

TECHNICAL DATA SHEET

Alloy designation in accordance with ISO 9453:2014	Sn60Pb40
Other known alloy markings	S-Sn60Pb40
Product type	Cored solder wire (with flux)
Flux	SW21

1. General characteristics

The solder was produced in the first smelt of tin and lead. The composition of the solder complies with the ISO 9453:2014 standard. SW21 is organic, water-soluble based, halide activated flux. It is leaded alloy for manual and automatic processes where meeting the requirements of the RoHS2 Directive is not required. The solder is soldering most metals except aluminum and stainless steel. If used in electronics and electrotechnics it is recommended to remove flux residues. Residues of flux after soldering are water washable. The product is intended for professional use.

2. Chemical characteristics

- 2.1. Tin content: 60,0 ±0,5%
- 2.2. Lead content: rest
- 2.3. Composition and permissible impurities according to ISO 9453:2014:

Sn	Pb	Sb	Bi	Cu	Au	In	Ag	Al	As	Cd	Fe	Ni	Zn	others
59,5 - 60,5	rest	0,20	0,10	0,08	0,05	0,10	0,10	0,001	0,03	0,002	0,02	0,01	0,001	

3. Physical characteristics

- 3.1. Melting point: (solidus/liquidus): 183/190 °C
- 3.2. Density: 8,50 g/cm³
- 3.3. Electrical conductivity: 0,153 μΩm
- 3.4. Thermal conductivity: 49 W/m K
- 3.5. Tensile strength: 535 kgf/cm²
- 3.6. Elongation at break: 40%
- 3.7. Hardness: 16 HB
- 3.8. Suggested operating temperatures (values that can be the starting point for process settings):
 - Soldering tip temperature: 340 - 420 °C.

4. SW21 flux

Organic, water-soluble based, halide activated flux. Special flux composition offers good solderability on various metal surfaces excluding aluminum and its alloys. Residues of flux after soldering are water washable if cleaning is necessary or required. The flux is exceptionally well suited for flame soldering.

- 4.1. Flux type: 2.1.2B (acc. to EN ISO 9454)
ORH1 (acc. to IPC-J-STD-004B)
SW-25 (acc. to DIN 8511)
- 4.2. Flux content: 2,0 ± 0,2%; 3 cores of flux (1 core or other flux content on request)
- 4.3. Halide content: > 2,0%
- 4.4. Acid Value: not applicable
- 4.5. SIR test (PN-EN ISO 9455-17): no data

5. Product description

- 5.1. Available diameters: • 0,25 • 0,38 • 0,50 • 0,56 • 0,70 • 0,80 • 0,90 • 1,00 • 1,20 • 1,50 • 1,60 • 2,00 • 2,50 • 3,00 • 4,00 mm (other on request)
- 5.2. Packed: • 120 pcs / 6 kg (50 g reels) • 60 pcs / 6 kg (100 g reels) • 5 kg (250 g and 500 g reels) • 10 kg (1 kg reels) cartons (other on request)
- 5.3. Reels and cartons marked with alloy type, flux type, diameter, net weight and batch number.

6. Storage

- 6.1. In original packaging at 5-20°C.
- 6.2. The recommended humidity level is 20-60%.
- 6.3. Keep away from strong oxidizing agents, acids, alkaline agents and beyond the reach of children
 Expiration date - three years from the end of the year of production
 for example: batch 61112233 = date of production 2016, date of expiry 2019