YAMATO GOKIN CO., LTD.

ALLOY DATA SHEET **SH-1**

1. Characteristics

- High thermal conductivity
- Excellent electrical conductivity
- High strength

2. Related Specifications

- RWMA Class 2
- JIS Z 3234

3. Applications

- Electrode for resistance welding
- Bushings for seam welders
- Short-circuit ring and Rotor bar for asynchronous machines with squirrel cage
- Backing plates under target metals for semiconductors and liquid crystal displays
- Base metal for gas/steam turbine bearings
- Molds for continuous casting machines

4. Chemical Composition

Designation: SH - 1 (%)

Element	Cr	Zr	Cu
Min	0.7	0.02	h.l
Max	1.4	0.06	balance

5. Physical Properties

Density	g/cm³	8.89
Young's modulus	N/mm²	120,000
Coefficient of expansion 20 to 300° C	×10 ⁻⁶ /° (17.6
Thermal conductivity	W/m K	330
Electrical conductivity	IACS %	75

6. Available forms/Mechanical Properties

	forms/process						Mechanical properties						Available forms												
			Bars			;		Tensile strength	Yield strength 0.2% offset	Elongation	Hardness			Semi-finished products										parts	
Size/condition	Extruded or forged	Drawn	Continuous casting	Extruded	Drawn	Continuous casting	Forgings	Wpa	Мра	%	HB	HRB	HV	Rounds	Squares	Flats	Hexagones	Section	Tubes	Plates	Discs	Rings	Forged blanks	stamped	machined
Bars φ≤ 25mm								≥450				≥75		•		•	•				•	•			
Bars 25 < φ ≤ 50mm								≥410				≥70		•							•	•			•
Bars 40 < φ ≤ 100mm								≥380		>1r		≥65		•							•				•
Bars 100 < φ ≤ 200mm								-	-	≥15		≥65		•							•				•
Plates 15 ≤ Thickness ≤ 100mm								≥380				≥65	4			Ŋ				•					•
								-				≥65	,									•			•

All information is intended as a guide to performance and application suitability. info2@yamatogokin.com

September 2013