

DEF STAN 02-517 Part 1 Issue 2 / Pressure–Tight Ethylene Propylene Rubber (EPR) or Silicone Rubber Insulated, Chlorosulphonated Polyethylene(CSP) Limited Fire Hazard (LFH) Sheathed – Watertightness – Testing Equipment

Description

6.3.4.12 Watertightness

a) A 1.5 m length of completed cable with its ends unsealed shall be installed through a gland in a test tank with approximately 150 mm of the cable protruding into the tank. The gland to be used for this test shall be of the type fitted in submarine pressure–tight bulkheads as shown on Vickers Drawing No. SSN07/P/305/00/0001. Both ends of the gland shall be packed with polychloroprene pre-moulded collars as shown on SDN 006 003 815 and the gland nuts tightened with the appropriate torque:

Minimum cable diameter up to 17 mm 13.6 Nm

Minimum cable diameter 18 mm to 27 mm 27.0 Nm

Minimum cable diameter 28 mm to 40 mm 40.0 Nm

Minimum cable diameter above 40 mm 54.0 Nm

b) The test tank shall be capable of maintaining a continuous water pressure of 2.4 MN/m². Where the cable has been ordered in lengths greater than 100 m, both ends shall be tested and failure of either sample shall involve rejection of the length.

c) The cable installed in accordance with Clauses 6.3.4.12a. and 6.3.4.12b. shall be subjected to the following test:

1) With water in the tank at 20°C ±5°C the pressure shall be raised to 2.4 MN/m² in not more than 5 minutes and maintained at this value for 4 hours. The water leakage through the cable during this period shall not exceed the values given in Table 10 and Table 11. If the leakage after 2 hours does not exceed 20 per cent of the appropriate value the cable shall be deemed to have met the requirements of this Clause.

Table 10 — Water Leakage Values for Tables of Dimensions, Table D.1 to Table D.5.

| Specified Diameter (min) over Sheath of Cable mm | Total Water Leakage at End of Test ml | | | |
|--|---------------------------------------|---|----------------|------------------|
| | Extruded Insulation | | | Taped Insulation |
| | Up to and including 10 cores | Above 10 cores up to and including 24 cores | Above 24 cores | All types |
| Up to and including 12.5 | 40 | - | - | 130 |
| Above 12.5 up to and including 25.0 | 80 | 180 | 260 | 260 |
| Above 25.0 up to and including 37.5 | 160 | 340 | 520 | 520 |
| Above 37.5 up to and including 43.7 | - | - | - | 870 |
| Above 43.7 | - | - | - | 1300 |

NOTE The leakage of cable NSN 6145–99–521–6968 is not to exceed 520 ml. The leakage of cables NSN

6145–99–521–6944 and NSN 6145–99–521–6965 shall be recorded only.

Table 11 — Water Leakage Values for Tables of Dimensions, Table D.6 to Table D.8

| Specified Diameter (min) over Sheath of Cable mm | Maximum Total Water Leakage ml | | |
|--|--------------------------------|----------------|-----------------------------|
| | Extruded Insulation | | |
| | Up to and including 20 cores | Above 20 cores | Cables with Metallic Screen |
| Up to and including 15.0 | 40 | - | 80 |
| Above 15.0 up to and including 25.0 | 80 | - | 160 |
| Above 25.0 up to and including 35.0 | 120 | 240 | 240 |
| Above 35.0 up to and including 40.0 | 240 | 360 | - |
| Above 40.0 | 480 | - | - |

Table D.1 — Single, Twin and Multicore, Pressure-Tight Cables, Silicone Rubber Insulated, CSP (LFH) Sheathed

