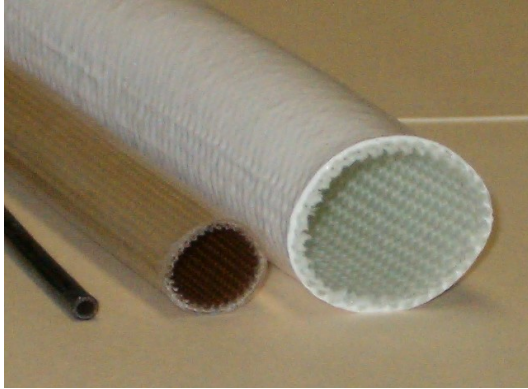
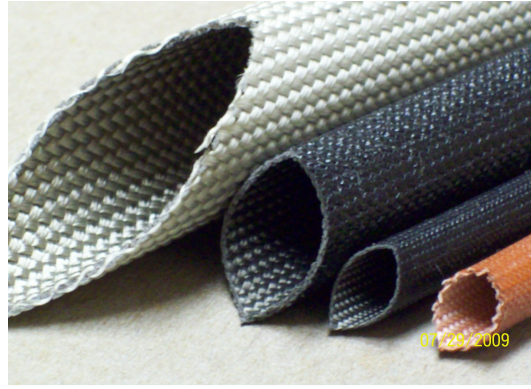


SILICONE RUBBER COATED BRAIDED FIBERGLASS SLEEVING Rev 05/25/10

SG-200 LSR SLEEVING



SG-200 HPS SLEEVING

**SUMMARY:**

- Class 200 Insulation.
- Grade A (7000V) UL & CSA Electrical Component - UL File #E93101, CSA File #LR67735
- Grade A (7000V) & B (4000V) VW-1 Flame Retardant - UL File #E80713 / #E93101
- Applicable Specifications:
 - NEMA TF-1 Type 5
 - UL 1441 VW-1
 - FMVSS 302
 - SAE ARP 1536 Abrasion Test
 - MIL-I-3190/6, QPL-3190: Grade A (8000V)
 - ASTM E162 Surface Flammability
 - ASTM E662 Optical Smoke Density
 - BSS 7239 Toxic Gas Generation
- RoHS and WEEE compliant.
- Low Temperature Brittle Point Below -70°C
- Available Sizes: AWG #24 – 2 1/2"
- Packaging: Standard Spools, Bulk Spools, Cut to length (1/2" diameter and under). Above 1 1/2" supplied in 4' lengths.
- Colors: White, Black, Natural, Red Iron Oxide are standard. Other colors are available – contact customer service for special quotation.

NU-SLEEVE SG-200 is available in 5 electrical grades (A, B, C-1, C-2 and C-3) in a standard wall (NEMA TF-1, Table 3-1) construction. All grades are made using braided E-Glass yarns that have been heat treated to optimize coating adhesion and minimize surface irregularities and then coated with either a liquid silicone rubber (LSR) or a high polymer silicone (HPS) solution, whichever best fits the application. LSR products are available in Grades A, B and C-1. HPS products are available in Grades C-1, C-2 and C-3 only. All SG-200 products have a high resistance to abrasion, are more homogeneous than extruded rubber sleeving and both types have a high heat/flex capacity. It is highly resistant to end fray and coating fracture, even when stretched over rectangular conductors or wires larger than the normal maximum inside diameter, making it an ideal choice for high stress applications over a wide temperature range from -55°C to +200°C.

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All NU-SLEEVE SG-200 products are highly resistant to inorganic acids and alkalis. HPS shows no swelling or distortion from Chlorinated organic solvents and aromatic hydrocarbons but these agents will cause some swelling and subsequent reduction in Tensile strength for LSR. Consult the factory for more information concerning specific chemical compatibilities.

NU-SLEEVE SG-200 is used extensively in high temperature applications where one or more of the following features are required: flexibility, expandability, abrasion resistance, cut-through resistance and chemical resistance. It finds application in terminal and lead-wire insulation and protection, wire harness protection in extreme environments as well as high current dry transformers. It may also be stacked or telescoped with the same or other insulation products to obtain higher dielectric voltage ratings.

