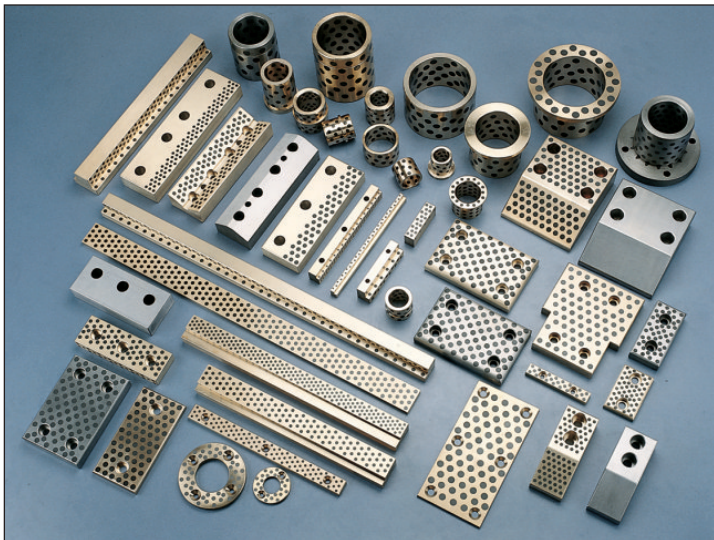


CSB650 Cast Bronze Bearings with Graphite



Structure

CSB650 material is made of strong cast bronze based metal with special solid lubricants embedded. The base metal withstands high load and the solid lubricants provide self-lubrication. The bearing shows excellent performance without pre-lubrication under conditions of extreme high/low temperature with low speed. This material provides a maintenance-free bearing solution, particularly for high load, intermittent or oscillating motion.

Features

1. May work without any oil for long period
2. Extremely high load capacity, good anti-wear and lower friction
3. Particularly appropriate for low speed and high load
4. Suitable for reciprocating, oscillation or intermittent motion where oil film is hard to be formed
5. Good chemical resistant and anti-corrosion characteristics
6. Can be used in wide range of temperature from -40°C $\sim +300^{\circ}\text{C}$

Typical Applications

This kind of bearing can be applied under dry, high temperature, high pressure, corrosive, water or other chemical environments when no oil can be introduced. It is widely used in automotive products line, water engineering, dam gate, plastic industries, successive casting machines, steel rollers in metallurgy industry, mineral machines, ships, turbo generators, hydraulic turbines and injection molding machines...

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Main Metal Type

Grade	650	650S1	650S2	650S3	650S5	650HP
Material	CuZn25Al5Mn4Fe3	CuSn5Pb5Zn5	CuAl10Ni5Fe5	CuSn12	CuZn25Al5Mn4Fe3	CuZn32Al5Ni3
Density	8	8.9	7.8	8.9	8	8
HB hardness	>210	>70	>150	>95	>250	>280
Tensile strength N/mm ²	>750	>200	>600	>260	>800	>540
Yeild strength N/mm ²	>450	>90	>260	>150	>450	>450
Elongation %	>12	>15	>10	>8	>8	>0.3
Coefficient of linear expansion	$1.9 \times 10^{-5}/^{\circ}\text{C}$	$1.8 \times 10^{-5}/^{\circ}\text{C}$	$1.6 \times 10^{-5}/^{\circ}\text{C}$	$1.8 \times 10^{-5}/^{\circ}\text{C}$	$1.9 \times 10^{-5}/^{\circ}\text{C}$	$1.8 \times 10^{-5}/^{\circ}\text{C}$
Max. temp.	-40~+300 ^o C	-40~+400 ^o C	-40~+400 ^o C	-40~+400 ^o C	-40~+150 ^o C	-40~+150 ^o C
Max. load N/mm ²	100	60	50	70	120	150
Max. speed (Dry) m/min	15	10	20	10	15	15
Max. PV N/mm ² *m/min (Lubrication)	200	60	60	80	200	200
Compression deformation 300N/mm ²	<0.01mm	<0.05mm	<0.04mm	<0.05mm	<0.005mm	<0.005mm

Solid Lubricants

Lubricant	Features	Typical application
SL1 Graphite+add	Excellent resistance against chemical attacks and low friction. Temp limit 400 ^o C	Suite for general machines and under atmosphere
SL4 PTFE+MOS ₂ +add	Lower in friction and good for water lubrication, Temp. limit 300 ^o C	Suite for water/sea lubrication, like ship, hydraulic turbine, gas turbine etc.