

Cu-XLP/PHC

Extra-low phosphorous copper (P content 10...50 (60) ppm), earlier known as SE-Cu58.

Properties

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

Composition

- Cu min 99,95 %
- P 10...60 ppm

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

Power distribution systems, telecommunication cables, electrical and electronic applications



Cu-XLP/PHC

European standard number CW020A
 UNS code C10300
 Manufacturing location Pori, Finspång

Chemical properties

Cu-XLP P 0.001-0.005 %
 Cu-PHC P 0.001-0.006 %

Physical Properties

Density
 g/cm³ 8.9
 lb/in³ 0.323
 Electrical Conductivity****
 (Nominal value in black) min 100
 %IACS min 100
 Thermal Conductivity
 W/(m °K) min 386
 Btu/ft h °F min 223
 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/mm² 200 - 250
 Yield Strength (0.2 %) N/mm² max 100
 Elongation % A50 / A min - / 42
 Hardness (HV) 40 - 65
 Thickness mm (Pori) 0.2 - 20

EN H040 / R220
 Tensile Strength Rm N/mm² 220 - 260
 Yield Strength (0.2 %) N/mm² 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/mm² 240 - 300
 Yield Strength (0.2 %) N/mm² 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/mm² 290 - 360
 Yield Strength (0.2 %) N/mm² 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/mm² min 360
 Yield Strength (0.2 %) N/mm² min 320
 Elongation % A50 / A min 2 /
 Hardness (HV) min 110
 Thickness mm (Pori) 0.2 - 20

Data for information only and not for use as purchase specification.
 Other tempers - as ASTM - are available upon request.
 Yield strength, Elongation and Hardness are typical values for each temper.
 Elongation: The first value is for thickness up to and incl. 0.25 mm / next is > 0.25 mm
 *) Pori: Electrical conductivity according to EN 13599
 Pori: Thicknesses up to 100 mm available in hot roller temper. For strips in coils max. thickness 4 mm. Material thicknesses for building purposes typically 0.5 -2 mm.