SynFlex Elektro GmbH
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SHTherm® 210 Alu

- Enamelled al.wire
- Insulated with theic-mod. polyesterimide and amid-imid topcoat
- Class 200

Attributes

SHTherm® 210 AL is a highly thermo-resistant enamelled aluminium wire of heat performance class N with a wide range of good and very good quality features. As it is a dual-coat wire its insulation film consists of two different coatings on top of one another. These ensure: a very good permanent thermal and overload resistance, excellent esistance to chemical attacks e.g. by alkalines, washing and cleaning agents, impregnating varnishes and resins, sealing compounds, thinners, solvents and refrigerants as well as their vapours, an excellent mechanical abrasion resistance.
On demand the system can be offered with an additional layer of selflubricating enamel thus giving enhanced properties for winding operations.

Application

Control gears, drives for household equipment, electric motor drives, pump drives, refrigerators, transformers

Standards

IEC /DIN EN 60317-25
NEMA MW 35-A / 73-A
UL approved

Delivery forms

Grade 1: 1.250 - 5.000 mm
Grade 2: 1.250 - 5.000 mm
< 1.250 mm on request
> 5.000 mm on request

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Updated 05/18

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Typical properties of enamelled round aluminium wire 0.600 m, with insulation film grade 1

Mechanical	Unit of measure	Set value	Actual value
Outer diameter with varnish	mm	min. 0.627 - max. 0.649	as set value
Bare wire diameter	mm	0.594-0.606	as set value
Elongation and adhesion		3 x d	2 x d
Scrape resistance	N	≥ 2,2	≥ 3.5
Pencil hardness of varnish		H	4H - 5H
Elongation at break	%	≥ 12	≥ 20
Coefficient of friction	µ	/	≤ 0.140

Thermal	Unit of measure	Set value	Actual value
Temperature index	°C	200	207
Cut through temperature (pre-heated block)	°C	/	/
Dielectric loss factor (bending point)	(°C) (tan δ)	/	≥ 185
Heat shock at 220 °C (no cracks in varnish coat after winding)		3 x d	3 x d
Solderability		no	no

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Electrical	Unit of measure	Set value	Actual value
Dielectric strength RT	kV	≥ 2.6 (twist)	≥ 3 (cylinder)
High voltage discontiniuties 1000V		≤ 25 on 30 m	≤ 7 on 100 m
Electrical conductivity	MS/m	35.5 - 36.2	≥ 35.85

Chemical	Set value	Actual value
Pencil hardness (storage in standard solvent ½ h / 60 °C)	min. H	3H - 5H
Pencil hardness (storage in alcohol ½ h / 60 °C)	min. H	3H - 5H
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.

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