

# CuFe2P

CW107C / C19400 / STOL®79 / KME CL12



## Industrial Tubes

Alloy Designation	KME	CL 12
EN	<b>CuFe2P</b>	CW107C
DIN CEN/TS 13388	<b>CuFe2P</b>	2.1310
UNS	C19400	

Alloy Chemical Composition		
Weight percentage		
Cu	Remainder	%
Fe	2,1 .. 2,6	%
Zn	0,05 - 0,20	%
Mg	max. 0,1	%
P	0,015 – 0,15	%
Other	max. 0,2	%

### Wide range of tube-sizes (seamless drawn)

LWC (tube-coils appr. 175 kg) OD 6 – 25 mm, wall 0,25 – 2 mm  
 SL (straight length) OD 6 – 110 mm, wall 0,5 – 4 mm  
 Capillary tubes (OD 2,5 – 5,5 mm) on request

### Preferred Applications & Main Applications

ACR + Heat Exchangers -> highpressure performance  
 Automotive / Electrical -> improved material-stability

### Specification for tubes made of CuFe2P

ACR -> general: EN 12735 / material : EN 12449  
 Electrical -> general: EN 13600 / material : EN 12449  
 general applications -> EN 12449

### Characteristics

KME CL12 is an improved CuFe2P with better dispersed Iron precipitations and addition of Magnesium leading to higher strength, improved formability, and better resistance to prevent / to reduce the relaxation-effect. ( Relaxation =softening at high temperatures )

### Mechanical Properties ( extended KME-range of tempers due to internally specified processing options )

Temper			Tensile Strength	Yield Strength	Elongation	Hardness
<u>underlined</u> = EN12449			Rm	Rp <sub>0,2</sub>	A <sub>50mm</sub>	HV
			MPa	MPa	%	HV
<u>R300</u>	soft annealed	SL	min. 300 appr. 340	max.250 max.250	min. 25 appr. 44	85 - 115 appr. 100
<u>R300</u>	soft annealed	LWC	min. 300 appr. 365	max.250 max.250	min. 25 appr. 32	85 - 115 appr. 110
<u>R370</u>	light annealed	LWC	min. 370 appr. 400	min. 250 appr. 300	min. 15 25 - 29	110 - 140 appr. 125
<u>R420</u>	½ hard	LWC	min. 420 appr. 470	min. 320 appr. 370	min. 5 appr. 20	min. 135 appr. 150
<u>R490</u>	¾ hard	LWC	min. 490 appr. 520	appr. 430	appr. 20	appr.160
<u>R550</u>	hard	SL LWC	min. 550 appr. 575	appr. 500	appr. 7	≥ 170

SL = straight lengths => more temper options on request

values of hardness only for information

### Physical Properties Typical values in annealed temper at 20 °C

Density	8.9	g/cm <sup>3</sup>
Thermal expansion coefficient 20 .. 300 °C	16.3	10 <sup>-6</sup> /K
Specific heat capacity	0.38	J/(g·K)
Thermal conductivity	262	W/(m·K)
Modulus of elasticity ( 1 GPa = 1 kN/mm <sup>2</sup> ) cold formed	130	GPa
annealed	123	GPa