

MATERIAL

AST-CR Filament Wound Self-Lubrication Bearings

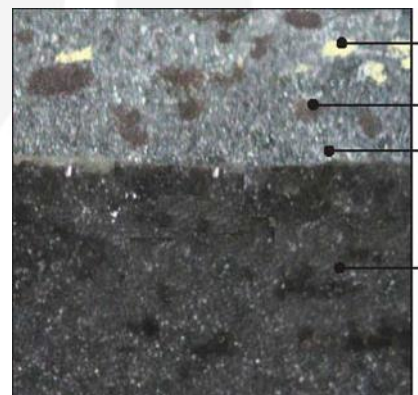


Structure

The backing of AST-CR series material is high strength glass fiber with epoxy resin with a lubricating layer of PTFE wound fiber or special lubricating fiber. This special structure has outstanding anti-wear performance and a low friction coefficient under high load and low speed. This material provides an excellent solution for high load applications and offers excellent wear resistance under dry conditions.

Features

1. The low friction lubricating layer has superior anti-wear capabilities and scratch resistance. The special PTFE fiber and high strength artificial fiber compound provides excellent self-lubrication and anti-wear performance in dry operation.
2. The backing material is high strength epoxy glass fiber with excellent erosion resistance, making it useful in marine applications.
3. The maximum dynamic load is 140Mpa with good impact, shock loading, and self-aligning characteristics.
4. The material forms an effective solid lubricating film to prevent adhesion to the shaft during operation.
5. The non-metallic material is electrically non-conductive and 75% lighter in weight than steel and 30% lighter than aluminum.
6. This material is suitable for use with frequent start and stop operation and rotating, oscillating, and linear motion.
7. Recommended for non-lubricated operation only.
8. This material is suitable for a wider temperature range (-100°C to +160°C) than with oil lubricated bearings.
9. Due to its low water absorption and thermal expansion coefficient (comparable to steel and cast iron), this material can be used in different media including air, oil, and water compared with other non-metallic bearings.





TECHNICAL INFORMATION



Typical Applications

AST-CR series filament wound composite bearings are suitable for use with frequent start and stop operation and rotating, oscillating, and linear motion. Typical applications include:

- | | |
|----------------------------|-------------------|
| Construction | Cranes |
| Agriculture | Transmissions |
| Shipping ports | Water craft |
| Civil engineering projects | Packing machinery |
| Material handling | Hydraulic valves |

Technical Data

Designation	Unit	AST-CRG	AST CRB	AST CRE	AST CRP	AST CRF
Basic type		High load	Standard	General	High speed	Economic
Density	g/cm ³	2.00	2.00	2.00	2.00	1.30
Max. PV	MPa*m/s	2.0	1.8	1.6	1.6	1.2
Coefficient of friction	-	0.03~0.12	0.03~0.12	0.03~0.12	0.02~0.12	0.15~0.30
Working temp.	°C	-100~+160	-100~+160	-100~+160	-100~+160	-40~+130
Max. speed	m/s	0.20	0.20	0.20	0.40	0.13
Max. load	MPa	420	420	420	420	300
Static load	MPa	240	240	240	240	150
Dynamic load	MPa	160	140	100	30	45
Radial compressive strength	MPa	550	550	550	550	200
Hardness	HRM	95	95	95	95	90
Linear thermal expansion factor	Um/m°C	≈13×10	≈13×10	≈13×10	≈13×10	≈40×10
Color		Black	Coffee	White	White	Dark grey

AST Bearings LLC
 115 Main Road
 Montville, NJ 07045-9299

"Value Beyond the Part™"
www.ASTBearings.com

U.S. Toll Free (800) 526-1250
 Headquarters (973) 335-2230
 Fax (973) 335-6987



TECHNICAL INFORMATION



Material Chemical Resistance Properties

Alcohol	Resistance	Saline	Resistance
Methanol	Yes	Sodium Acetic acid	Yes
Ethanol	Yes	Sodium Carbonate	Yes
Allyl	No	Amine Nitric Acid	Yes
Butyl	No	Amine Chlorate	Yes
Propyl	Yes	Bitter Salt	Yes
Oxyhydrogen Acetone	Yes		
Solvent		Gas	
Acetone	Yes	Butane	Yes
Toluene	Yes	Ozone	Yes
Methyl Ethylic Ketone	Yes	Nitrogen	Yes
Trichloroethylene	No	Natural Gas	Yes
Benzene	No	Ethyne	Yes
10%) Acid		Hydrogen	Yes
Hydrochloric Acid	Yes	Fluorin	No
Boracic Acid	Yes	Chlorine	No
Acetic Acid	Yes		
Sulfuric Acid	Yes	Alkali (10%)	
Nitrogen Acid	No	Sodium Hydroxide	Yes
Carbonic Acid	No	Calcium Oxide	No
Hydrofluoric Acid	No	Aluminum Hydroxide	Yes
Oil			
Gear Oil	Yes	Others	
Engine Oil	Yes	Freon	Yes
Hydraulic Oil	Yes	Carbinol	Yes
Linseed Oil	Yes	Sodium Nitrate	Yes
Fuel		Ethylene Glycol	Yes
Gasoline	Yes	Ammonia	No
Jet Fuel	Yes	100°C Boiled Water	No
Diesel Oil	Yes		
Petroleum	Yes		
Sodium Hydroxide	Yes		

AST Bearings LLC
115 Main Road
Montville, NJ 07045-9299

"Value Beyond the Part™"
www.ASTBearings.com

U.S. Toll Free (800) 526-1250
Headquarters (973) 335-2230
Fax (973) 335-6987