Material Data Sheet CU-INOX
CU-INOX-CU

Date: 08-2021

Cladding Composite

CU-INOX

CU-INOX-CU

(Stainless Steel, single-side or both-side cladded with Copper)

Brief description

CU-INOX and CU-INOX-CU are single-side or both-side cladded material composites, combining the high strength and corrosion resistivity of stainless steel with good conductivity and brazeability of Copper.
Typical areas of application are the manufacture of demanded formed parts and brazed heat exchangers.

Standard – raw materials

Position	Material	Description	Material-Nr.	Standard
Basis	Stainless Steel (SS)	X5CrNi18-10 X2CrNi18-9 X2CrNi19-11 X2CrNiMo17-12-2	1.4301 1.4307 1.4306 1.4404	DIN EN 10088-2
Cladding Layer	Copper	Cu-DHP	CW024A	DIN EN 1652

Chemical Composition [%]

SS	C	Si	Mn	P	S	Ni	Cr	N	Mo	
1.4301/07	- 0,03	- 1,00	- 2,00	- 0,045	- 0,015	8,00 10,50	1,50 19,50	- 0,10	-	
1.4306	- 0,03	- 1,00	- 2,00	- 0,045	- 0,015	10,00 12,00	18,00 20,00	- 0,10	-	
1.4404	- 0,03	- 1,00	- 2,00	- 0,045	- 0,015	10,00 13,00	16,50 18,50	- 0,10	2,00 2,50	

Copper	Cu	P							
Cu-DHP	min 99,9	0,015 0,040							

Standard sizes

Strip thickness:	0.3 -1.0 mm
Strip width:	20 - 600 mm
Cut-to-lenght:	500 - 2500 mm
Nominal layer thickness:	single-side or both-side 4% - 10% of strip thickness

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Surface quality

Type / Description	Characteristics	Roughness Ra
Regular (roll-brightened)	Metallically clean surface. Minimal defects and scratches are acceptable in a scale not impairing the technical function and appearance of both layers.	0.15-1.3 µm

Mechanical properties

Cladded Layer Copper [%]	Strength condition[1)]	Yield Point $Rp_{0.2}$ [MPa]	Tensile Strength R_m [MPa]	Elongation A_{80} [%]
4-10	2R	min. 200	500 - 700	min. 40

1) Bright annealed and skin passed according to DIN EN 10088-2

Tolerances

Size limits of thickness	- according classes N, F	of DIN EN ISO 9445-1
Size limits of width	- according classes N,F,P	of DIN EN ISO 9445-1
Size limits of length	- according class N	of DIN EN ISO 9445-1

Edge type

Slit edge according to DIN EN ISO 9445-1

Delivery types

Strips, Cut Lengths

Ordering example

Every order should be specified in consideration of the following information based on this material data sheet:

Product feature	Example 1	Example 2
Cladding composite	CU-INOX	CU-INOX-CU
Cladded layer P(side1-side2) [%]	P(05-00)	P(05-05)
Strength condition	2R	2R
Surface quality	regular	regular
Edge type	Slit edge	Slit edge
Delivering type	Strip	Cut Lengths
Tickness (tolerance) x Width (tolerance) x Length (tolerance)	1.0 (+/- 0.030) x 100 (+0.22) mm	0.50 (+/-0.020) x 420 (+0.80) x 1500 (-0/+3) mm

Miscellaneous

All information in this material data sheet relates to the standard manufactured CU-INOX and CU-INOX-CU - products. Further product features on request.

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