| 1 NSN 6145-99- | 2 No of cores | 3 Conductor | | | 4 Insulation Radial Thickness | | 5 Diameter of Cores | | 6 No. of cores per layer | 7 Diameter over filled and sheathed laid up cores mm | 8 CSP sheath radial thickness mm | 9 Overall diameter mm | 10 Voltage Test V | 11 Maximum conductor resistance per km at 20°C ohm | 12 Minimum insulation resistance per km at 20°C megohm | 13 Length on drum m | 14 Rating | |
|--------------------------|-------------------------|--------------------------|--------------|----------------------------|---|-------------|-------------------------------------|-------------|------------------------------------|---|---|------------------------------------|--------------------------------|--|--|-------------------------------------|------------------|--------------|
| | | Nominal area sq mm | Strand mm | Diameter (filled) mm | Extruded mm | Taped mm | Glass braid and varnish mm | Taped mm | | | | | | | | | Voltage V | Current A |
| | | | | | | | | | | | | | | | | | | |
| 521-6934 | 1 | 120 | 37/2.03 | 14.71 | - | 1.4 | - | 17.51 | 1 | 20.11 | 1.6 | 24.0 | 3500 | 0.15 | 40 | 200 | 440 | 380 |
| 521-6935 | 2 | 1.5 | 7/0.5 | 1.50 | 0.5 | - | 2.90 | - | 2 | 8.26 | 1.2 | 11.3 | 1500 | 13.6 | 100 | 200 | 440 | 23 |
| 521-6936 | 2 | 2.5 | 7/0.67 | 2.01 | 0.6 | - | 3.61 | - | 2 | 9.68 | 1.2 | 12.8 | 1500 | 7.41 | 100 | 200 | 440 | 33 |
| 521-6937 | 2 | 8 | 7/1.04 | 3.12 | 0.7 | - | 4.92 | - | 2 | 12.30 | 1.3 | 15.7 | 1500 | 3.08 | 100 | 200 | 440 | 55 |
| 521-6938 | 2 | 10 | 19/0.85 | 4.25 | 0.9 | - | 6.45 | - | 2 | 15.60 | 1.4 | 19.2 | 1500 | 1.7 | 100 | 200 | 440 | 79 |
| 521-6939 | 2 | 16 | 19/1.04 | 5.20 | 0.9 | - | 7.40 | - | 2 | 17.90 | 1.5 | 21.7 | 1500 | 1.13 | 100 | 200 | 440 | 100 |
| 521-6940 | 2 | 25 | 19/1.35 | 7.00 | - | 1.1 | - | 9.20 | 2 | 21.50 | 1.7 | 25.7 | 3500 | 0.673 | 65 | 200 | 440 | 140 |
| 521-6941 | 2 | 35 | 19/1.53 | 7.90 | - | 1.1 | - | 10.10 | 2 | 24.20 | 1.8 | 28.7 | 3500 | 0.524 | 45 | 200 | 440 | 165 |
| 521-6942 | 3 | 1 | 7/0.4 | 1.20 | 0.5 | - | 2.60 | - | F.3 | 8.10 | 1.2 | 11.3 | 1500 | 21.2 | 100 | 200 | 440 | 17 |
| 521-6943 | 3 | 1.5 | 7/0.5 | 1.50 | 0.5 | - | 2.90 | - | F.3 | 8.74 | 1.2 | 11.9 | 1500 | 13.6 | 100 | 200 | 440 | 23 |
| 521-6944 | 3 | 4 | 7/0.85 | 2.55 | 0.6 | - | 4.15 | - | F.3 | 11.45 | 1.3 | 14.9 | 1500 | 4.61 | 100 | 200 | 440 | 43 |
| 521-6945 | 3 | 16 | 19/1.04 | 5.20 | 0.9 | - | 7.40 | - | F.3 | 19.12 | 1.6 | 23.2 | 1500 | 1.13 | 100 | 200 | 440 | 100 |
| 521-6946 | 3 | 25 | 19/1.35 | 7.00 | - | 1.1 | - | 9.20 | F.3 | 23.41 | 1.7 | 27.2 | 3500 | 0.673 | 55 | 200 | 440 | 140 |
