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## SynWire W 200, Flat Copper Wire, enamelled

- Flat copper wire
- Insulated with THEIC-mod. polyesterimide
- Plus polyamid-imide
- Class 200/220

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### Attributes

SynWire W 200 is a highly thermoresistant rectangular enamelled copper wire of heat performance class N with a wide range of excellent quality features. Its insulation film consists of 2 different coatings on top of one another. These ensure a very good permanent thermal and overload resistance, excellent resistance against mechanical stress, as well as an excellent resistance to chemical attacks of commercial washing and cleaning agents, impregnating varnishes and resins, sealing compounds, thinners, solvents and refrigerants, oils as well as their vapours. This range of excellent features make SynWire W 200 an all-round wire meeting the requirements of all applications with above average requirements to processing and operational features or operational safety in electrical systems.

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### Application

E-mobility, electric motors, generators, transformers, hybrid constructions

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### Standards

IEC / DIN EN 60317-29

IEC 60317-0-2

NEMA MW 36-C / MW 38-C

Partly UL approved

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### Delivery forms

Nominal thickness D: 0.8 to 5.0 mm

Nominal width B: 2.0 to 25.0 mm

Grade 1 on request

Grade 2 standard

Typical properties of enamelled flat copper wire 5.60 x 3.55 mm, with insulation film grade 2

Mechanical	Unit of measure	Set value	Actual value (typ.)
Width with varnish	mm	5.67 - 5.82	as set value
Thickness with varnish		3.62 - 3.77	as set value
Pencil hardness of varnish		H	4H - 5H
Elongation at break	%	≥32	≥ 38
Elongation and adhesion (no cracks in varnish after winding) - bend over width		4 x width	3 x width
Elongation and adhesion (no cracks in varnish after winding) - bend over thickness		4 x thickness	3 x thickness
Elongation and adhesion (no cracks in varnish after winding) - elongation		15 % with crack <1 x width	32 % without cracks

Electrical	Unit of measure	Set value	Actual value (typ.)
Dielectric strength RT	kV	≥ 2.0 (ball pit)	≥ 3.0 (ball pit)
High voltage discontinuities (testing voltage 750 V)		/	≤ 7 on 100 m
Electrical conductivity of Cu conductor	MS/m	58-59	≥58.5

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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Thermal	Unit of measure	Set value	Actual value (typ.)
Heat shock at 220 °C (no cracks in varnish after winding)		Mandrel diameter: 6 x thickness	Mandrel diameter 4 x thickness
Solderability		no	no
Temperature index TI	°C	200/220	210/220

Chemical	Set value	Actual value (typ.)
Enamel pencil harness after storage ½ h/60 °C in standard solvent	min. H	3H - 5H
Enamel pencil harness after storage ½ h/60 °C in alcohol	min. H	3H - 5H
Resistance to impregnants ^{(1)}	/	yes
Resistance to commercial refrigerants^{(1)}	/	yes
Resistance to dry transformer oils^{(1)}	/	yes
Resistance to hydraulic oils^{(1)}	/	yes

(1) Due to the variety of individual applications we cannot make any generally binding commitments regarding the compatibility. We recommend testing compatibility with the materials being used.