

GGB Bimetal Bearings



Technical Information

 **GGB**
BEARING TECHNOLOGY

an EnPro Industries company

1 Introduction

GGB is the world's largest manufacturer of plain bearings for maintenance free and marginal lubricated applications.

The extensive GGB product portfolio includes metal-polymer, high performance solid polymer and bimetal bearing materials.

This brochure describes GGB range of bimetal plain bearing materials for lubricated applications including engine bearings.

2 Materials

Copper Based Alloys				
Code	Nominal Composition	SAE	ISO 3547/4	Characteristics and Typical Applications
SP	Cu Pb24 Sn2	799	S2	High load capacity, hardened shafts required. Application areas include hydraulic pumps, automatic transmissions, steering assemblies, camshafts and engine crankshaft bearings.
SY	Cu Pb10 Sn10	797	S6	Very high load capacity, hardened shafts required. Application areas include gudgeon pin bushes and rocker arm bearings.
SZ	Cu Sn10 Bi7			Lead-free with performance characteristics similar to SY.

Aluminium Based Alloys				
Code	Nominal Composition	SAE	ISO 3547/4	Characteristics and Typical Applications
Al06	Al Sn6	780	R1	High load capacity, hardened shafts required. Application areas include transmissions and hydraulic pumps.
Al20	Al Sn20	783	R2	Good emergency running characteristics and moderate load capacity. Application areas include crankshaft bearings for engines and reciprocating compressors.
Al40	Al Sn40			Very good emergency running characteristics and fair load capacity. Application areas include engine cross head bearings.
Al50	Al Sn12 Si3	788	R3	High load capacity, good seizure resistance. Application areas include transmissions, hydraulic pumps and engine bearings.

5 Service and Support

As a world-class supplier, GGB offers professional service with unrivalled customer technical support via a team of application engineers including:

- application data analysis
- material specification
- bearing dimensions calculation
- design recommendations and drawings
- technical proposals and quotations
- machining recommendations
- bearing installation assistance

Other special support activities may be considered on request such as:

- life-time estimation
- test rig evaluation
- value analysis

Global Distribution

- Standard and customized packaging
- "Just in Time" delivery
- World-wide shipment

SP™, SY™, SZ™, AL06™, AL20™, AL40™ and AL50™ are trademarks of GGB

©2007 GGB. All rights reserved.

1 Introduction

GGB is the world's largest manufacturer of plain bearings for maintenance free and marginal lubricated applications.

The extensive GGB product portfolio includes metal-polymer, high performance solid polymer and bimetal bearing materials.

This brochure describes GGB range of bimetal plain bearing materials for lubricated applications including engine bearings.

2 Materials

Copper Based Alloys				
Code	Nominal Composition	SAE	ISO 3547/4	Characteristics and Typical Applications
SP	Cu Pb24 Sn2	799	S2	High load capacity, hardened shafts required. Application areas include hydraulic pumps, automatic transmissions, steering assemblies, camshafts and engine crankshaft bearings.
SY	Cu Pb10 Sn10	797	S6	Very high load capacity, hardened shafts required. Application areas include gudgeon pin bushes and rocker arm bearings.
SZ	Cu Sn10 Bi7			Lead-free with performance characteristics similar to SY.

Aluminium Based Alloys				
Code	Nominal Composition	SAE	ISO 3547/4	Characteristics and Typical Applications
Al06	Al Sn6	780	R1	High load capacity, hardened shafts required. Application areas include transmissions and hydraulic pumps.
Al20	Al Sn20	783	R2	Good emergency running characteristics and moderate load capacity. Application areas include crankshaft bearings for engines and reciprocating compressors.
Al40	Al Sn40			Very good emergency running characteristics and fair load capacity. Application areas include engine cross head bearings.
Al50	Al Sn12 Si3	788	R3	High load capacity, good seizure resistance. Application areas include transmissions, hydraulic pumps and engine bearings.

3 Forms Available

All materials are available as wrapped bushes, clinched and ground bushes, half bearings, thrust washers, spherical washers and special shapes, with lubrication grooves and indents and features to customer requirements.

Component	Outer Diameter		Length		Wall Thickness	
	Min.	Max.	Min.	Max.	Min.	Max.
Wrapped Bushes	12	300	7	150	1	4
Half Bearings	25	200	15	100	1.5	4.5
Thrust Washers	40	140			1	4
Washers	10	145			1	4

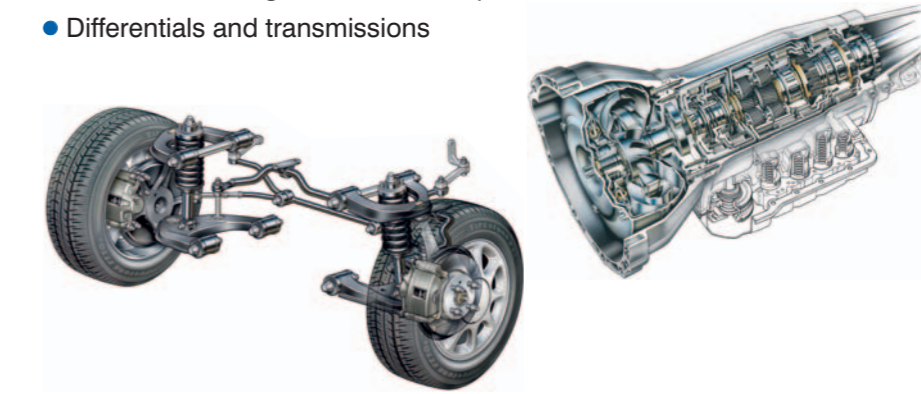
All dimensions in mm



4 Applications

Automotive Applications

- Engine bearings
- Engine ancillaries e.g. starter motors
- Chassis - steering, brakes and suspension
- Differentials and transmissions



Industrial Applications

- Hydraulic equipment
- Pneumatic equipment
- HVAC equipment e.g. reciprocating compressors
- Mechanical handling and lifting equipment
- Agricultural equipment
- Textile machinery





GGB UK

Wellington House · Starley Way · Birmingham International Park
Birmingham B37 7HB · United Kingdom
Telephone +44 (0)8452 300 442
Facsimile +44 (0)121 781 7313
eMail: greatbritain@ggbearings.com · www.ggbearings.com

GGB, an EnPro Industries company



IN133ENG07-07UK