SynFlex Elektro GmbH
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SHSold® V180 Glide

- Enamelled round copper wire, solderable and self lubricating
- Insulated with polyurethane
- Class 180

Attributes

SHSold® V180 Glide is an enamelled copper wire of thermal performance class H and allows quick and direct soldering. The most outstanding characteristics of the wire is the possibilty of efficient and safe contacting of the wire ends by quick and exact soldering at solder bath temperatures from 390 °C upwards without prior mechanical removal of the insulation film. This type of enamelled copper wires fulfills the technical requirements of modern winding techniques and can be well impregnated and cast with compounds in accordance with the manufacturer‘s instructions. The excellent thermal resistance characteristics offer protection when wire-wound coils have to be compound cast and when subject to shorttime overloads. The chemical resistance to aggressive liquid and gaseous mediums is limited, and therefore we recommend that you carry out compatibility tests before using this enamelled copper wire. SHSold® V180 Glide can be easily welded and mechanically connected. Sophisticated process technology and process setting ensure easy mouldability, good elongation plus constant and good insulation characteristics of these wires. The final layer of varnish serves the purpose of providing a superior gliding surface, giving the wire excellent windability features at higher speeds, and enabling a higher filling factor plus reduced soiling of the winding machines. The reduced coefficient of friction helps to avoid damage to the wire during winding and thus maintains the insualtion properties of the wire.

Application

Contactors, magnetic coils, relays, small motors, transformers, inverters

Standards

IEC / DIN EN 60317-51

NEMA MW 82-C

UL approved

Delivery forms

Grade 1: 0.112 - 0.710 mm (> 0.710 mm on request)

Grade 2: on request

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Updated 06/18

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Typical properties of enamelled round copper wire 0.500 mm, with insulation film grade 1

Mechanical	Unit of measure	Set value	Actual value (typ.)
Overall diameter	mm	min. 0.524 - max. 0.544	as set value
Bare wire diameter	mm	as set value	
Adhesion (no cracks in film after winding)		mandrel diameter 0.500 mm	1 x d/10 % pre-elongation
Scrape resistance	N	≥ 3.100	≥ 6.000
Pencil hardness		H	2H - 3H
Elongation at break	%	≥ 28	≥ 37
Coefficient of friction	µ	/	≤ 0.110

Thermal	Unit of measure	Set value	Actual value (typ.)
Temperature index TI	°C	180	185
Cut through temperature (pre-heated block)	°C	230	≥ 230
Dielectric loss factor (bending point)	(°C) (tan δ)	/	≥ 140
Heat shock at 200 °C (no cracks in varnish coat after winding)		mandrel diameter 1.120 mm	1 x d / 10 % pre-elongation
Solderability	bei 390 °C	≤ 4	≤ 2.5

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Electrical	Unit of measure	Set value	Actual value (typ.)
Dielectrical strength at RT	kV	≥ 2.4 (twist)	≥ 3 (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 (typ.)
Pencil hardness (storage in standard solvent ½ h / 60 °C)	min. H	2H - 3H
Pencil hardness (storage in alcohol ½ h / 60 °C)	min. H	H
Resistance to commercial impregnants^(1)	/	yes
Resistance to commercial refrigerants^(1)	/	no
Resistance to commercial dry transformer oils^(1)	/	not recommended
Resistance to commercial hydraulic oils^(1)	/	no

(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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