

4.7 C19005 (C19002)****

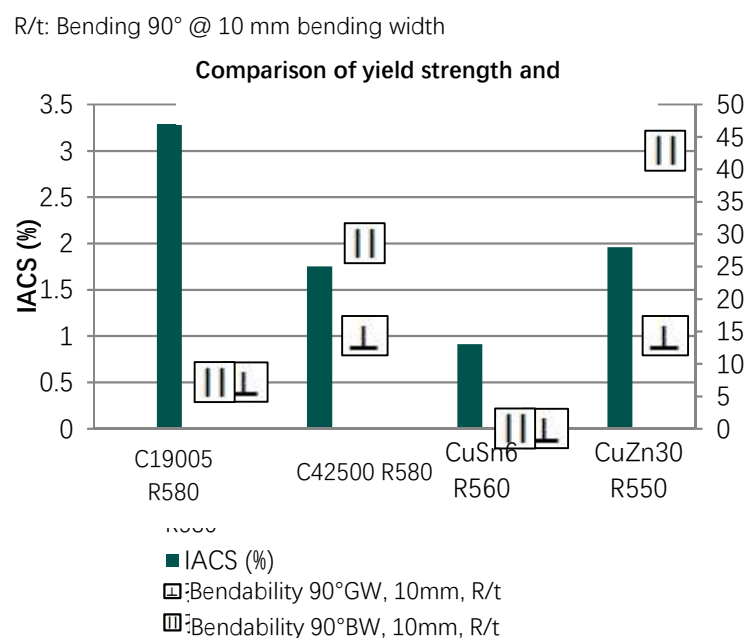
Application Range

Modified Cu-Ni-Si alloy, which in tinned version does not exhibit peeling-off of the coating during long-time temperature exposure of up to 130°C. The further material characteristics are mostly identical to those of C19010 with the exception of electrical conductivity, which is slightly lower.

Physical Properties							Chemical Position (reference value) %				
Density *	g/cm ³	8.9					Cu	Rest			
Thermal conductivity *	W/(m·K)	260					Ni	0.8 - 1.8			
Electr. conductivity ***	MS/m	33/27					Si	0.15 - 0.35			
Electr. conductivity ***	IACS (%)	57/47					Sn	0.02 - 0.3			
Thermal expansion c. **	10 ⁻⁶ K	16.8					Zn	0.20 - 0.70			
Modulus of elasticity *	Gpa	135					Other	max. 0.8			

Condition	Temper class	Tensile strength	Yield strength	Elongation		Hardness (reference value) HV	Electr. conductivity MS/m	Bendability R/t ¹⁾²⁾ 90°		Bendability R/t ¹⁾²⁾ 180°	
		T.S. min. - max. MPa	Rp 0.2 min. MPa	A50 min. %				GW Strip thickness ≤0.5mm	BW Strip thickness ≤0.5mm	GW Strip thickness ≤0.5mm	BW Strip thickness ≤0.5mm
Cold rolled	R360	360 - 430	300	12	14 ³⁾	100 - 130	33	0	0	0	0.5
	R410	410 - 470	360	9	11 ³⁾	125 - 155	33	0	0.5	0.5	1
	R460	460 - 520	410	7	9 ³⁾	135 - 165	33	0.5	1	1.5	3
	R520	520 - 580	460	5	7 ³⁾	145 - 175	33	1	2	2.5	4
Precipitation hardened	R530 ⁴⁾	530 - 630	430	14		150 - 190	27	0	0	1	2
	R580	580 - 660	540	8		170 - 200	27	1	1	3	5
	R580 S	580 - 660	520	9		170 - 200	27	0.5	0.5	1.5	2
	R620 ⁵⁾	620 - 700	560	7		180 - 210	27	1	1.5	3	5

R/t: Bending 90° @ 10 mm bending width



*Reference values at room temperature

**Between 20 and 300 °C

*** Values for the lowest temper class

1) $r = x \cdot t$ (strips up to $t = 0.50$ mm)

2) Sample width = 10 mm / bending at smaller bending widths on request (Evaluation according to page 5.4.2. of Hand-Out)

3) Valid only as thermal stress relieved qualities

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