CUSI3

Comparable specifications

ASME SFA A 5.7: ERCuSi-A (UNS C65600)
EN ISO 24373: S Cu 6560 (CuSi3Mn)
Werkstoff Nr.: 2.1461

Description and applications*

* *Illustrative, not-exhaustive list*

Copper-base alloy filler wire containing approximately three percent silicon. Used for gas tungsten and gas metal arc welding of copper-silicon and copper-zinc base metals, to themselves and to steel. Even suitable for cladding cast iron and un- and low alloyed steels.

High temperature and corrosion resistant, characterized by low melting point that results - in comparison to steel wires such as ER70-S6 - in higher travel speeds, better wetting, better gab bridging and even an excellent corrosion resistance. The result is less distortion of the plate, less welding time, less spatters and better corrosion resistance.

In GMAW applications, it generally is best to keep the weld pool small and the interpass temperature below 65°C to minimize hot cracking: the use of narrow weld passes reduces contraction stresses and permits faster cooling through the hot-short temperature range. In GTAW applications, best results are obtained by keeping the weld pool small: preheating is not required.

Most common applications of this alloy includes:
- welding thin plates or galvanized plates in the car industry;
- general purposes including silicon bronze and phosphorus deoxidized copper grades, as well as for brasses and nickel-silvers where silicon reduces zinc fuming;
- overlaying steels and cast irons for corrosion protection;
- joining copper, dissimilar metals and for iron base alloys;
- use in heat exchangers, mixers, marine shafts and other industrial equipment.
- Etc.

Weldable base materials*

* *Illustrative, not-exhaustive list*

Copper, low alloy copper and copper-zinc alloys; 2.0090, 2.0230, 2.026, 2.0360, 2.0240, 2.0241; etc.

All-weld metal mech. properties*

* *For reference only values*

Tensile strength (Rm): ≥ 345 N/mm^2 **Yield strength (Rp_{02}):** ≥ 120 N/mm^2
Elongation: ≥ 40%

Chemical composition*

* *For reference only values*

Mn	Si	P	Cu	Fe	Al	Sn	Zn	Pb
0.50	2.80	max	rem	max	max	max	max	max
1.50	4.00	0.02		0.50	0.01	0.20	0.20	0.02

Standard packaging data*

Welding process	Product type	Ø mm (inches)	Packing type	Weight kg (lbs)	Length mm (inches)
GMAW **	filler wire	0.80 - 1.20 (0.030 - 0.047)	spools BS300 / D300	15 (33)	n.a.
GTAW **	filler rod	1.60 - 4.00 (1/16 - 5/32)	cardboard boxes / tubes	5 (11)	1000 (39.4)

* *Other sizes and packing types are available upon request*
** *GMAW: gas metal arc welding; GTAW: gas tungsten arc welding; SAW: submerged arc welding*

Marking

Each filler rod for GTAW welding is durably marked with an identification traceable to the unique product type. Welding filler materials wound on spools or in coils are durably marked on the coil or spool with an identification traceable to the unique product type.

The outside of each unit package is suitably labelled with at minimum the following data: grade, diameter, heat, lot no., classifications.

Customized labels are available upon request.

Lot classification

All our productions fulfil the **Class S3** requirements acc. to EN ISO 14344.

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