

## 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  $\text{Cu}_2\text{O}$  and  $\text{CuO}$ -oxides.

The oxide is covered by brochantite based patina,  $\text{Cu}_4(\text{SO}_4)\text{OH}_6$ , with bluish colour.

### Physical properties:

Density	8.94 $\text{kg/dm}^3$
Thermal expansion	$17 \cdot 10^{-6} \text{ 1/K}$ ( $\Delta T \text{ 100}^\circ\text{C} = 1,7\text{mm/m}$ )
Specific heat	385 J/kg K
Thermal conductivity	335 %W/Cm
Patina thickness	5-50 $\mu\text{m}$

## Mechanical properties:

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

Table 2 — Mechanical properties

Designation		Material condition	Tensile strength		0,2 % proof strength		Elongation	Hardness	
Material Symbol	Number		$R_m$		$R_{p0,2}$		$A_{50mm}$	HV	
			N/mm <sup>2</sup>		N/mm <sup>2</sup>		%		
			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