| 521-6947 | 3 | 35 | 19/1.53 | 7.90 | - | 1.1 | - | 10.10 | F.3 | 25.90 | 1.8 | 30.4 | 3500 | 0.524 | 45 | 200 | 440 | 165 |
| 521-6948 | 3 | 70 | 19/2.14 | 10.95 | - | 1.1 | - | 13.15 | F.3 | 32.50 | 2.1 | 37.6 | 3500 | 0.268 | 40 | 200 | 440 | 250 |
| 521-6949 | 3 | 95 | 37/1.78 | 12.96 | - | 1.4 | - | 15.76 | F.3 | 39.10 | 2.4 | 44.9 | 3500 | 0.199 | 40 | 200 | 440 | 315 |
| 521-6950 | 3 | 120 | 37/2.03 | 14.71 | - | 1.4 | - | 17.51 | F.3 | 42.90 | 2.5 | 49.0 | 3500 | 0.153 | 40 | 200 | 440 | 380 |
| 521-6951 | 3 | 150 | 37/2.25 | 16.25 | - | 1.4 | - | 19.05 | F.3 | 46.20 | 2.6 | 52.5 | 3500 | 0.124 | 35 | 200 | 440 | 420 |
| 521-6952 | 3 | 185 | 37/2.52 | 18.14 | - | 1.4 | - | 20.94 | F.3 | 50.30 | 2.8 | 57.0 | 3500 | 0.0991 | 30 | 200 | 440 | 480 |
| 521-6953 | 4 | 1 | 7/0.4 | 1.20 | 0.5 | - | 2.60 | - | F.4 | 8.81 | 1.2 | 12.0 | 3500 | 21.2 | 100 | 200 | 440 | 17 |
| 521-6954 | 7 | 1 | 7/0.4 | 1.20 | 0.5 | - | 2.60 | - | F.7 | 11.24 | 1.2 | 14.5 | 3500 | 21.2 | 100 | 200 | 440 | 17 |
| 521-6955 | 14 | 1 | 7/0.4 | 1.20 | 0.5 | - | 2.60 | - | F.4 F.10 | 15.77 | 1.4 | 19.4 | 3500 | 21.2 | 100 | 200 | 440 | 17 |
| 521-6956 | 18 | 1 | 7/0.4 | 1.20 | 0.5 | - | 2.60 | - | F.6 F.12 | 17.75 | 1.5 | 21.5 | 3500 | 21.2 | 100 | 200 | 440 | 17 |
| 521-6957 | 24 | 1 | 7/0.4 | 1.20 | 0.5 | - | 2.60 | - | F.8 F.15 | 20.30 | 1.6 | 24.4 | 3500 | 21.2 | 100 | 200 | 440 | 17 |
| 521-6958 | 30 | 1 | 7/0.4 | 1.20 | 0.5 | - | 2.60 | - | F.4 F.10 F.16 | 23.53 | 1.7 | 27.8 | 1500 | 21.2 | 100 | 200 | 440 | 17 |
| 521-6959 | 36 | 1 | 7/0.4 | 1.20 | 0.5 | - | 2.60 | - | F.5 F.12 F.19 | 25.33 | 1.8 | 29.8 | 1500 | 21.2 | 100 | 200 | 440 | 17 |
| 521-6960 | 44 | 1 | 7/0.4 | 1.20 | 0.5 | - | 2.60 | - | F.8 F.14 F.22 | 28.00 | 1.8 | 32.7 | 1500 | 21.2 | 100 | 200 | 440 | 17 |
| 521-6961 | 24 | 1.5 | 7/0.5 | 1.50 | 0.5 | - | 2.90 | - | F.9 F.15 | 22.07 | 2.4 | 26.3 | 1500 | 13.6 | 100 | 200 | 440 | 23 |
| 521-6962 | 30 | 1.5 | 7/0.5 | 1.50 | 0.5 | - | 2.90 | - | F.4 F.10 F.16 | 25.45 | 3 | 29.9 | 1500 | 13.6 | 100 | 200 | 440 | 23 |
| 521-6963 | 18 | 4 | 7/0.85 | 2.55 | 0.6 | - | 4.15 | - | F.6 F.12 | 26.40 | 1.5 | 31.1 | 1500 | 4.61 | 100 | 200 | 440 | 43 |
| 521-6964 | 14 | 16 | 19/1.04 | 5.20 | 0.9 | - | 7.40 | - | F.4 F.10 | 40.30 | - | 46.2 | 1500 | 1.13 | 100 | 200 | 440 | 100 |
| 521-6965 | 14 | 35 | 19/1.53 | 7.90 | - | 1.1 | - | 10.10 | F.4 F.10 | 53.90 | - | 61.1 | 3500 | 0.524 | 45 | 200 | 440 | 140 |
| 527-8143 | 6 | 6 | 7/1.04 | 3.12 | 0.7 | - | 4.92 | - | F.6 | 17.75 | - | 21.7 | 1500 | 3.08 | 100 | 200 | 440 | 55 |

