SPECIFICATION NORDIC BLUE

Phosphorous deoxidised copper (DHP-Copper) with copper oxide layer and artificial patina.

EN	CW024A

Dimension:

Width	max 1000 mm
Thickness range	0,5...1,5 mm
Coils	max. 4000 kg
Sheet length	max 6000mm

Chemical Composition %:

Copper (Cu)	99.90 (min.)
Phosphorus (P)	0,015-0,040

The oxide layer consists of Cu_2O and CuO-oxides.

The oxide is covered by brochantite based patina, $Cu_4(SO_4)OH_6$, with bluish colour.

Physical properties:

Density	8.94 kg/dm^3
Thermal expansion	17*10^{-6} 1/K (ΔT 100°C = 1,7mm/m)
Specific heat	385 J/kg K
Thermal conductivity	335 %W/Cm
Patina thickness	5-50 μm

Mechanical properties:

The material fulfils the requirements of standard EN 1172:2011(E)

Table 2 — Mechanical properties

Designation		Material condition	Tensile strength R_m N/mm²		0,2 % proof strength $R_{p0,2}$ N/mm²		Elongation A_{50mm} %	Hardness HV	
Material Symbol	Material Number		min.	max.	min.	max.	min.	min.	max.
Cu-DHP CuZn0,5	CW024A CW119C	R220	220	260	—	140	33	—	—
		H040	—	—	—	—	—	40	65
		R240	240	300	140	—	8	—	—
		H065	—	—	—	—	—	65	95
		R290	290	—	250	—	—	—	—
		H090	—	—	—	—	—	90	—
CuSn0,15	CW117C	R250	250	320	200	—	9	—	—
		H060	—	—	—	—	—	60	90
		R300	300	370	250	—	4	—	—
		H085	—	—	—	—	—	85	110
CuAl5Zn5Sn1	CW309G	R400	400	—	170	—	45	—	—
		H080	—	—	—	—	—	80	—
CuSn4	CW450K	R290	290	390	—	190	40	—	—
		H070	—	—	—	—	—	70	100
CuZn15	CW502L	R310	310	370	200	290	10	—	—
		H090	—	—	—	—	—	90	115

Fabrication properties:

Formability	Excellent
Soldering	Excellent
Brazing	Excellent
TIG	Good
MIG	Good
EBW	Poor

Oxide layer and patina must be removed from welding, soldering and brazing areas

Typical use

Architecture, eg. roofing, facades, window and door frames, decoration


Aurubis