

On Design

Corrosion Resistance of Base Resin and Base Metal used for Oiles Bearings

Corrosion resistance						
Classification	Plastic bearings and multi-layer bearings					
Base resin	Polyacetal	Polyolefine	Polyamide	PTFE	PPS	Phenol resin
Product	80 Lutech 480 ※Drymet ST	81	83	Glitron F Fiberflon ※Drymet LF ※Techmet Hiplast	Glitron S, SE	250 425 470
Acid	10% Sulphric acid	C	A	C	A	A
	30% Sulphric acid	C	A	C	A	A
	Concentrated sulphric acid	D	C	D	A	B
	Hydrochloric acid	D	A	C	A	A
	10% nitric acid	C	B	D	A	B
	40% nitric acid	D	C	D	A	C
	Formic acid	D	A	D	A	A
	75% phosphate acid	C	A	D	A	A
	10% chromic acid	D	C	D	A	A
	Lactic acid	—	A	B	A	A
	Hydrogen peroxide	B	B	C	A	B
	Liquefied chlorine	D	B	B	B	B
	Alkaline	Ammonia (liquid)	C	A	C	A
Iron chloride		A	A	A	A	A
Calcium chloride		A	A	A	A	A
Sulfur		A	A	A	A	A
Calcium Hydroxide		A	A	A	A	A
Solvent	Methanol	C	B	C	A	A
	Acetone	C	C	C	A	A
	Benzene	C	C	B	A	A
	Carbon tetrachloride	D	D	C	A	B
	Ethylene glycol	B	A	A	A	A
Oil, grease and others	Petroleum	B	C	A	A	B
	Diesel engine oil	B	—	A	A	A
	Lubricating oil	B	C	B	A	A
	Animal oil	A	A	A	A	A
	Vegetable oil	B	A	A	A	A
	Oleic acid	B	C	A	A	A
	Gasoline	B	B	A	A	B
	Kerosene	A	D	A	A	A
	Naphtha	C	C	A	A	A
	Lacquer	C	C	B	A	C
Water	Water	A	A	A	A	A
	Sea water	A	A	A	A	A

A : Excellent B : Good C : fair D : no resistance — : No data
 ※Corrosion resistance of the base resin of sliding surface only

This table describes characteristics of each base material.
 Characteristics may vary depending on the filler mixed. For actual selection, please ask an Oiles representative.

Corrosion resistance					
Classification	Metallic bearings				
Base metal	High strength brass cast	Bronze cast	Aluminum bronze	Cast iron	
Product	500SP 500SP1 Spherical bearing ※ 500 Guide unit ※ (BK, BT Type)	500B	500AB	500F	
Acid	40% to 80% Sulfuric acid	D	B	B	
	80% to 95% Sulfuric acid	D	C	C	
	Hydrochloric acid	D	C	C	
	Nitric acid	D	D	D	
	Phosphoric acid	D	B	B	
	Chromic acid	D	D	D	
	Lactic acid	D	B	B	
	Hydrogen peroxide	C	B	B	
	Chlorine (moist)	D	C	C	
	Chlorine (dry)	A	A	A	
	Alkaline	Ammonia (moist)	D	D	D
		Ammonia (dry)	A	A	A
		Ferrous chloride	D	B	B
Calcium chloride		D	B	B	
Sulfur (moist)		D	D	D	
Sulfur (dry)		A	B	B	
Solvent	Calcium Hydroxide	B	A	A	
	Methanol	A	A	A	
	Acetone	A	A	A	
	Toluene	A	A	A	
	Carbon tetrachloride (moist)	D	B	B	
	Carbon tetrachloride (dry)	A	A	A	
	Ethylene glycol	B	A	A	
Oil, grease, and others	Crude oil	C	B	B	
	Heavy oil	B	A	A	
	Lubricating oil	A	A	A	
	Animal oil	A	A	A	
	Vegetable oil	A	A	A	
	Gasoline	A	A	A	
	Kerosene	A	A	A	
	Lacquer	A	A	A	
	Water	B	A	A	
	Sea water	C	B	B	

A : Excellent B : Good C : fair D : no resistance — : No data
 ※Limited to Oiles 500 which is used only for 500SP1 spherical bearing and 500 guide unit (BK, BT Type).