Varflex
ELECTRICAL INSULATING SLEEVING
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Varglas Hermetic Sleeving

Copolymer Coated Fiberglass Sleeving

Class 130 (-25°C to +130°C) (-13°F to +266°F)

Description

Varglas Hermetic Sleeving is produced by coating braided fiberglass with a highly-crosslinked, modified acrylic copolymer that is extremely flexible yet very tough and abrasion resistant. It is highly resistant to refrigerants, at both high and low temperatures, and compatible with potting compounds and varnishes. Varglas Hermetic Sleeving offers good resistance to thermal shock and is unaffected by most common oils including xylol/paraffin oil (50/50 mixture by volume), refrigeration lubricants Suniso® 3-G (a mineral oil), Icematic® SW100 (a synthetic polyol-ester oil), and ZEROL® 150 (a synthetic alkylbenzene oil) and solvents including methylene chloride, toluene, xylene and 1,1,1 trichlorethane. Designed specifically for hermetic motors, its “low extraction” levels of soluble materials protect against contamination, as well as clogging, within the compressor system.

Varglas Hermetic Sleeving meets the requirements of NEMA TF-1, Type 2, and ASTM-D372.

Applications

Varglas Hermetic Sleeving is ideally suited as insulation in hermetically-sealed refrigeration units. It is resistant to hydrochlorofluorocarbon (HCFC) refrigerants such as R-22 and R-123 as well as the new, environmentally-friendly hydroflourocarbon (HFC) refrigerants such as R-134a. It also is compatible with mineral-oil lubricants such as Suniso® 3-G, synthetic polyol-ester refrigeration lubricants such as Icematic® SW1OO, and synthetic alkylbenzene refrigeration oils such as ZEROL® 150. In addition to being free of contaminating impurities, its tough coating resists thermal shock, rough assembly handling, and mechanical stress without loss of dielectric strength.

Sizes

AWG #24 through 1” I.D. Other sizes subject to inquiry

Standard Color

Natural.

Standard Packaging

Coils, spools or 36” lengths at manufacturer’s option, unless otherwise specified. There is no cutting charge for 36” lengths, but lengths other than 36” are subject to cutting charges. Sizes over 1” I.D. are generally supplied in 36” lengths.

Varglas Hermetic Sleeving Typical Properties

Property	Procedure	Performance
Physical		
Flexibility and Toughness, Coating	UL 1441	Passes (Cold Bend and Penetration Tests).
Abrasion and cut- through resistance.	—	Excellent
Chemical		
Resistance to Refrigerants (Extractables) @ high psi and temperatures	GE Test Method #E5OFH15-51 "Freon® 22 Extractables"	Passes (Excellent). Extractables of less than 0.5% (actual 0.2%) in Refrigerants R-22, R-123 & R-134a.
Water Resistance (Water Extraction)	GE Test Method #E5OFH16-51 "Water Extraction"	Passes (Excellent). Extractables of less than 0.5% (actual 0.3%)
Resistance to Refrigerants and Oils (Blister Test)	GE Test Method #ESOKM16 "Resistance of Hermetic Insulation"	Passes (Excellent). No blisters when removed from 50/50 mixtures (volume) of HCFC or HFC refrigerants and mineral, polyol-ester or alkylbenzene oils.
Oil and Solvent Resistance	MIL-I-3190/3 & MIL-I-3190/6	Good. No cracks, softening or swelling when immersed in mineral or polyol-ester oil; methylene chloride; toluene; xylene and 1,1,1 trichlorethane.
Compatibility	UL 1446	Good. Compatible with most potting compounds and varnishes.
Electrical		
Dielectric Strength after 48/23/50:		
Grade B	NEMA TF - 1	4000v min. avg., 2500v min. indiv.
Grade C - 1	NEMA TF - 1	2500v min. avg., 1500v min. indiv.
Dielectric Strength after 96/23/96:		
Grade B	NEMA TF - 1	45% of Original Value. (MIL-I-3190/3 requires 30% for Grade A)
Hydrolytic Stability after 336 hrs. @ 70°C over Constant Water Reflux	MIL-I-3190/3	2200 volts min. avg. (Spec. requires 1500 volts for Grade A).
Thermal		
Thermal Endurance	MIL-I-3190/2 & UL 1441	Class 130°C (B)
Brittleness Temperature	ASTM-D350	- 25°C
Flame Resistance	UL 1441, Horiz. Specimen	Passes
	ASTM-D350, Method B	Passes
	NEMA TF-1	Passes
	MIL-I-3190/2, Method B	Passes
Resistance to Potting Temperatures	MIL-I-3190	No blisters, flow or cracks visible after 15 min. @ 225°C.

Note:

Information contained here is precise and reliable. However, being unique, each end-use should be evaluated to satisfy its specific requirements.

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