



PRODUCT STANDARD
TME DIVISION, BHOPAL

TM 00295

TME/2011

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SPECIFICATION OF FLEXIBLE SLEEVING – FIBERGLASS, RESIN COATED

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1. REQUIREMENTS

1.1 Standards and Practices

As appear in N.E.M.A. Standard VSI-1962**.

1.2 Properties

	Type 3-A	Type 3-B	Type 5-A	Type 5-A Ex	Type 5-A Ex2	Type 6-A
Dielectric Strength, Volts, min., average	7,000	4,000	7,000	7,000	18,000	7,000
Volts, min., individual	5,000	2,500	5,000	5,000	15,000	5,000
Heat Aging 96 hrs. at 150°C for Type 3) 96 hrs. at 220°C for Type 5)--- 96 hrs. at 175°C for Type 6)	No Failure					
Resistance to Potting Temperature, 15 minutes at 225±7°C.	Shall not soften, blister or flow sufficiently to reduce above dielectric test values more than 50%.					
Transformer Oil Immersion, 24 hrs., 150°C, -0°, +5°C	No disintegration or swelling.					
Flammability: Seconds, Max. Type 3, ASTM D867-61** Type 5, 6, N.E.M.A. Method B	15	15	45	45	45	45

1.3 Coating

3A and 3B to be a thermoplastic material such as polyvinyl chloride, capable of operation at 130°C.

5A to be a silicone elastomer capable of operation at operation at 200°C.

5A-EX to be a silicone elastomer, applied by extrusion process, capable of operation at operation at

5A-EX2 to be same as 5A-Ex except to be silicone elastomer doubly applied over two fiberglass braids.

5A-EX2 to be same as 5A-Ex except to be silicone elastomer doubly applied over two fiberglass braids.

6A to be an insulating compound such as some epoxies, polyesters or poly-urethanes capable of operation at 155°C.

Revision : 00

Date : 05/08/2010

Distribution

Qty.

Approved :

Prepared
M. N. NAGAR

Checked

Date

[Handwritten Signature]
5/8/2010
[Handwritten Signature]
5/8/2010



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1.4 Color

3A & 3B - black, unless otherwise specified on engineering drawing

5A - white, unless otherwise specified on engineering drawing.

5A-Ex --- white, unless otherwise specified on engineering drawing.

5A-Ex2 -- optional, unless otherwise specified on engineering drawing.

6A - optional, unless otherwise specified on engineering drawing.

1.5 Standard Sizes & Tolerances

Size	Inside Diameter - Inches	
	Maximum	*Minimum
No. 24	0.027	0.020
No. 22	0.032	0.024
No. 20	0.039	0.032
No. 18	0.049	0.040
No. 17	0.054	0.045
No. 16	0.061	0.051
No. 15	0.067	0.057
No. 14	0.074	0.064
No. 13	0.082	0.072
No. 12	0.091	0.081
No. 11	0.101	0.091
No. 10	0.112	0.102
No. 09	0.124	0.114
No. 08	0.141	0.129
No. 07	0.158	0.144
No. 06	0.178	0.162
No. 05	0.198	0.182
No. 04	0.224	0.204
No. 03	0.249	0.229
No. 02	0.278	0.258
No. 01	0.311	0.289
No. 0	0.347	0.325
No. 00 (3/8")	0.399	0.375
No. 000 (7/16")	0.462	0.438
No. 0000 (1/2")	0.524	0.500
No. 5/8"	0.655	0.625
No. 3/4"	0.786	0.750
No. 7/8"	0.911	0.875
No. 1"	1.036	1.000

- The minimum inside diameters for sizes 0 to 20 inclusive are the same as the diameters of copper wire for corresponding A.W.G. and B. & S. size.



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NOTE : Engineering Department Approval of Source is required for material supplied to this specification.

****NOTE** : Wherever the specification or test of any society is referred to herein with its date number or revision letter stated, no other dated or more recent revisions are acceptable except by revision of this Electro-Motive Specification.

2. **GENERAL INFORMATION** : (Not Mandatory Vendor Requirements)

This specification covers heat resistant coated fiberglass tubing. The shelf life of this material is indefinite.

3. **DRAFTING INFORMATION**

Wherever use of this material is specified, it shall be designated as :

MATERIAL EMS 478 FIBERGLASS SLEEVING TYPE _____
followed by the appropriate type number.

NOTE : These specifications were developed without considering whether patents may or may not be involved. In all cases, therefore, the supplier shall be required to assume patent liability.

4. **Reference to EMD Standards**

This specification is equivalent to EMD Standard EMS 478.
