

Datasheet AS CM20



AS CM20 bearing materials is reinforced weave polymer material special developed for high loads and smooth running with low friction and temperatures up to 220 °C. The material is based on phenolic resin and aramid fabric with ideal concentration of polymer which gives the very good result in areas where reduced friction and wear is required. AS CM20 is also very abrasive resistant and therefore suitable to operate under extreme conditions. AS CM20 has very good wear resistance and is suitable for operating under dry, wet and lubricated circumstances has a very high resistance to wear, can withstand edge loading and has low swell in water.

AS CM20 is produced under approval of ISO 9001 for all manufacturing operations and tested in laboratories.

AS CM20 is available from 16 mm inside diameter tube up to 2000 mm outside diameter. Also bigger sizes are available. It can be made of sheet from 2.5 mm up to 200 mm thickness.

AS CM20 is applied in (high temperature) pumps, offshore, dredging, machines, bridges, sluices, hydraulic cylinders and other equipment.

Material structure: Woven aramid fabric-reinforced thermoset composite with graphite additions. This material has excellent thermal stability and wear resistance.

Features:

- High wear resistance.
- Suitable for high temperature applications.
- Excellent impact resistance.
- High load capacity.
- Good chemical resistance.

Operating conditions: Dry, maintenance-free.

Availability: Tubes, cylindrical bushes, plates, machined parts.

Typical usage: Iron and steel industry, agricultural equipment, wear rings, pump bearing, heavy transport.

- (1): Hardness rockwell: HRM.
(2): Hardness rockwell: HRC.
(3): Coefficient of friction dynamic: oil/grease.

Material	
Material	Composite

Availability	Unit	Value
Min. inside diameter	mm	16
Max. outside diameter	mm	2000 (bigger diameter possible made of arced segments)
Length standard	mm	500 (longer on request)

Physical Properties	Test Standard	Unit	Value
Density	ASTM D792	g/cm ³	1.4
Max. swell in water at 20 °C	ASTM D570	%	<1

Mechanical Properties	Test Standard	Unit	Value
Compressive strength static	ASTM D695	MPa	420
Compressive strength dynamic	ASTM D695	MPa	100
Module of elasticity	ASTM D695	MPa	3000
Tensile strength	ASTM D3410	MPa	70
Shear strength	ASTM D3410	MPa	80
Impact strength	ASTM D256	kJ/m ²	60
Hardness rockwell	ASTM D785	HRM/HRC	115 ⁽¹⁾

	Test Standard	Unit	Value
Thermal expansion	ASTM D696	*10 ⁻⁵ / °C	2
Min. working temperature		°C	-40
Max. working temperature		°C	200
Intermittent working temperature		°C	220
Linear expansion coefficient	Parallel	10 ⁻⁵ °C	3
Linear expansion coefficient	normal	10 ⁻⁵ °C	5

Friction Properties	Test Standard	Unit	Value
Coefficient of friction dynamic	Pin-on-ring	Dry against steel	0,1-0,35
Max. sliding speed	Pin-on-ring	m/s	2
Max. pv load dry	Pin-on-ring	MPa*m/s	1.5
Max. pv load oil lubricated	Pin-on-ring	MPa*m/s	2
Max. pv load regular greased	Pin-on-ring	MPa*m/s	2.5
Wear factor	Pin-on-ring	*10 ⁻⁹ m ² /N	-