SynFlex Elektro GmbH
Auf den Kreuzen 24
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SHTherm® 200

- Enamelled round cu.wire, thermo-resistant
- Insulated with theic-mod. polyesterimide
- Class 180

Attributes

SHTherm® 200 is a highly thermo-resistant enamelled copper wire of heat performance class H. Its single coat insulation offers very good resistance to thermal overloads, thanks to its high thermoplastic flow and heat shock temperature. It also provides good resistance to commercial impregnating agents, impregnating resins, extrusion-coating agents, sealing resins, solvents and detergents. Furthermore the insulating enamel film distinguishes itself through high film elasticity and abrasion resistance. Sophisticated process technology and process setting ensure easy mouldability, very good elongation properties and low coefficients of friction, as well as good and constant dielectric insulation properties of these wires. In particular, resistance to dichlorodifluormethane (Freon) is to be emphasized. Thanks to the described wide range of excellent properties SH Therm® 200 is ideally suited for all standard applications in heat performance classes F and H, when sophisticated winding and draw-in technologies are used, as well as for use in refrigeration machines filled with Freon. SHTherm® 200 can be welded and mechanically connected but is not solderable.

Application

Control gears, electric motors, magnetic & ignition coils, refrigeration units, transformers

Standards

IEC / DIN EN 60317-08

NEMA MW 30-C

UL approved

Delivery forms

Grade 1: on request

Grade 2: on request

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Typical properties of enamelled copper wire 0.355 mm, with insulation film grade 1

Mechanical	Unit of measure	Set value	Actual value
Outer diameter with varnish	mm	min. 0.375 - max. 0.392	as set value
Bare wire diameter	mm	0.351-0.359	as set value
Elongation and adhesion		mandrel diameter: 0.335 mm	1 x d /10 % pre-elongation
Scrape resistance	N	≥ 3.050	≥ 4.500
Pencil hardness of varnish		H	3H - 4H
Elongation at break	%	≥ 27	≥ 33
Coefficient of friction	µ	/	≤ 0.140

Thermal	Unit of measure	Set value	Actual value
Temperature index	°C	180	190
Cut through temperature (pre-heated block)	°C	300	≥ 320
Dielectric loss factor (bending point)	(°C) (tan δ)	/	≥ 185
Heat shock at 200 °C (no cracks in varnish coat after winding)		mendral diameter: 0.800 mm	1 x d /10 % pre-elongation
Solderability		no	no

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Electrical	Unit of measure	Set value	Actual value
Dielectric strength RT	kV	≥ 2.3 (twist)	≥ 2.5 (cylinder)
High voltage discontiniuties 750V		≤ 10 on 30 m	≤ 7 on 100 m
Electrical conductivity	MS/m	58 - 59	≥ 58.5

Chemical	Set value	Actual value
Pencil hardness (storage in standard solvent ½ h / 60 °C)	min. H	3H
Pencil hardness (storage in alcohol ½ h / 60 °C)	min. H	3H
Resistance to commercial 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.