SynFlex Elektro GmbH
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SynWire type 180, Copper Wire, round, enamelled, self bonding

- enamelled round copper wire, self-bonding
- insulated with solderable polyester and aliphatic polyamide
- class 180

Attributes

The SynWire type 180 is a thermal class H enamelled copper wire which can be directly soldered and bonded under heat. With a solder bath temperature from 470 °C the wire is solderable without prior removal of the insulation film. The SynWire type 180 is a 2-ply self bonding wire which is used to produce thermally stimulated windings in an integral and thus space saving, machine suitable, efficient and cost-effective manner. In contrast to impregnants, these windings can be bonded quickly and environmentally friendly. The self bonding windings are characterised by their thermal and mechanical stability.
State-of-the-art processing techniques, process controls and checks ensure the constant high quality of these wires.

Application

Electric motors, induction coils, stator windings

Standards

IEC / DIN EN 60317-36
Partly UL approved

Delivery forms

Grade 1B + 2B: 0.036 – 1.25 mm

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Typical properties of enamelled round self-bonding copper wire, 0.500 mm, with insulation film grade 1B

Mechanical	Unit of measure	Set value	Actual value (typ.)
Outer diameter	mm	min. 0.541 - max. 0.568	as set value
Bare wire diameter	mm	0.495 - 0.505	as set value
Adhesion and elongation		1 x d, no cracks	1 x d / 10% pre-elongation
Elongation at break	%	≥ 28	≥28
Adhesiveness at r.t.	N	1.1	> 1.1

Thermal	Unit of measure	Set value	Actual value (typ.)
Re-softening temperature	°C	160	≥ 160
Heat shock at 200 °C		≥200	≥ 200
Solderability at 470 °C	s	≤ 6	≤ 4
Bonding temperature	°C	200 ± 2	180-200
Temperature index TI		min. 180	≥ 180
Cut through temperature (pre-heated block)	°C	min. 265	≥ 2 Min. at 265

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Electrical	Unit of measure	Set value	Actual value (typ.)
Dielectric strength RT	kV	≥ 2,4 (Twist)	≥ 2,4 (Twist)
Electric conductivity	m/Ωmm²	58.5	58.5