

Introduction

SinoBronze produces customized hydraulic Valve Plates, which are used in hydraulic motors and pump such as axial piston pumps for construction, agriculture, or the general industry.

Structure

Sintered bronze alloy on low carbon steel. (High-accuracy bimetal friction plate made by different process. Material strip made by sintering and rolling for many times). Valve plates are under fine blanking, machining, double-sided grinding and their processing.



Features

1. Key part of high-pressure piston pump, it forms a friction pair with the piston pump cylinder, where the cylinder plane and the oil distribution plate rub each other.
2. CuSn10Pb10 lead bronze alloy has good self-lubricating performance, it can significantly reduce the frictional heat during high-speed operation, avoid problems such as burning plate seizure.
3. Low-carbon steel plate has high mechanical strength, so the product deformation is small under pressure, the oil distribution plate can always be in uniform contact with the cylinder plane, low noise during working.
4. Cost effective than totally bronze plate
5. High accuracy
6. Low friction Coef.
7. Good wear resistance
8. Long service life

Technical Parameter

Sliding Layer: Bronze Alloy (see table)

Backing Layer: Low Carbon Steel

Max load pressure: 65N/mm²

Alloy hardness: HB70-100

Max operating temperature: 260°C

Commonly Used Bimetal Alloys in SinoBronze® Valve Plates

Metallographies							
SB Material Code		SB-797	SB-799	SB-820	SB-830	SB-840	SB-783
SAE Code / DIN Code		SAE-797	SAE-799	GLYC066	B5 PB1	CuSn6 (2.1020)	SAE-783
ISO Code		CuPb10Sn10	CuPb24Sn4	CuSn8	CuSn10	CuSn6.5P	AlSn20Cu
Backing Material		Low Carbon Steel ST-12 / SAE1010					
Chemicals (%)	Cu	Balance	Balance	Balance	Balance	Balance	0.7~1.3
	Pb	9.0~11.0	21.0~27.0	2.0~4.0	0.1	0.1	-
	Sn	9.0~11.0	3.0~4.5	5.0~7.0	9.0~10.0	6.0~6.8	17.5~22.5
	Zn	0.5	0.5	5.0~7.0	0.3	0.3	-
	P	0.1	0.1	0.1	0.1	0.1~0.3	-
	Fe	0.5	0.7	0.6	0.5	0.6	0.7
	Ni	0.5	0.3	0.3	0.5	0.5	0.1
Performance Data	Al	-	-	-	-	-	Balance
	Other	0.5	0.5	0.5	0.5	0.5	0.5
	Sliding	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
	Abrasion Resistance	★★★★★	★★★	★★★★	★★★★	★★★★	★★★★
	Hardness	★★★★★	★★	★★★★	★★★★	★★★★	★★★
	Anti-bite Shaft	★★★★	★★★★★	★★★★	★★★★	★★★★	★★★★
	Corrosion-resistant	★★★★★	★★	★★★★	★★★★	★★★★	★★★★
	High loading	★★★★★	★★	★★★★	★★★★	★★★★	★★★
	Anti-fatigue	★★★★★	★★★★	★★★★	★★★★	★★★★	★★★★
	Environmental protection	x	x	x	★★	★★	★

Display of customized valve plates we produced and provided to worldwide end users.



For more details, please contact us by sending email to sales@sinobronze.com