DAIKOWT CuSn6

GTAW

COPPER ALLOYS
CuSn

DESCRIPTION

Tin bronze alloy solid rod

High tin alloyed bronze to weld bronze of similar composition; very often used to join copper with steel. Used for cast iron hardfacing. Suitable to weld CuSn alloys, CuSnZnPb cast alloys and cast iron. For GMAW brazing on steel it is recommended to use a pulsed arc. Excellent for artistic foundries.

SPECIFICATIONS

AWS A5.7	ERCuSn-A	**DIN 1733**	SG- CuSn6
Certifications	-	**Shielding**	I1
Positions	PA, PB, PC, PD, PE, PF	**Current**	DC-
Packaging Type			5kg carton tube

ASME QUALIFICATIONS

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

FERRITE

-

PREN

-

HARDNESS

80HB

CHEM. COMP. %

	DEFAULT
Mn	0.25
Al	0.001
Sn	6.5
P	0.01
Si	0.1
Fe	0.01
Zn	0.01
Pb	0.01

MECHANICAL PROPERTIES

	MIN	VARIANT
Tensile strength R_m MPa	240	250
Yield strength $R_{p0.2}$ MPa	-	130
Elongation A (L_0=5d_0) %	0	20
Impact Charpy ISO-V	-	-
Impact Charpy ISO-V	-	-

WELDING PARAMETERS

	1.6 mm	2.4 mm
Ampere	110A - 150A	175A - 250A
Voltage	-	-
Packaging	Ø 1,6÷4,0 mm	Ø 1,6÷4,0 mm
Packaging Type	5kg carton tube	5kg carton tube

V 01/2024

DAIKO

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.

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