SOLDER PASTES • SOLDER WIRES & BARS • SOLDERING FLUXES • SOLDER POWDERS

TECHNICAL DATA SHEET

Alloy designation according to ISO 9453:2020:	**Sn96,5Ag3Cu0,5**
Flux designation:	**WS212**
Product form:	Cored solder wire
Other known alloy markings:	SAC305 • S-Sn96Ag3Cu1 • TSC305 • A30C5

1. General characteristics

The lead-free solder alloy Sn96,5Ag3Cu0,5 is manufactured by Cynel-Unipress in the first smelting of tin, silver and copper. Its chemical composition complies with ISO 9453:2020. The use of a continuous casting process ensures that the metal oxide formation in the solder alloy is minimized. As a result, the negative effect of the formation of dross in the soldering process has been significantly reduced. The product is designed for a wide range of industrial applications in electronics and electrical engineering where RoHS compliance is required. It can be sold on the consumer market and also used by private individuals outside professional applications.

2. Chemical composition and physical characteristics

2.1. Tin content: the rest
2.2. Silver content: 2,8 – 3,2%
2.3. Copper content: 0,3 – 0,7%
2.4. Purity class of raw materials used for smelting: min. 99.90%
2.5. % composition and maximum values of impurities according to ISO 9453:2020:

Sn	Pb	Sb	Bi	Cu	Au	In	Ag	Al	As	Cd	Fe	Ni	Zn	other
rest	0,0700	0,1000	0,1000	0,3000 - 0,7000	0,0500	0,1000	2,8000 - 3,2000	0,0010	0,0300	0,0020	0,0200	0,0100	0,0010	-

2.6. Melting point (solidus/liquidus): 217/220 °C
2.7. Specific weight: ~7,38 g/cm³
2.8. Resistivity: 0,132 µΩ·m
2.9. Thermal conductivity: 58 W/m·K
2.10. Tensile strength at break: 500 kg/cm²
2.11. Elongation at break: 19%
2.12. Hardness: 15 HB
2.13. Recommended soldering temperature (tip): 340 - 420 °C

3. WS212 flux

Organic, halide flux designed for manual and automatic soft soldering. It solders most metals except aluminum and stainless steel. When used in electronics and electrical engineering, removal of flux residues is recommended. Flux residues are easily removable under water. The flux works very well in flame soldering.

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: 2,5% ± 0,2%
        other flux contents from 2.0% to 3.0% are negotiable
3.5. Halide content: > 2,0%
3.6. Acid number: not applicable
3.7. Corrosiveness: possible corrosion, washing recommended

4. Other information

4.1. Available diameters [mm]: 0,25 • 0,38 • 0,50 • 0,56 • 0,70 • 0,80 • 0,90 • 1,00 • 1,20 • 1,50 • 2,00 • 2,50 • 3,00 • 4,00
        Other wire diameters possible to be agreed.
4.2. Spools and packaging: Spools 100 g - carton box of 30 pcs
        Spools 250 g - carton box of 5 kg
        Spools 500 g - carton box of 5 kg
        Spools 1 kg - carton box of 10 kg
4.3. Expiry date: 5 full years from the end of the year of production given in the product batch number.
        E.g.: batch no. **6**1112233 = year of manufacture 201**6**, validity until the end of 2021.
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.

RoHS3
2015/863
COMPLIANT

ISO 9001:2015
ISO 14001:2015

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