

ELECTRICAL INSULATION

# GES

## Product Highlights

- Operating temperature from -60°C to +220°C (-76°F to +428°F) (Class H)
- Diametrical expansion 1.3
- Flame resistant
- EN 45545-2
- Zero Halogen
- 4 kV or 10kV dielectric strength

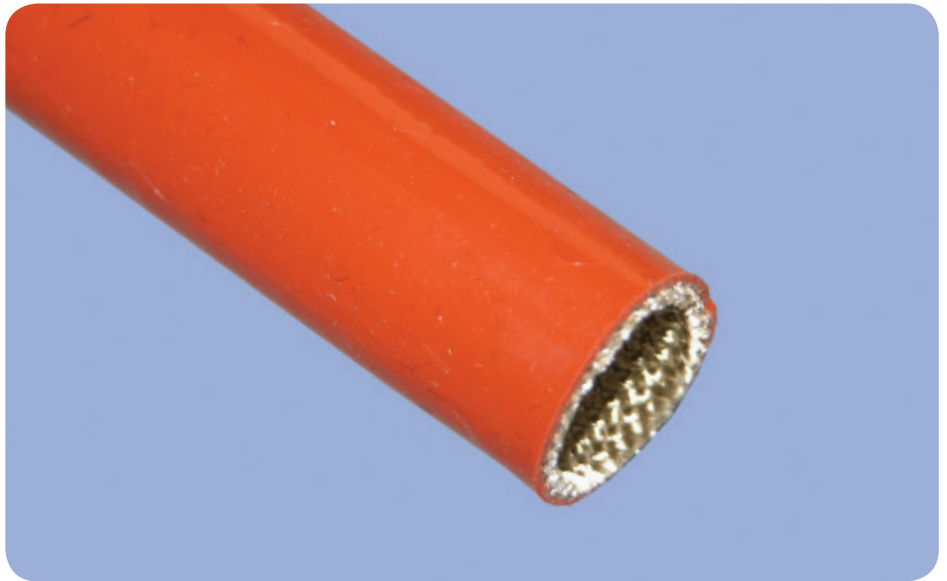
## Installation Features

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



Our manufacturing sites are certified ISO 9001, ISO/TS 16949, or AS/EN 9100, and ISO 14001

GES\_07242014



**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.

# Performance Data – GES

Property	Test Method	Result
Operating Temperature	MIL standard 1003190C (class +220°C (+428°F)), type D, category C	-60°C (-76°F) to +220°C (+428°F) (continuous) Meets requirement
Flame Resistance	UL 1441 (VW1) NF 16.101 - 16.102 DIN 5510-2 & 54837 DIN EN ISO 5659-2 EN 45545-2	Pass I2-F0 S4, SR2 & ST2 (from sizes 12 to 32) CIT 8 min: 0,024 ; FED 30 min: 0,020 R22 HL3 R23 HL3
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 (average value)	Dielectric Strength (minimum)
GES 40	4.0 kV	2.5 kV
GES 100	10.0 kV	7.0 kV

## Product Specifications

Internal Diameter (mm) (in)	Diameter Tolerance (mm)	Standard Packaging (m) (ft)	Internal Diameter (mm) (in)	Diameter Tolerance (mm)	Standard Packaging (m) (ft)
0.5 (1/64")	± 0.2	500 (1640)	9 (23/64")	± 0.5	100 (328)
1.0 (1/32")	± 0.2	500 (1640)	10 (25/64")	± 0.5	100 (328)
1.5 (1/16")	± 0.2	500 (1640)	12 (15/32")	± 0.5	100 (328)
2 (5/64")	± 0.2	500 (1640)	14 (35/64")	± 0.5	100 (328)
2.5 (3/32")	± 0.2	500 (1640)	16 (5/8")	± 0.7	50 (164)
3 (7/64")	± 0.2	500 (1640)	18 (23/32")	± 1.0	50 (164)
4 (5/32")	± 0.2	500 (1640)	20 (51/64")	± 1.5	50 (164)
5 (13/64")	± 0.3	500 (1640)	22 (7/8")	± 1.5	25 (82)
6 (1/4")	± 0.3	500 (1640)	25 (63/64")	± 2.0	25 (82)
7 (9/32")	± 0.3	100 (328)	28* (1-1/8")	± 2.0	25 (82)
8 (5/16")	± 0.3	100 (328)	32** (1-1/2")	± 2.0	25 (82)

\* Only available in GES 40

\*\* Only available in GES 100

## Part Numbering System:

Example:	Description	Size	Color	Quantity
	GES 40	10	12 (red iron oxide)	100m (328ft)

The information and illustrations given herein are believed to be reliable. Federal-Mogul makes no warranties as to their accuracy or completeness and disclaims any liability in connection with their use. Federal-Mogul's only obligations are those in the standard term of sale for this product and Federal-Mogul will not be liable for any consequential or other damages arising out of the use or misuse of this product. Users should make their own evaluations to determine the suitability of the product for specific applications.

©2008 Federal-Mogul Systems Protection, manufacturer of Bentley-Harris protection products.

## Availability

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

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

All numeric data show average or typical values.

**USA:** (1) 800 926 2472  
**Europe:** (33) 3 44 39 06 06  
**Japan:** (81) 45 479 0201  
**China:** (86) 21 6182 7688

[www.federalmogul.com/sp](http://www.federalmogul.com/sp)

**BentleyHarris®**  
Protection Products