

# NU-SLEEVE SG-200

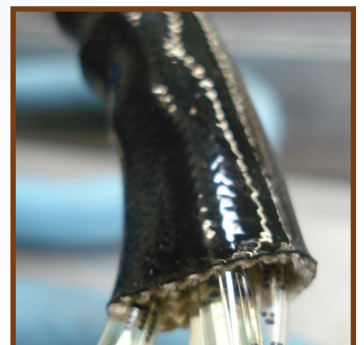
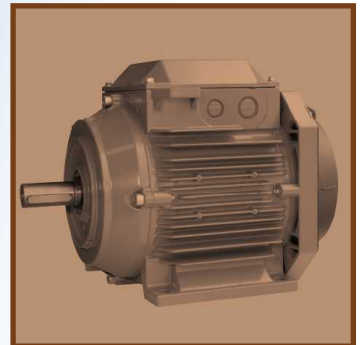
Electrical Equipment

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  $-55^{\circ}\text{C}$  to  $+200^{\circ}\text{C}$ .

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.



All our sites are ISO TS16949  
and ISO 14001 certified



## SILICONE RUBBER COATED BRAIDED FIBERGLASS SLEEVING

- 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)
- 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 available colors are subject to factory quotation upon request.

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 (NEMA Class H):	-70° C to 200° C
Dielectric Strength:	Dry: 8,000 volts, 60 Hz AC @ 500V / sec. Rate of rise
Dielectric constant:	Wet: > 80% of the dry values
	(10,000 Hz) 2.86
Volume resistivity:	(100 Hz) 2.87
Dissipation factor:	Ohm.cm x 10 <sup>13</sup> 6.1
	(10,000 Hz) .0011
Tensile Strength:	(100 Hz) .0016
Hardness:	MPa 8.3
Elongation at break:	Shore A 37
Fungus resistance:	% 420
Rate of Burning:	Inert None at 40x
Radiation Resistance:	Self-extinguishing with removal of heat source
	(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
Abrasion resistance	1,500 cycles, minimum

## Dimensions

NEMA Size	Nominal Diameter (inches)	Nominal Diameter (mm)	Delfingen Grade A Part No.	Minimum Diameter (inches)	Maximum Diameter (inches)
24	0.024	0.61	ER5650024X	0.020	0.027
22	0.029	0.74	ER5650022X	0.025	0.032
20	0.036	0.91	ER5650020X	0.032	0.039
18	0.044	1.12	ER5650018X	0.040	0.049
17	0.049	1.24	ER5650017X	0.045	0.054
16	0.056	1.42	ER5650016X	0.051	0.061
15	0.062	1.57	ER5650015X	0.057	0.067
14	0.069	1.75	ER5650014X	0.064	0.074
13	0.077	1.96	ER5650013X	0.072	0.082
12	0.086	2.18	ER5650012X	0.081	0.091
11	0.096	2.44	ER5650011X	0.091	0.101
10	0.107	2.72	ER5650010X	0.102	0.112
9	0.119	3.02	ER5650009X	0.114	0.124
8	0.135	3.43	ER5650008X	0.129	0.141
7	0.148	3.76	ER5650007X	0.144	0.158
6	0.166	4.22	ER5650006X	0.162	0.178
5	0.186	4.72	ER5650005X	0.182	0.198
4	0.208	5.28	ER5650004X	0.204	0.224
3	0.234	5.94	ER5650003X	0.229	0.249
2	0.263	6.68	ER5650002X	0.258	0.278
1	0.294	7.47	ER5650001X	0.289	0.311
5/16"	0.313	7.95	ER5650312X	0.313	0.334
0	0.330	8.38	ER5650000X	0.325	0.347
3/8"	0.387	9.83	ER5650375X	0.375	0.399
7/16"	0.450	11.43	ER5650437X	0.438	0.462
1/2"	0.512	13.00	ER5650500X	0.500	0.524
5/8"	0.640	16.26	ER5650625X	0.625	0.655
3/4"	0.768	19.51	ER5650750X	0.750	0.786
7/8"	0.893	22.68	ER5650875X	0.875	0.911
1"	1.018	25.86	ER5651000X	1.000	1.036
1 1/8"	1.144	29.06	ER5651125X	1.125	1.161
1 1/4"	1.260	31.75	ER5651250X	1.250	1.286
1 1/2"	1.518	38.56	ER5651500X	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:

- o ER564 - Grade B LSR
- o ER563 - Grade C-1 LSR
- o ER562 - Grade C-1 HPS
- o ER561 - Grade C-2 HPS
- o 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.

Data for information only, subject to modifications without notice

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