CuDLP

CuDLP | C12000

Cu-DLP is a deoxidized, oxygen-free copper with a low phosphorus content. It features excellent formability and joining properties. Its conductivity is low but higher than that of Cu-DHP and Cu-HCP due to its lower phosphorus content.
Its application areas include electrical components, pipe manufacturing, and the roofing and cladding industry.

Comparable Standarts

EN	UNS
CW023A	C12000

Chemical Composition %

Cu	Pb	P	Bi [%]
min 99.90	0.005 max	0.005-0.013	0.0005 max

Physical Properties

Melting Point	1083	[°C]
Density	8.94	(g/cm³)
Cp @ 20°C	0.377	[kJ/kgK]
Thermal Conductivity	350	(W/mK)
Electrical Conductivity	≥90	%IACS
Modules of Elasticity	132	[GPa]
α @ 20°C	17.7	[10-6/K]

Note: The specified conductivity applies to the soft condition only.

Cp specific heat

α thermal expansion coefficent

Fabrication Properties

Cold Formability	excellent
Hot Formability	excellent
Soldering ability	excellent
Oxyacetylene welding	fair
Gas shield arc welding	excellent
Resistance welding	not recommended
Machining	not recommended
Brazing	excellent

Electrical Conductivity

Electrical conductivity depends on chemical composition, the level of cold deformation, and grain size. High levels of deformation and a small grain size reduce conductivity.

Typcial Uses

Architecture, roofing, electrical components, cladding band, wire, heat exchangers, transistors, air conditioners, heat exchangers, air, hydraulic and oil pipes.

Corrosion Resistance

Copper is resistant to natural and industrial atmospheres, as well as marine air, potable and service water, non-oxidizing acids, alkaline solutions, and neutral saline solutions.
Copper has low corrosion resistance to environments containing ammonia, halogenide, cyanide and hydrogen sulfide solutions and atmospheres, oxidizing acids, and seawater (especially at high flow rates).

Mechanical Properties

	Tensile Strength [MPa]	Yield Strangth [MPa]	Elongation A50 [%]	Hardness HV [-]	Bend ratio 90° [r]	
					GW	BW
R220	220-260	≤ 140	≥ 33	40-65	0	0
R240	240-300	≥ 180	≥ 8	65-95	0	0
R290	290-360	≥ 250	≥ 4	90-110	0	0
R360	≥ 360	≥ 320	≥ 2	≥ 110	0	0.5

Other tempers are available upon request.

r = x * t (thickness t ≤ 0.5mm)

GW bend axis transverse to rolling direction. BW bend axis parallel to rolling direction.

Dimensional Specifications

Thickness (mm)	Width (mm)
0.04-0.20	10-400
0.21-0.50	5-400
0.51-1.00	5-600
1.01-4.00	15-600
4.01-7.00	25-600

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