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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

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### 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.

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### Application

Electric motors, induction coils, stator windings

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### Standards

IEC / DIN EN 60317-36

IEC / DIN EN 60317-0-1

Partly UL approved

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### Delivery forms

Grade 1B + 2B: 0.036 - 1.25 mm

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 Tl		min. 180	≥ 180
Cut through temperature (pre-heated block)	°C	min. 265	≥ 2 Min. at 265

The information on this data sheet is based on the information provided by our supplier. It does not represent any specification or agreements regarding conditions or properties. The indicated values are standard values. Deviations from those values due to production and application cannot be excluded. The information on this data sheet is addressed to experts who use it at their own discretion and at their own risk. We do not guarantee results, or accept liability for the indicated specifications or for results obtained based on the specifications. Please contact us for more detailed information. Non-toxic and toxic substances are listed on the safety data sheet.

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**Product datasheet**

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Electrical	Unit of measure	Set value	Actual value (typ.)
Dielectric strength RT	kV	$\geq 2,4$ (Twist)	$\geq 2,4$ (Twist)
Electric conductivity	m/ $\Omega$ mm <sup>2</sup>	58.5	58.5

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