Cu-OFE

Oxygen –Free, High Conductivity Copper (OFE, CW009A, C101) –alloy (99.99 % minimum Cu) offers the advantages of both 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 101 % IACS as well as no susceptibility for hydrogen embrittlement. Due to the absence of oxides in the structure, OFE-OK is capable of withstanding critical electrical, electronic and communication applications

Properties:

- Highest possible electrical conductivity min. 101 % IACS
- Highest possible thermal conductivity
- Good formability
- Excellent corrosion resistance
- Resists hydrogen embrittlement
- Low metal volatility in vacuum
- High scrap value

Composition:

- Cu min 99,99 %
- Oxygen free (O2 max 5 ppm), high conductivity copper

Electrical conductivity:

- min 101 % IACS
  According to EN: H040 min 101 % IACS,

Typical applications:

- Printed circuits,
- Bonding applications,
- Electrical and electronic conductors,
- Magnetrons,
- Vacuum interrupters
- Tubes

Aurubis Finland Oy
Kuparitie
PL 60
28101 Pori
Puh. 02 626 6111
Fax. 02 626 5307

Info-pori@aurubis.com
www.aurubis.fi

Cu-OFE

Physical Properties, Tempers and Mechanical Properties:

Alloy Name	**Cu-OFE**
European Standard Number	**CW009A**
UNS Code	**C10100**
Manufacturing Location	**Pori**
Density	8.9 g/cm^3 , 0.323 lb/in^3
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 ºC (68 ºF)	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.