DAIKOWM CuSn8

GMAW

COPPER ALLOYS
CuSn

DESCRIPTION

Tin bronze alloy solid wire

Solid wire rod recommended for high strength welds on phosphor bronze materials. Weld deposits have high tensile and yield strengths and greater hardness due to the 7 to 9 percent tin content. It is used as an overlay on cast iron or steel, to join dissimilar metals, for maintenance repair and fabrication of valve bodies, seats, bearings, bushings, gears, propellers, impeller blades and housings. Preheat is recommended. It is recommended for joining welding of with Cu-Sn alloy. Best for the joining welding of Cu-Zn alloy with steel.

SPECIFICATIONS

AWS A5.7	ERCuSn-C	**DIN 1733**	SG-CuSn6 mod.
Certifications	-	**Shielding**	I1, I3
Positions	PA, PB, PC, PD, PE, PF, PG	**Current**	DC+
Packaging Type			Drums, B300, D200 and D100 spools.

ASME QUALIFICATIONS

F-No (QW432)	33
A-No (QW442)	-

FERRITE

-

PREN

-

HARDNESS

90HB

CHEM. COMP. %

	DEFAULT
Mn	0.25
Al	0.001
Sn	8
P	0.01
Si	0.1
Fe	0.01
Zn	0.01
Pb	0.01

MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength R_m MPa	380	380
Yield strength $R_{p0.2}$ MPa	-	130
Elongation A (L_0=5d_0) %	0	25
Impact Charpy ISO-V	-	-
Impact Charpy ISO-V	-	-

WELDING PARAMETERS

	1 mm	1.2 mm
Ampere	130A - 200A	185A - 245A
Voltage	24V - 28V	26V - 30V
Packaging	Ø 0,8÷1,6mm	Ø 0,8÷1,6mm
Packaging Type	Drums, B300, D200 and D100 spools.	Drums, B300, D200 and D100 spools.

The information in this datasheet is the result of detailed research and is considered accurate as of the publication date. However, we cannot guarantee its complete accuracy, and it is subject to change without notice. Actual results may vary due to many factors like welding procedures, material composition, temperature conditions, bevel configuration, and specific manufacturing techniques. We accept no liability for any errors or omissions in this datasheet. For the most current information, please visit www.daikowelding.com.

CuSn

DESCRIPTION

APPLICATION

Used for welding various copper-based alloys to themselves, CMn steels, or cast irons, and for repairing and joining castings, this consumable is also suitable for weld surfacing to provide a bearing surface and/or corrosion-resistant overlay on steel components, shafts, etc. Avoiding stainless steels is recommended due to chromium pick-up causing embrittlement. The tin bronze weld metal can be sluggish due to its wide melting range. Preheating to approximately 200°C can enhance fluidity when dealing with thick sections. To prevent hot cracking, it's advisable to maintain the interpass temperature below 200°C. This consumable is also applicable for welding copper materials if the presence of tin in the weld metal is acceptable, such as in copper and tin bronzes, particularly for joining copper-zinc alloys and steels. For multi-layer welding on steel, pulsed arc welding is advised, and it is also suitable for oven soldering.

ALLOY TYPE

Tin bronze alloy wire for welding similar tin bronze (phosphor bronze) alloys.

MICROSTRUCTURE

A multi phase copper base structure with complex eutectoids.

MATERIALS

Tin bronze up to 10%Sn+0.5%P. Cu + 20-25%Sn. Cu + 40%Zn, manganese bronze.

V 01/2024

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