NOTE Cables NSN 6145-99-521-6958, NSN 6145-99-521-6959 and NSN 6145-99-521-6960 shall be supplied with green sheaths.

Table D.2 — Twisted Pair, Pressure-Tight Cables, Silicone Rubber Insulated, Pairs Individually Screened, CSP (LFH) Sheathed

| 1 | 2 | 3 | | | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | |
|--------------|--------------|--------------|----------------|-------------------|--------------------------------------|---------------------------------------|----------------------------|-----------------------------|-----------------------------|-----------------------|---|-----------------------------|------------------|--------------|---|--|-----------------|---------|---------|
| NSN 5145-99- | No. of pairs | Conductor | | | Insulation extruded radial thickness | Diameter over glass braid and varnish | Screen braid wire diameter | Diameter over screened pair | Diameter over filled screen | No of pairs per layer | Diameter over filled and sheathed laid-up pairs | CSP sheath radial thickness | Overall diameter | Voltage Test | Maximum conductor resistance per km at 20°C | Minimum insulation resistance per km at 20°C | Length per drum | Rating | |
| | | Nominal area | Size of strand | Diameter (filled) | | | | | | | | | | | | | | Voltage | Current |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | |
| 521-6966 | 1 | sq mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | V | ohm | megohm | m | V | A | |
| 521-6967 | 3 | 1.0 | 7/0.4 | 1.2 | 0.5 | 2.60 | 0.15 | 7.21 | 8.41 | F.3 | 21.30 | 1.6 | 25.4 | 1500 | 21.6 | 100 | 200 | 440 | 17 |
| 521-6968 | 7 | | | | | | | | | 1.F.6 | 30.48 | 2.0 | 35.3 | | | | | | |

NOTE Cables NSN 6145-99-521-6966, NSN 6145-99-521-6967 and NSN 6145-99-521-6968 shall be supplied with a green sheath.

Table D.3 — Three-Core, Pressure-Tight Cable, Silicone Rubber Insulated, Cores Screened, CSP (LFH) Sheathed

| 1 | 2 | 3 | | | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | |
|-----------------|-----------------|-----------------|--------|----------------------|---|--|-----------------------------------|----------------------------------|----------------------------|-----------------------------------|--------------------------------|--|----------------------------------|---------------------|------------------|---|--|-------------------|---------|---------|
| NSN 5145-99- | No. of cores | Conductor | | | Insulation extruded radial thickness | Diameter over glass braid and varnish | Diameter over filler sheath | Screen braid wire diameter | Diameter over screen | Diameter over filler sheath | No of cores per layer | Diameter over filled laid-up cores | Radial thickness of sheath | Overall diameter | Voltage Tests | Maximum conductor resistance per km at 20°C | Minimum insulation resistance per km at 20°C | Length on drum | Rating | |
| | | Nominal Area | Strand | Diameter (filled) | | | | | | | | | | | | | | | Voltage | Current |
| | | Sq mm | mm | mm | | | | | | | | | | | | | | | mm | mm |
| 533-4599 | 3 | 1.0 | 7/0.4 | 1.2 | 0.5 | 2.60 | 3.60 | 0.15 | 4.35 | 5.35 | F.3 | 12.53 | 1.6 | 16.6 | 1500 | 21.6 | 100 conductor to screen 25 between screens | 200 | 440 | 17 |

Table D.4 — Special Multicore, Pressure-Tight Cable, Silicone Rubber Insulated, Collectively Screened, CSP (LFH) Sheathed

