

# Copper-Silicon CuSi

Copper based master alloys



## Application

The Copper-Silicon master alloys are mainly used in the production of silicon bronzes and silicon brasses. The element is added to CuNi alloys and monels for precipitation hardening and can also be used for deoxidation purposes. Compared to pure silicon, the CuSi master alloys have a relatively low melting point and a high density. This, in combination with the specific metallographic structure, ensures very high dissolution rates and recovery levels.

## Product description

CuSi10, CuSi15, CuSi20 and CuSi30 master alloys are available in broken waffle plates packed in a pallet box. Each pallet box carries a label showing the batch number and nominal alloy composition.

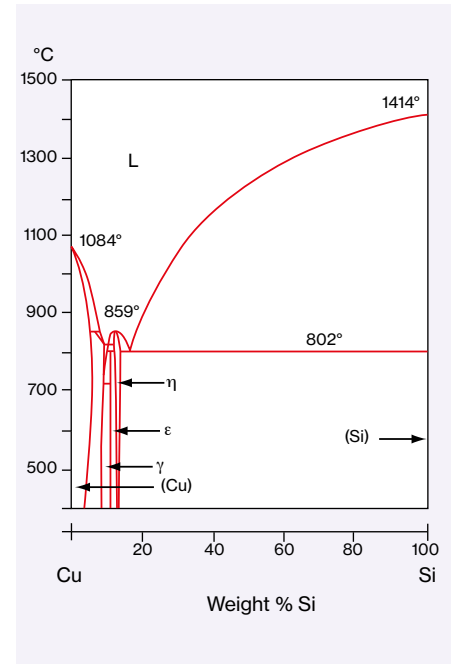
## Recommended addition practice

- Remove all dross from the bath surface.
- Add the master alloy to the bath at normal operating temperatures.
- Stir the bath well to ensure complete and homogeneous dissolution.

## Storage

The alloy must be stored in a dry area. Long term storage (> 6 months) is not recommended, as degradation due to interaction with humidity from the air may occur.

Material Safety Data Sheet available.



## PHYSICAL PROPERTIES

Master alloy	CuSi10	CuSi15	CuSi20	CuSi30
Melting point (°C)	840	802	900	1070
Density (g/cm <sup>3</sup> ) approx.	7.8	6.9	5.9	4.9

## COMPOSITION (WEIGHT%)

Master alloy	Si	Pb max.	Sn max.	Fe max.	Mn max.	Ni max.	Zn max.	Cu+Si min.
CuSi10 high purity grade	9.0 - 11.0	0.05	0.05	0.25	0.10	0.10	0.10	> 99.5
CuSi10 ECO-grade	9.0 - 11.0	0.10	0.10	0.30	0.20	0.20	0.20	> 99.0
CuSi15 high purity grade	14.0 - 16.0	0.05	0.05	0.30	0.10	0.10	0.10	> 99.5
CuSi15 ECO-grade	14.0 - 16.0	0.10	0.10	0.40	0.20	0.20	0.20	> 99.0
CuSi20 high purity grade	18.0 - 22.0	0.15	0.20	0.40	0.15	0.20	0.20	> 99.3
CuSi20 ECO-grade	18.0 - 22.0	0.20	0.20	0.50	0.20	0.25	0.25	> 99.0
CuSi30 high purity grade	28.0 - 32.0	0.15	0.20	0.50	0.15	0.20	0.20	> 99.3
CuSi30 ECO-grade	28.0 - 32.0	0.20	0.20	0.65	0.20	0.25	0.25	> 98.5

Other composition and packaging available upon request.

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