

TECHNICAL DATA SHEET

Alloy designation according to ISO 9453:	Sn97Cu3
Flux designation:	GL13
Product form:	Cored solder wire
Other known alloy markings:	S-Sn97Cu3 • C30

1. General characteristics

The lead-free solder alloy Sn97Cu3 is manufactured by Cynel-Unipress in the first smelting of tin and copper. Its chemical composition complies with ISO 9453. It does not contain silver. Alloy is designed for soldering in lead-free technology. It meets the requirements of the RoHS directive. It can be sold on the consumer market and also used by private individuals outside of professional applications.

2. Chemical composition and physical characteristics

- 2.1. Tin content: rest
- 2.2. Copper content: 2,5 – 3,5%
- 2.3. Purity class of raw materials used for smelting: min. 99,90%
- 2.4. % composition and maximum values of impurities according to ISO 9453:

Sn	Pb	Sb	Bi	Cu	Au	In	Ag	Al	As	Cd	Fe	Ni	Zn	other
rest	0,0700	0,1000	0,1000	2,5000 - 3,5000	0,0500	0,1000	0,1000	0,0010	0,0300	0,0020	0,0200	0,0100	0,0010	-

- 2.5. Melting point: 227/310 °C
- 2.6. Specific weight: ~7,31 g/cm³
- 2.7. Resistivity: 0,118 μΩ·m
- 2.8. Thermal conductivity: 61 W/m·K
- 2.9. Tensile strength at break: 580 kg/cm²
- 2.10. Elongation at break: 20%
- 2.11. Hardness: 11 HB
- 2.12. Recommended soldering temperature (tip): 330 - 370 °C

3. GL13 flux

Flux GL13 is an organic, water-soluble based, halide activated flux for beryllium, aluminum, copper and brass soldering. The flux effectively removes aluminium oxides, improving surface wetting and enabling the formation of a durable joint. Thanks to the specially selected ingredients, the soldering process becomes more efficient. Residues of the flux after soldering should be removed. Importantly, flux residues can be easily removed using water, simplifying the cleaning process and improving the appearance of the connections.

- 3.1. Designation according to DIN 8511: SW25
- 3.2. Designation according to ISO 9454-1: 2.1.2
- 3.3. Designation according to J-STD-004: ORH1
- 3.4. Standard flux contents: 3,0% ± 0,2%
other flux contents in the range from 0,5% to 3,5% possible to agree on > 2%
- 3.5. Halide content: > 2%
- 3.6. Acid number: not applicable
- 3.7. Copper mirror test: not applicable
- 3.8. Corrosiveness: corrosive, requires cleaning, residues washable with water
- 3.9. SIR test (PN-EN ISO 9455-17): not applicable

4. Other information

- 4.1. Available diameters [mm]: 1,00 • 1,50 • 2,00
Other wire diameters possible to be agreed.
- 4.2. Spools and packaging: Spools 1 kg - carton box of 10 kg
Spools 4 kg - carton box of 24 kg
- 4.3. Expiry date: 2 full years from the end of the year of production given in the product batch number.
E.g.: batch no. 41112233 = year of manufacture 2024, validity until the end of 2026.
- 4.4. Markings: Spools and carton boxes marked with alloy, flux type, percentage content of flux, diameter, weight and batch number.
- 4.5. Storage: Store at room temperature in a dry place out of reach of children.

The subject of the specification described above complies with Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of hazardous substances in electrical and electronic equipment and with the Commission Delegated Directive (EU) 2015/863 of 31 March 2015, amending Annex II to Directive 2011/65/EU of the European Parliament and of the Council as regards the list of restricted substances as amended. The subject does not contain any of the substances listed in the RoHS Directive, i.e. lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBB), polybrominated diphenyl ethers (PBDE), di(2 ethylhexyl phthalate (DEHP), butyl benzyl phthalate (BBP), dibutyl phthalate (DBP), diisobutyl phthalate (DIBP) above 0.1% at a homogeneous level of material, unless it is exempted.