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TECHNICAL DATA SHEET

Alloy designation according to ISO 9453:2020:	**Sn60Pb40**
Flux designation:	**PRO**
Product form:	Cored solder wire
Other known alloy markings:	S-Sn60Pb40 • LC60

1. General characteristics

Soldering alloy Sn60Pb40 is produced by Cynel-Unipress in the first melting of tin and lead. Its chemical composition complies with ISO 9453 standard. The use of continuous casting process ensures that formation of metal oxides in the soldering alloy is minimized. As a result, negative impact of dross formation during soldering process has been significantly reduced. It is popular tin-lead alloy for manual, automatic and robotic processes used in industrial applications in electronics and electrical engineering, where compliance with the requirements of the RoHS directive is not required. Due to its lead content it cannot be sold to private consumers and its use is restricted to professional applications only.

2. Chemical composition and physical characteristics

2.1. Tin content: 59.5 – 60.5%
2.2. Lead content: rest
2.3. Purity class of raw materials used for smelting: min. 99.90%
2.4. % composition and maximum values of impurities acc. to ISO 9453:2020 standard:

Sn	Pb	Sb	Bi	Cd	Cu	Au	In	Ag	Al	As	Fe	Ni	Zn	other
59,5 - 60,5	rest	0,2000	0,1000	0,0020	0,0800	0,0500	0,1000	0,1000	0,0010	0,0300	0,0200	0,0100	0,0010	-

2.5. Melting point: 183/190 °C
2.6. Specific weight: ~8.50 g/cm^3
2.7. Resistivity: 0,153 µΩ·m
2.8. Thermal conductivity: 49 W/m·K
2.9. Tensile strength at break: 535 kg/cm^2
2.10. Elongation at break: 40%
2.11. Hardness: 16 HB
2.12. Recommended soldering temperature (tip): 340 - 400 °C

3. PRO flux

Halide-free flux based on colophony, excellent for wetting copper and other solder point coatings generally used in electronics. Gentle yet effective, it performs very well in robot-operated processes, as well as in general soldering applications for electronic connections.

3.1. Designation according to DIN 8511: SW32
3.2. Designation according to ISO 9454-1: 1.1.3
3.3. Designation according to J-STD-004: ROL0
3.4. Standard flux contents: 1,0% • 1,5% • 2,0% • 2,2% • 2,5% • 3,0% ± 0,2%
other flux contents in the range from 0,8% to 3,5% possible to agree on
3.5. Halide content: 0,0%
3.6. Acid number: 305 ±10 mg KOH/g
3.7. Copper mirror test: passed (in accordance with J-STD-004 IPC-TM-650 2.3.32D)
3.8. Corrosiveness: noncorrosive

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.

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