NEMA Grades Spec.	Jenisco /Markel Hygrade Spec.	Min. Average Breakdown	Min. Individual Breakdown	Silicone Type
SG-200 A	ER565/SR-398A	7000V	5000V	LSR
SG-200 B	ER564/SR-398B	4000V	2500V	LSR
SG-200 C-1	ER563/SR-398C	2500V	1500V	LSR
SG-200 C-1	ER562/NA	2500V	1500V	HPS
SG-200 C-2	ER561/NA	1500V	700V	HPS
SG-200 C-3	ER560/NA	N/A	N/A	HPS

Operating Range:	-70°C to 200°C
Dielectric Strength Grade A:	Dry: 8,000 Volts, 60Hz AC @ 500V/sec. Rate of rise Wet: >80% of the dry values
Dielectric Constant:	(10,000 Hz) 2.86 (100 Hz) 2.87
Volume Resistivity:	Ohm.cm x 10 ¹³ 6.1
Dissipation Factor:	(10,000 Hz) .0011 (100Hz) .0016
Tensile Strength:	Mpa 8.3
Hardness:	Shore A 37
Elongation at Break:	% 420
Fungus Resistance:	Inert None at 40x
Rate of Burning:	Self-extinguishing with removal of flame source
Radiation Resistance:	(10 Mrads) No effect
DELPHI M4613	
Heat Age	275°C for 136 hours – no effect.
Flammability	Self-extinguishing
Fluid exposure	
Brake fluids	No effect
Transmission fluids	No effect
Antifreeze	No effect
Washer solutions	No effect
Fuel C	No effect
Pwr. Steering fluid	No effect
Diesel	No effect
Battery electrolyte	No effect
Oil	No effect
ARP 1536A - Abrasion resistance	15,000 cycles, minimum
ASTM E162 – Surface Flammability	I _s 6.72
ASTM E662 – Optical Smoke Density	(4 min ave) Flaming D _s = 7.9 Non-Flaming D _s = 2.3
BSS 7239 – Toxic Gas Generation	Pass

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NEMA Size	Nominal Diameter (inches)	Nominal Diameter (mm)	Delfingen Part No. (See NOTES)	Minimum Diameter (inches)	Maximum Diameter (inches)
24	0.024	0.61	ER5650024xx	0.020	0.027
22	0.029	0.74	ER5650022xx	0.025	0.032
20	0.036	0.91	ER5650020xx	0.032	0.039
18	0.044	1.12	ER5650018xx	0.040	0.049
17	0.049	1.24	ER5650017xx	0.045	0.054
16	0.056	1.42	ER5650016xx	0.051	0.061
15	0.062	1.57	ER5650015xx	0.057	0.067
14	0.069	1.75	ER5650014xx	0.064	0.074
13	0.077	1.96	ER5650013xx	0.072	0.082
12	0.086	2.18	ER5650012xx	0.081	0.091
11	0.096	2.44	ER5650011xx	0.091	0.101
10	0.107	2.72	ER5650010xx	0.102	0.112
9	0.119	3.02	ER5650009xx	0.114	0.124
8	0.135	3.43	ER5650008xx	0.129	0.141
7	0.148	3.76	ER5650007xx	0.144	0.158
6	0.166	4.22	ER5650006xx	0.162	0.178
5	0.186	4.72	ER5650005xx	0.182	0.198
4	0.208	5.28	ER5650004xx	0.204	0.224
3	0.234	5.94	ER5650003xx	0.229	0.249
2	0.263	6.68	ER5650002xx	0.258	0.278
1	0.294	7.47	ER5650001xx	0.289	0.311
5/16"	0.313	7.95	ER5650312xx	0.313	0.334
0	0.330	8.38	ER5650000xx	0.325	0.347
3/8"	0.387	9.83	ER5650375xx	0.375	0.399
7/16"	0.450	11.43	ER5650437xx	0.438	0.462
1/2"	0.512	13.00	ER5650500xx	0.500	0.524
5/8"	0.640	16.26	ER5650625xx	0.625	0.655
3/4"	0.768	19.51	ER5650750xx	0.750	0.786
7/8"	0.893	22.68	ER5650875xx	0.875	0.911
1"	1.018	25.86	ER5651000xx	1.000	1.036
1 1/8"	1.144	29.06	ER5651125xx	1.125	1.161
1 1/4"	1.260	31.75	ER5651250xx	1.250	1.286
1 1/2"	1.518	38.56	ER5651500xx	1.500	1.536

Notes: 1). Grade A (7000V) is shown in the above part numbers. For other grades, substitute as follows in place of ER565:

- ER564 - Grade B LSR
- ER563 - Grade C-1 LSR
- ER562 - Grade C-1 HPS
- ER561 - Grade C-2 HPS
- ER560 - Grade C-3 HPS

2) The last 2 characters in the part number are reserved for color identification. For colors, substitute as follows for xx: B=Black, N=Natural, RO=Red Oxide, W=White, G=Green, U=Blue. Contact customer service for price and availability of all colors other than black, white, natural and red oxide.

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