

High conductivity phosphorous copper (CW021A), earlier known as SE-Cu57

Properties:

- Good electrical and thermal conductivity
- Resists hydrogen embrittlement
- Excellent corrosion resistance
- Excellent formability
- Good weld ability
- Recyclable

Composition:

- Cu min 99,95 %
- P 20...70 ppm

Electrical conductivity:

- min 98,3 % IACS

According to EN: H040 min 98,3 % IACS, H065-90 min 96,6 % IACS, H110 min 94,8 % IACS

Typical applications:

- Cooling elements,
- Power distribution systems,
- Telecommunication cables,
- Electrical and electronic applications

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Physical Properties, Tempers and Mechanical Properties:

Alloy Name	Cu-HCP
European Standard Number	CW021A
UNS Code	
Manufacturing Location	Pori
Density	8.9 g/cm ³ , 0.323 lb/in ³
Electrical Conductivity	min 98.3 % IACS
Thermal Conductivity	min 386 W/(m °K), 223 Btu/(ft hr °F)
Modulus of Elasticity	117 GPa, 17 X1000 ksi
Coef. of Thermal Exp. at 20 °C (68 °F)	17.6 10-6/°C, 9.8 10-6/°F
EN H040 / R200	
Tensile Strength Rm N/mm ²	200 - 250
Yield Strength (0.2 %) N/mm ²	max 100
Elongation % A50 / A (0.1- < 2.5 mm/ 2.5 mm -)	min - / 42
Hardness HV	40 - 65
EN H040 / R220	
Tensile Strength Rm N/mm ²	220 - 260
Yield Strength (0.2 %) N/mm ²	max 140
Elongation % A50 / A (0.1- < 2.5 mm/ 2.5 mm -)	min 33 / 42
Hardness HV	40 - 65
EN H065 / R240	
Tensile Strength Rm N/mm ²	240 - 300
Yield Strength (0.2 %) N/mm ²	min 180
Elongation % A50 / A (0.1- < 2.5 mm/ 2.5 mm -)	min 8 / 15
Hardness HV	65 - 95
EN H090 / R290	
Tensile Strength Rm N/mm ²	290 - 360
Yield Strength (0.2 %) N/mm ²	min 250
Elongation % A50 / A (0.1- < 2.5 mm/ 2.5 mm -)	min 4 / 6
Hardness HV	90 - 110
EN H110 / R360	
Tensile Strength Rm N/mm ²	min 360
Yield Strength (0.2 %) N/mm ²	min 320
Elongation % A50 / A (0.1- < 2.5 mm/ 2.5 mm -)	min 2 / -
Hardness HV	min 110

Other tempers - as ASTM - are available upon request.
 Data for information only not for purchase specification.
 Yield strength, Elongation and Hardness are typical values for each temper.