## IGTF1

# Gaines thernorétractables 4:1 noires avec parois interieur adhésive

#### Features/Applications

GREMTUBE® G61A 4X is a flame retardant, irradiated polyolefin heat shrink tubing with adhesive. GREMTUBE® G61A 4X offers both insulation and sealing for protection and meets the most stringent industrial and military requirements. It covers a wide range of diameters, allowing for reduced inventory. It accommodates irregular or jagged shape.

It offers an operating temperature range to -55°C to 135°C for the heat shrink (outer tubing) & max. 110°C for adhesive (inner tubing).

GREMTUBE® G61A 4X is particularly suited to protect automotive cables, wire bundles and metal tubes against water and moisture where flame retardant properties are required.



Standard colours: Black, Clear.

Special sizes and colours available on request.

### **Specifications**

UL 224, File n°E328937: VW-1, 600V, 125°C, outside layer only, except clear products MIL-I-23053/4 Class 3

#### **Dimensions**



Reference	As supplied (mm)	After recovery (mm)		Standard	
IGTF1	Inside Diameter	Inside Diameter Total Wall		packag	ing (m)
IGIFI	Mini. (D)	Maxi. (d)	Thickness Mini. (t)	Spool	Length
4/1	4.0	1.0	0.90	100	1.2
8/2	8.0	2.0	0.90	50	1.2
12/3	12.0	3.0	1.30	50	1.2
16/4	16.0	4.0	1.60	25	1.2
24/6	24.0	6.0	2.10	25	1.2
32/8	32.0	8.0	2.30	25	1.2
52/13	52.0	13.0	2.50	25	1.2

Cut pieces available on request



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Values







Test Methods

Property			values	rest methods	
Physical	Working temperature		-55°C to +110°C	-	
	Longitudinal change		±10 %	-	
	Density		≤ 1,40g/cm³	ASTM D 792	
	Tensile strength	Unanad	≥ 1,1 kgf/mm²	ASTM D 638	
	Elongation	Unaged	≥ 200%	MIL-I-23053	
	Tensile strength	Aged (168h @ 158°C)	≥ 0,8 kgf/mm <sup>2</sup>	ASTM D 638	
	Elongation	Aged (1661) @ 156°C)	≥ 100%	MIL-I-23053	
	Heat shock (4h @ 250°C)		Pass	MIL-I-23053	
	Low temperature flexibility	(4h @ -55°C)	No crack	MIL-I-23053	
	Secant modulus		≤ 173 MPa	ASTM D 882	
Electrical	Dielectric strength		≥ 19,7 kV/mm	ASTM D 2671	
	Volume resisitvity		≥ 1x10 <sup>14</sup> Ω-cm	ASTM D 876	
Chemical	Fluid resistance	Tensile strength	$\geq$ 0,7 kgf/mm <sup>2</sup>	MIL-I-23053	
	(24h @ 24°C)	Dielectric strength	≥ 15,8 kV/mm	MIL-1-23033	
	Communicate (16h @ 17506)	Copper	No corrosion	MTI 1 22052	
	Corrosion (16h @ 175°C)	Copper mirror	No corrosion	MIL-I-23053	
	Flammability		Pass	ASTM D 2671 Procedure B	
	Fungus resistance		No growth	ASTM G 21	

Recommended storage conditions: Keep in cool, dry, ventilated storage (maximum temperature of 35°C) and in closed containers.



19/03/2013 Rev2

We certify that the values provided are as accurate as possible. Use of these values, however, remains the sole responsibility of the customer and cannot in any way substitute for testing the product under real conditions of use. The user must assess whether this product is suitable for a particular use. Gremco shall not be held responsible for any loss or anomaly resulting from the correct or incorrect use of this product.