

Oxygen –Free, Copper High Conductivity Copper (OF, CW008A, C102) - alloy (99.99 % minimum Cu) offers the advantages of Electrolytic Tough Pitch Copper (ETP, CW004A, C110) -alloy and Phosphor Deoxidized Copper (DHP, CW024A, C122) - alloy. The high purity and absence of deoxidisers accounts for electrical conductivity of 100 % IACS as well as no susceptibility for hydrogen embrittlement. Due to the absence of oxides in the structure, OF-OK is capable of withstanding critical electrical, electronic and communication applications

**Properties:**

- High electrical conductivity min. 100 % IACS
- High thermal conductivity
- Good formability and weldability
- Excellent corrosion resistance
- Resists hydrogen embrittlement
- Low metal volatility in vacuum
- High scrap value

**Composition:**

- Cu min 99,99 %
- Oxygen free (O<sub>2</sub> max 10 ppm), high conductivity copper

**Electrical conductivity:**

- min 100 % IACS

According to EN: H040 min 100 % IACS, H065-90 min 98,3 % IACS, H110 min 96,6 % IACS

**Typical applications:**

- Electrical and electronic applications,
- Telecommunication cables,
- Printed circuits

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**Physical Properties, Tempers and Mechanical Properties:**

<b>Alloy Name</b>	<b>Cu-OF</b>
<b>European Standard Number</b>	<b>CW008A</b>
<b>UNS Code</b>	<b>C10200</b>
<b>Manufacturing Location</b>	<b>Pori</b>
Density	8.9 g/cm <sup>3</sup> , 0.323 lb/in <sup>3</sup>
Electrical Conductivity	min 100 % 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
<b>EN H040 / R200</b>	
Tensile Strength Rm N/mm <sup>2</sup>	200 - 250
Yield Strength (0.2 %) N/mm <sup>2</sup>	max 100
Elongation % A50 / A (0.1- < 2.5 mm/ 2.5 mm -)	min - / 42
Hardness HV	40 - 65
Thickness mm	0.2 - 20
<b>EN H040 / R220</b>	
Tensile Strength Rm N/mm <sup>2</sup>	220 - 260
Yield Strength (0.2 %) N/mm <sup>2</sup>	max 140
Elongation % A50 / A (0.1- < 2.5 mm/ 2.5 mm -)	min 33 / 42
Hardness HV	40 - 65
Thickness mm	0.2 - 20
<b>EN H065 / R240</b>	
Tensile Strength Rm N/mm <sup>2</sup>	240 - 300
Yield Strength (0.2 %) N/mm <sup>2</sup>	min 180
Elongation % A50 / A (0.1- < 2.5 mm/ 2.5 mm -)	min 8 / 15
Hardness HV	65 - 95
Thickness mm	0.2 - 6, 12 - 25
<b>EN H090 / R290</b>	
Tensile Strength Rm N/mm <sup>2</sup>	290 - 360
Yield Strength (0.2 %) N/mm <sup>2</sup>	min 250
Elongation % A50 / A (0.1- < 2.5 mm/ 2.5 mm -)	min 4 / 6
Hardness HV	90 - 110
Thickness mm	0.2 - 25
<b>EN H110 / R360</b>	
Tensile Strength Rm N/mm <sup>2</sup>	min 360
Yield Strength (0.2 %) N/mm <sup>2</sup>	min 320
Elongation % A50 / A (0.1- < 2.5 mm/ 2.5 mm -)	min 2 / -
Hardness HV	min 110
Thickness mm	0.2 - 20

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.