

ELECTRICAL INSULATION

# GES

## Product Highlights

- Working temperature:  
–60°C to +220°C  
(-76°F to +428°F)  
(class H)
- Diametrical expansion 1.3
- Flame resistant
- Zero Halogen
- 4 kV or 10kV dielectric strength

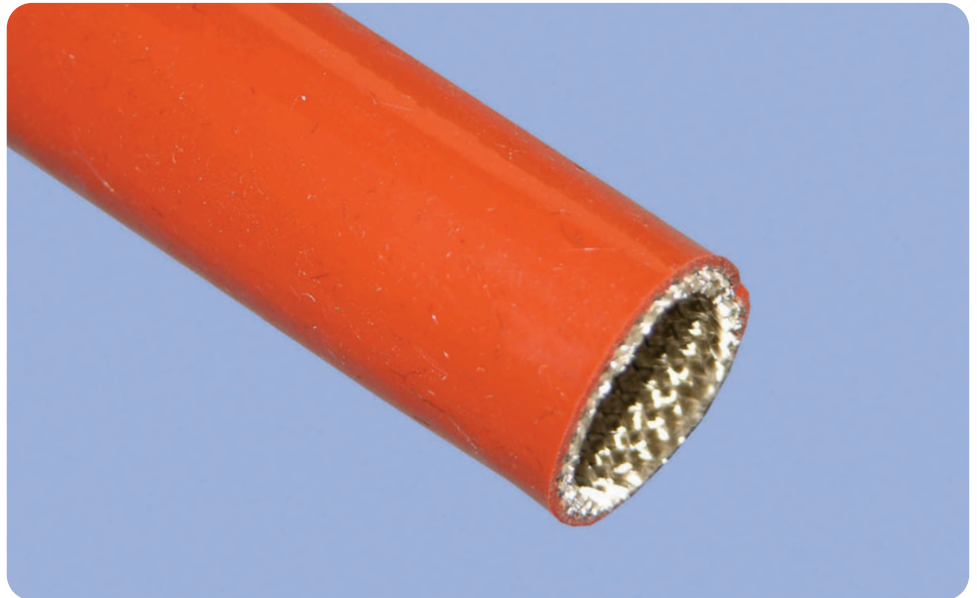
## Installation Features

- Very flexible
- Local reinforcement of electrical insulation
- Electrical Cabinet
- Protection of ground shunts



Our manufacturing sites are certified ISO 9000, QS 9000 or ISO/TS 16949 and ISO 14001

E\_GES 10/01/07



**GES** is a braided fiberglass sleeve with a silicone rubber coating designed to provide electrical insulation. The thickness of the silicone coating determines the dielectric strength, which ranges from 4 to 10 kV.

The high flexibility of GES allows relative diametrical expansion (approximately 1.3) This product provides electrical insulation for a wide range of industries and applications, including winding, engines and transformer outlets.

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# Performance Data - GES

| Property                         | Test Method  | Result   |
|----------------------------------|--|--|
| Working Temperature              | MIL standard 1003190C<br>(class +220°C (+428°F)), type D, category C | -60°C (-76°F) to +220°C (+428°F) (continuous)<br>Meets requirement |
| Flame Resistance                 | UL 1441 (VW1)<br>NF 16.101 – 16.102                                  | Pass<br>I2-F0  |
| Dielectric measurements          | NF standard C93.641  | See table below  |
| Volume resistivity               |  | 10 <sup>12</sup> ohms/cm   |
| Resistance to transformer fluids | NF standard C.93641  | Pass   |

## Electrical Performances

GES is available in 2 versions with the following dielectric strength:

| Description | Dielectric Strength<br>(average value) | Dielectric Strength<br>(minimum) |
|-------------|--|----------------------------------|
| GES 40      | 4.0 kV                                 | 2.5 kV                           |
| GES 100     | 10.0 kV                                | 7.0 kV                           |

## Product Specifications

| Internal Diameter<br>(mm) (in) | Diameter Tolerance<br>(mm) | Standard Packaging<br>(m) (ft) |
|--------------------------------|----------------------------|--------------------------------|
| 0.5 (1/64")                    | ± 0.2                      | 200 (656)                      |
| 1.0 (1/32")                    | ± 0.2                      | 200 (656)                      |
| 1.5 (1/16")                    | ± 0.2                      | 200 (656)                      |
| 2 (5/64")                      | ± 0.2                      | 200 (656)                      |
| 2.5 (3/32")                    | ± 0.2                      | 200 (656)                      |
| 3 (7/64")                      | ± 0.2                      | 100 (328)                      |
| 4 (5/32")                      | ± 0.2                      | 100 (328)                      |
| 5 (13/64")                     | ± 0.3                      | 100 (328)                      |
| 6 (1/4")                       | ± 0.3                      | 100 (328)                      |
| 7 (9/32")                      | ± 0.3                      | 100 (328)                      |
| 8 (5/16")                      | ± 0.3                      | 100 (328)                      |

| Internal Diameter<br>(mm) (in) | Diameter Tolerance<br>(mm) | Standard Packaging<br>(m) (ft) |
|--------------------------------|----------------------------|--------------------------------|
| 9 (23/64")                     | ± 0.5                      | 50 (164)                       |
| 10 (25/64")                    | ± 0.5                      | 50 (164)                       |
| 12 (15/32")                    | ± 0.5                      | 50 (164)                       |
| 14 (35/64")                    | ± 0.5                      | 25 (82)                        |
| 16 (5/8")                      | ± 0.7                      | 25 (82)                        |
| 18 (23/32")                    | ± 1.0                      | 25 (82)                        |
| 20 (51/64")                    | ± 1.5                      | 25 (82)                        |
| 22 (7/8")                      | ± 1.5                      | 25 (82)                        |
| 25 (63/64")                    | ± 2.0                      | 25 (82)                        |
| 32 (1-1/2")                    | ± 2.0                      | 25 (82)                        |

## Part Numbering System:

| Example: | Description | Size | Color               | Quantity        |
|----------|-------------|------|---------------------|-----------------|
|          | GES 40      | 10   | 12 (red iron oxide) | 1000m (3280 ft) |

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## Availability

Bentley-Harris® GES is available in sizes from 0.5 to 32 mm (1/64" to 1-1/2"). The standard colour is red iron oxide.

Please consult the factory with needs for special colours, which are available on a minimum order basis.

All numeric data show average or typical values.

**Europe:** (33) 3 44 30 39 00  
**China:** (86) 21 5588 0898  
**Japan:** (81) 45 938 8711  
**USA:** (1) 800.926.2472

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