| 1 | 2 | | 3 | | | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | |
|-----------------|-------------|--------|-----------------|--------|----------------------|---|---|---|---------------------------------|---|----------------------------|--|---|--|-----------------|---|---|----------------------|---------|---------|
| NSN 5145-99- | No of cores | | Conductor | | | Radial thickness of insulation | Diameter over glass braid and varnish | Diameter over filled and sheathed centre twisted pair | No. of cores per layer | Diameter over filled and sheathed laid-up cores | Screen wire diameter | Diameter over screened and filled laid-up cores | Radial thickness of CSP sheath | Overall diameter of cable (nominal) | Voltage Test | Minimum insulation resistance per km at 20°C at 500V | Maximum conductor resistance per km at 20°C | Length on drum | Rating | |
| | | | Nominal area | Strand | Diameter (filled) | | | | | | | | | | | | | | Voltage | Current |
| | | | | | | | | | | | | | | | | | | | | |
| | | | sq mm | mm | mm | mm | mm | mm | | mm | mm | mm | mm | mm | V | megohm | ohm | m | V | A |
| 529-4378 | 11 | 2 (pr) | 1.0 | 7/0.4 | 1.2 | 0.5 | 2.6 | 7.8 | | mm | | mm | mm | mm | | | | | | |
| | | 9 | 1.0 | 7/0.4 | 1.2 | 0.5 | 2.6 | - | 2 F.9 | 17.2 | 0.3 | 20.7 | 1.6 | 24.8 | 1500 | 100 | 21.2 | 200 | 440 | 17 |

NOTE 1 Filler sheaths of the following radial thickness shall be applied:
Over centre twisted pair 1.2 mm
Over laid-up cores 1.2 mm
Under screen 1.0 mm
Over screen 1.0 mm

NOTE 2 Identification - The centre pair shall have one core uncoloured and the other core black. The core in the 1st layer shall have two coloured cores adjacent to each other, one black and the other coloured red, the remaining cores shall be uncoloured.

Table D.5 —Eighteen-Core, Pressure-Tight Thermocouple Extension Cable Silicone Rubber Insulated, CSP (LFH) Sheathed

| 1 | 2 | 3 | | 4 | | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | |
|--------------|-----------------|-----------------|--------|------------|---------------------|---------------------------------|------------------------------|---|----------------------------------|---------------------|---------------------|-----------------|---|---|-------------------|-------------------|----------|
| NSN 6145-99- | No. of cores | Conductor | | Insulation | | Diameter over glass braid | No. of cores per layer | Diameter over filled laid-up cores | Radial thickness of sheath | Minimum diameter | Maximum diameter | Voltage Test | Minimum insulation resistance per km at 20°C at 500V megohm | Maximum conductor resistance per km at 20°C | Length on drum | Voltage rating | |
| | | Nominal area | Strand | Diameter | Radial thickness | | | | | | | | | | | | Diameter |
| | | sq mm | mm | mm | mm | | | | | | | | | | | | mm |
| 525-2045 | 18 | 4 | 7/0.85 | 2.53 | 0.6 | 3.75 | 4.15 | F.6 F.12 | 29.9 | 1.9 | 33.7 | 35.1 | 1500 | 100 | See Notes | 100 | 440 |

Table D.6 — Single, Twin and Multicore, Pressure-Tight Cables, EPR Insulated, CSP (LFH) Sheathed

| 1 | 2 | 3 | | | 4 | 5 | 6 | 7 | | | 8 | 9 | 10 | 11 | 12 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| NSN 6145-99- | No. of cores | Conductor | | | Diameter over insulation | No. of cores per layer | Diameter over rubber filled and laid-up cores | Outer Sheath | | | Voltage Test | Minimum insulation resistance per km at 20°C at 500V megohm | Maximum conductor resistance per km at 20°C | Length on drum | Rating | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Nominal area | Strand | Diameter r | | | | Nominal radial thickness | Minimum diameter | Maximum diameter | | | | | Voltage V | Minimum insulation resistance per km at 20°C at 500V megohm | Maximum conductor resistance per km at 20°C | Length on drum | V | Current A | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | sq mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm |

Table D.7 — Twisted Triple, Pressure-Tight Cables, EPR Insulated, Unscreened and Collectively Screened, CSP (LFH) Sheathed

| 1 | 2 | 3 | | | 4 | 5 | 6 | 7 | 8 | | | 9 | 10 | 11 | 12 | 13 | |
|--------------|-----------------|-----------------|--------|----------|--------------------------------|--------------------------------|---|-------------------------------|--------------------------------|---------------------|---------------------|-----------------|---|---|----------------------|---------|---------|
| NSN 6145-99- | No. of cores | Conductor | | | Diameter over insulation | No. of triples per layer | Diameter over filled and laid-up cores | Diameter of screen wire | Outer Sheath | | | Voltage Test | Minimum insulation resistance per km at 20°C at 500V | Maximum conductor resistance per km at 20°C | Length on drum | Rating | |
| | | Nominal area | Strand | