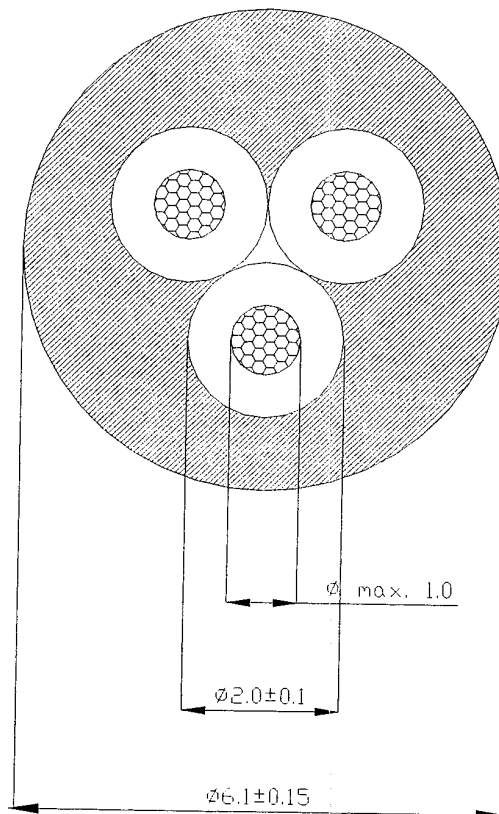


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76160250A
FL4G11Y 3X0.5
3-CORE HOT DEFORMATION RESISTANT KNOCK SENSOR
JACKETED SPECIAL CABLE to 135°C



- 1. Cable design
- 1.1. Sectional drawing



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1.2 Construction and Materials

- 1.2.1 Conductor:

tinned copper wires E Cu 58 F21 in acc. with DIN 40500 part 5	
Wire number:	16
Strand diameter:	max. 0.21 mm
Conductor diameter:	max. 1.0 mm
Lay length, left hand lay	35 ± 5 mm

- 1.2.2 Insulation: Ethylen-Vinylacetate-Copolymer (E/VA) cross-linked

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Density:	1.4 g/cm ³
Shore A hardness:	85 ± 3
Wall thickness, nominal value:	0.55 mm
minimum value:	0.40 mm
Core diameter:	2.00 ± 0.1 mm
Core color code:	white, red and black
White core print, optional	LEONI

1.2.3 Twisting: Lay length, left hand lay 56 ± 3 mm

1.2.4 Jacket: Particularly hydrolysis resistant polyether polyurethane

Density:	1.12 g/cm ³
SHORE A hardness:	95 ± 3
Wall thickness, nominal value:	0.95 mm
minimum value:	0.80 mm
Outside diameter:	6.1 ± 0.15 mm
Jacket color code:	bk

2 Requests and inspections similar to DINs ISO 6722 part 1 and 2, class C

2.1 Electrical properties

2.1.1 Electric conductor resistance at 20 C: max. 40.1 mOhm/m

2.1.2 Specific volume resistance of the insulation at 70 C: min. 10¹⁰ Ohmxcm

2.1.3 Dielectric strength core/core: 2kV - 20min

2.2 Electrical properties of the cores after thermal or thermomechanical treatment

2.2.1 A) Ageing conditions: 280 C – 2 h Wrap around a 6mm mandrel
Attaching respectively electric strength testing conductor/mandrel 1 kV

B) Ageing conditions: 200 C – 48 h Wrap around a 6mm mandrel
Attaching respectively electric strength testing conductor/mandrel 1 kV

C) Ageing conditions: 160 C – 96 h Wrap around a 6mm mandrel
Attaching respectively electric strength testing conductor/mandrel 1 kV

D) Ageing conditions: 140 C – 3000 h Wrap around a 6mm mandrel
Winding test in acc. with DIN ISO 6722 part and 2, Pos. 4.5
Request: Insulation may show no cracks or breakings

2.2.2 Hot deformation strength, testing temperature 250 C

Test specification in accordance with DINs ISO 6722 T. 1, Pos.4.4
Request: remaining wall max. 50% of the wall thickness

2.3 Requirements on the jacket (original values)

2.3.1 Tensile strength: min. 35 MPa

2.3.2 Elongation at break: min. 400%

2.4 Requirements on the jacket after ageing or oil treatment

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- 2.4.1 A Ageing conditions: 180 C – 96 h
 Tensile strength: min. 15 Mpa
 Elongation at break: min. 200 %
 Contraction on the jacket: max. 4 %
- 2.4.1 B Ageing conditions: 165 C – 240 h
 Tensile strength: min. 15 Mpa
 Elongation at break: min. 200 %
- 2.4.1 C Pretreatment: 72 h storage in ASTM oil no. 2 at 80 C
 Tensile strength: min. 80% of the original value
 Elongation at break: 70 - 130 % of the original value
- 2.5 Requirements on the complete cable
- 2.5.1 Cold resistance
 Testing temperature: -40 C
 Test spec. in accordance with DIN ISO 6722 part 1 and 2, Pos. 4.8.1 (winding test)
 Request: cable may show no cracks or breakings,
 additional dielectric strength core – core of 2 kV
- 2.5.2 Long term ageing
 Ageing conditions: 130 C, 3000 h
 Winding test in accordance with DIN ISO 6722 part 1 and 2, Pos. 4.5
 Request: cable may show no cracks or breakings
 Ageing conditions: 135 C, 1000 h
 Winding test: mandrel Ø 8mm, weight 10, winding speed 0,5 s
 Request: cable may show no cracks or breakings
- 2.5.3 Hot deformation strength, testing temperature 150 C
 Test specification in acc. with DIN VDE 0472 part 609
 Penetration depth: max. 50 % of the wall thickness
- 2.5.4 Stripping force of the insulation: 25 - 55 N/50 mm
 (Take off rate: 50 mm/min)
- 2.5.4 Stripping force of the Jacket 10 - 30 N/50 mm
 (Take off rate: 50 mm/min)
- 3 **Manufacturer's identification** - jacket print: No print
 4 **Cable weight:** approx. 48 kg/km
 5 **Delivering make up:** Wooden reels or in accordance with order