

# DDR11 Metal Polymer Bearings



This is an environmentally friendly, lead-free bearing material. Copper-tin alloy is sintered onto a steel backing, and the bearing surface is a mixture of PTFE (polytetrafluoroethylene) and a special filler. Friction is very low and the bearing exhibits excellent durability under boundary and fluid lubrication conditions and has good sliding characteristics due to PTFE, the special filler, strength of the metal material and dimensional stability.

## MAJOR APPLICATIONS

Shock absorbers, gear pumps, and automotive parts

## FEATURES

- Offers very low coefficient of friction and wear-resistance along boundary surfaces and under fluid lubrication
- Eliminates “stick and slip” thanks to a low coefficient of friction
- Offers superior resistance to chemical substances
- Performs well through an extended range of operating temperatures

## MICROSTRUCTURE



— PTFE + special fillers  
 — Porous sintered bronze  
 — Steel backing

## CHARACTERISTICS

		Metric		Imperial	
Max Load, P	Static	MPa (N/mm <sup>2</sup> )	304	psi	44,100
	Dynamic	MPa (N/mm <sup>2</sup> )	140	psi	20,000
Temperature Range		°C	-200 ~ +280	°F	-328 ~ +536
Coefficient of Thermal Exp.	Parallel to Surface	10 <sup>-6</sup> /°C	11	10 <sup>-6</sup> /°F	6
	Thickness Direction	10 <sup>-6</sup> /°C	30	10 <sup>-6</sup> /°F	17
Dry Condition	Max Sliding Speed, V	m/s	—	fpm	—
	Max PV	MPa x m/s	—	psi x fpm	—
Coefficient of Friction			—		—
Wet condition	Max Sliding Speed, V	m/s	10	fpm	2,000
	Max PV	MPa x m/s	5	psi x fpm	145,000
Coefficient of Friction			0.01-0.05*		0.01-0.05*

\* Depending on the operating conditions

Note: This data is not guaranteed. Since conditions differ every application, it may be able to be used beyond the listed value.

