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R.E.A. C.C.I.A.A. CO-321022



# SHILTEK LG

## FIRE SLEEVE TEST

**SCOPE:** to evaluate resistance to fire of a fiberglass silicon coated sleeve manufactured by company

***SMART PROTECTIONS srl*** (Como) - ITALY

**TEST METHOD:** The fire test procedure has been evaluated according the following procedure

- PART 1:*** Resistance to 260°C continuous temperature for 48 hour
- PART 2:*** Resistance to 1000°C continuous flame temperature for 20 minutes
- PART 3:*** Resistance to 1650°C continuous flame temperature for 20 seconds



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## **TEST DESCRIPTION:**

### **PART 1 : RESISTANCE TO CONTINUOUS TEMPERATURE OF 260°C**

- ✓ The fire sleeve is assembled on a metallic pipe and clamped at the ends to make a 20 mm specimen;
- ✓ The specimen is placed in an oven with circulating air at 260°C for 48 hours
- ✓ The specimen is taken out from the oven and inspection is made to evaluate if the sleeve shows cracks, burns or any visible sign of decay both externally and internally.

### **Results:**

***The firesleeve doesn't show any sign of decay or change in properties.***



Picture 1  
Test apparatus for PART 2 & 3



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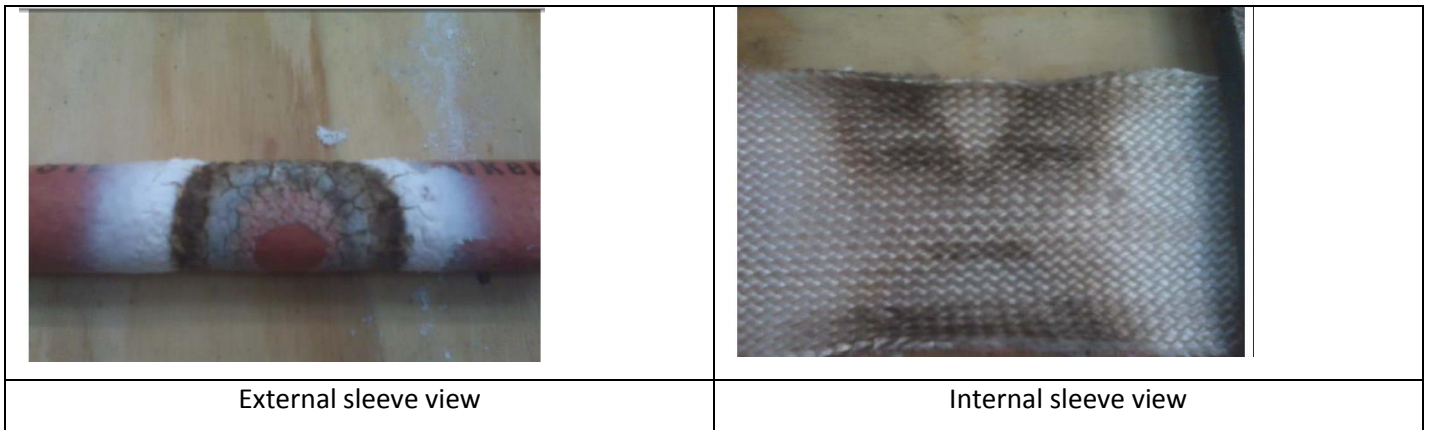
**PART 2 : RESISTANCE TO 1000°C CONTINUOUS FLAME for 20 minutes**

- ✓ The fire sleeve is assembled on a metallic pipe and clamped at the ends to make a 20 mm specimen;
- ✓ The sample is placed under a flame provide burner device with a temperature of about 1000°C (controlled by a temperature probe) for 20 minutes continuously (see pictures 1)
- ✓ After this time the flame is taken away from the specimen and an inspection carried out to evaluate if the sleeve shows cracks, burns or any other visible sign of decay both externally and internally.

**Results:**

***The silicone coating shows visible signs of burns and cracks***

***The internal sleeve does not show any sign of decay or change in properties.***





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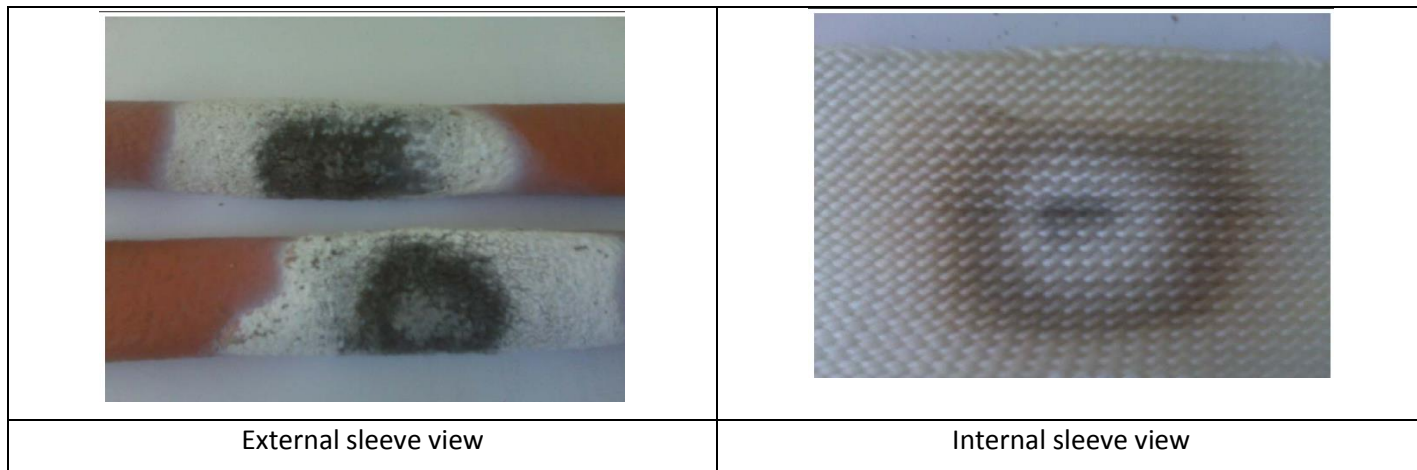
### **PART 3: RESISTANCE TO 1650°C CONTINUOUS FLAME for 20 seconds**

- ✓ The fire sleeve is assembled on a metallic pipe and clamped at the ends to make a 20 mm specimen;
- ✓ The sample is placed under a flame provided by a burning device with a temperature of about 1650°C (measured with a temperature probe up to 1300°C) for 20 seconds continuously (see picture 1)
- ✓ The specimen is taken from the flame and we evaluate if the sleeve shows cracks, burns or any other visible sign of decay both externally and internally.

#### **Results:**

*The silicone coating shows clear signs of burns and cracks*

*The internal sleeve shows a brown color variation but no other sign of decay or change in properties.*



#### **CONCLUSIONS:**

The fiberglass silicone fire sleeve SHILTEK is fully conforming with the testing required by our own specifications.



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Other homologations:

- ✧ SHILTEK is **MSHA** approved(ref. number **IC-207/3**)
- ✧ SHILTEK is classified **FLAME RETARDANT** according to AFNOR E48-084

Specifications:

- ✧ SHILTEK is manufactured according to the SAE AS 1072 standard .
- ✧ SHILTEK enables hose manufacturers to use these sleeves in order to meet SAE AS 1055 standard for complete hose assemblies (this will require a certified test of the complete hose assembly ).

Date  
27 June 2016

Checked by  
LOCATELLI Oriana - R&D Manager