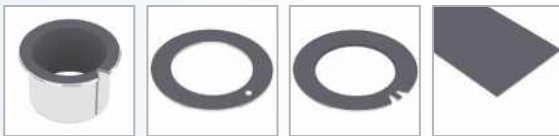


#### CHARACTERISTICS

- Very good wear and low friction performance over a wide range of loads, speeds and temperatures in dry running conditions
- Particularly suited to dry applications with high frequency and low amplitude oscillating movements
- Suitable for linear, oscillating and rotating movements
- Lead-free material compliant to EVL, WEEE, and RoHS specifications
- Approved to standard FMVSS 302 - Federal Motor Vehicle Safety Standard concerning the flammability of materials used in the occupant compartments of motor vehicles

#### AVAILABILITY

**Bearing forms made to order:** cylindrical bushes, flanged bushes, thrust washers, flanged thrust washers, sliding plates, half-bearings, special shapes obtained by stamping or deep drawing, customized bearing designs



#### APPLICATIONS

**Automotive:** Belt tensioners, clutches, dual mass fly-wheels, pulley dampers, etc.

**Industrial:** Applications with high frequency and low amplitude oscillating movements



## DP11 Technical Data

Bearing Properties		Imperial Units	Imperial Value	Metric Units	Metric Value
<b>General</b>					
Maximum load, p	Static	psi	36 000	N/mm <sup>2</sup>	250
	Dynamic	psi	20 000	N/mm <sup>2</sup>	140
Operating temperature	Min	°F	- 328	°C	- 200
	Max	°F	536	°C	280
Coefficient of linear thermal expansion	Parallel to the surface	10 <sup>-6</sup> /F	6	10 <sup>-6</sup> /K	11
	Normal to the surface	10 <sup>-6</sup> /F	17	10 <sup>-6</sup> /K	30
<b>Dry</b>					
Maximum sliding speed, U		fpm	500	m/s	2.5
Maximum pU factor		psi x fpm	29 000	N/mm <sup>2</sup> x m/s	1.0
Coefficient of friction			0.04 - 0.25*		0.04 - 0.25*
<b>Oil Lubricated</b>					
Maximum sliding speed, U			1 000	m/s	5.0
Maximum pU factor			286 000	N/mm <sup>2</sup> x m/s	10.0
Coefficient of friction			0.02 - 0.08		0.02 - 0.08
<b>Recommendations</b>					
Shaft surface roughness, Ra	Dry	µin	12 - 20	µm	0.3 - 0.5
	Lubricated	µin	≤ 2 - 16*	µm	≤ 0.05 - 0.4*
Shaft surface hardness	Unhardened acceptable, improved bearing life	HB	> 200	HB	> 200

\* Depending on operating conditions

### Operating Performance

Dry	Very Good
Oil lubricated	Good
Grease lubricated	Fair
Water lubricated	Not Recommended
Process fluid lubricated	Fair

### For Superior Performance

Grease lubricated	DP4 / DX
Water lubricated	DP4-B
Process fluid lubricated	DP4 / DP31

### Microsection

