

Cu-DHP

Phosphorous deoxidised copper
(CW024A, C122) – produced in Pori is widely used in architectural and construction materials and in some industrial segments.

Properties:

- Lower electrical and thermal conductivity
- Resists hydrogen embrittlement
- Excellent corrosion resistance
- Excellent formability
- Good weldability
- Resists hydrogen embrittlement
- High scrap value

Composition:

- Cu min 99,90 %
- P 150...400 ppm

- Electrical conductivity: min 85 % IACS
- Thermal conductivity: min 339 W/m^{°K}

Typical applications:

Building and construction (Nordic products): roofing, wall panels, cassettes, profiles etc., window and doorframes, interior decoration. Materials are made in different colours: Nordic Plain, Nordic Brown, Nordic Brown Light, Nordic Green and Nordic Green Living.

Boilers and gas heaters, household products, decoration

Alloy name		Cu-DHP
European standard number	CW024A	
UNS code	C12200	
Manufacturing location	Pori	

Chemical properties	P 0.015-0.040 %
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Physical Properties

Density	g/cm ³	8.9	
	lb/in ³	0.323	
Electrical Conductivity****	Nominal value in black)	min	85
		% IACS	min 85
Thermal Conductivity	W/ (m °K)	min	339
	Btu/ft h °F	min	196
Modulus of Elasticity	GPa	117	
	X1000 ksi	17	
Coef. of Thermal Exp. at 20 °C (68 °F)	10 ⁻⁶ /°C	17.6	
	10 ⁻⁶ /°F	9.8	

Tempers

Mechanical Properties

EN H040 / R200			
Tensile Strength Rm N/mm ²	200 - 250		
Yield Strength (0.2 %) N/mm ²	max	100	
Elongation % A50 / A	min	- / 42	
Hardness (HV)	40 - 65		
Thickness mm (Pori)	0.2 - 20		
EN H040 / R220			
Tensile Strength Rm N/mm ²	220 - 260		
Yield Strength (0.2 %) N/mm ²	max	140	
Elongation % A50 / A	min	33 / 42	
Hardness (HV)	40 - 65		
Thickness mm (Pori)	0.2 - 20		
EN H065 / R240			
Tensile Strength Rm N/mm ²	240 - 300		
Yield Strength (0.2 %) N/mm ²	min	180	
Elongation % A50 / A	min	8 / 15	
Hardness (HV)	65 - 95		
Thickness mm (Pori)	0.2 - 6, 12 - 25		
EN H090 / R290			
Tensile Strength Rm N/mm ²	290 - 360		
Yield Strength (0.2 %) N/mm ²	min	250	
Elongation % A50 / A	min	4 / 6	
Hardness (HV)	90 - 110		
Thickness mm (Pori)	0.2 - 25		
EN H110 / R360			
Tensile Strength Rm N/mm ²	min	360	
Yield Strength (0.2 %) N/mm ²	min	320	
Elongation % A50 / A	min	2 /	
Hardness (HV)	min	110	
Thickness mm (Pori)	0.2 - 20		