Schwering & Hasse
Pyrmonter Str. 3-5
D-32676 Lügde
Telefon +49 / 5281 / 988-0
E-Mail info@sh-wire.de

SHSold® V155

- Solderable enamelled round cu.wire
- Insulated with polyurethane
- Class 155

Attributes

SHSold® V155 is a self-fluxing enamelled copper wire of thermal performance class F. The most outstanding characteristic of this wire is the possibilty of having an efficient and safe contact of the wire ends by fast and easy solderability with a solder bath temperature from 390 °C upwards without prior mechanical removal of the insulation film. This type of enamelled copper wire fulfills the requirements of modern winding technology. In accordance with the manufacturer's instructions SHSold® V155 can be impregnated and cast with compounds. Chemical resistance to aggressive, liquid or gaseous mediums is limited, and therefore we recommend that you carry out compatibility tests before using this enamelled copper wire. SHSold® V155 can be easily welded and mechanically connected. Sophisticated process technology and process setting ensure easy mouldability, best elongation plus constant and good insulation characteristics of these wires.

Application

Contactors, magnetic coils, relays, small motors, transformers

Standards

IEC /DIN EN 60317-20

NEMA MW 79-C

UL approved

Delivery forms

Grade 1: 0.050 - 0.100 mm (> 0.100 mm on request)

Grade 2: on request

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Typical properties of enamelled round wire 0.160 mm, with insulation film grade 1

Mechanical	Unit of measure	Set value	Actual value
Outer diameter with varnish	mm	min. 0.172 - max. 0.182	as set value
Bare wire diameter	mm	0.157-0.163	as set value
Elongation and adhesion		mandrel diameter: 0.160 mm	1 x d /10 % pre-elongation
Scrape resistance	N	/	/
Pencil hardness of varnish		H	2H - 4H
Elongation at break	%	≥ 22	≥ 28
Coefficient of friction	µ	/	≤ 0.140
Bare wire diameter	mm	0.157-0.163	as set value
Elongation and adhesion		mandrel diameter: 0.160 mm	1 x d /10 % pre-elongation
Elongation at break	%	≥ 22	≥ 28
Outer diameter with varnish	mm	min. 0.172 - max. 0.182	as set value
Scrape resistance	N	/	/
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Thermal	Unit of measure	Set value	Actual value
Temperature index	°C	155	160
Cut through temperature (pre-heated block)	°C	200	≥ 220
Dielectric loss factor (bending point)	(°C) (tan δ)	/	≥ 140
Heat shock at 175 °C (no cracks in varnish coat after winding)		mandrel diameter: 0.250 mm	1 x d /10 % pre-elongation
Temperature index	°C	155	160
Heat shock at 175 °C (no cracks in varnish coat after winding)		mandrel diameter: 0.250 mm	1 x d /10 % pre-elongation
Solderability at 390 °C	s	≤ 2	≤ 1
Solderability at 390 °C	s	≤ 2	≤ 1
Cut through temperature (pre-heated block)	°C	200	≥ 220
Dielectric loss factor (bending point)	(°C) (tan δ)	/	≥ 140

Electrical	Unit of measure	Set value	Actual value
Dielectric strength RT	kV	≥ 1.7 (twist)	≥ 2.5 (cylinder)
High voltage discontiniuties 500V		≤ 10 on 30 m	≤ 7 on 100 m
Electrical conductivity	MS/m	58 - 59	≥ 58.5

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Electrical conductivity	MS/m	58 - 59	≥ 58.5
High voltage discontiniuties 500V		≤ 10 on 30 m	≤ 7 on 100 m

Chemical	Set value	Actual value
Pencil hardness (storage in standard solvent ½ h / 60 °C)	min. H	2H - 4H
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 dry transformer oils^(1)	/	not recommended
Resistance to hydraulic oils^(1)	/	no
Pencil hardness (storage in standard solvent ½ h / 60 °C)	min. H	2H - 4H
Pencil hardness (storage in alcohol ½ h / 60 °C)	min. H	H
Resistance to commercial refrigerants^(1)	/	no
Resistance to dry transformer oils^(1)	/	not recommended
Resistance to hydraulic oils^(1)	/	no
Resistance to commercial impregnants^(1)	/	yes

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(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.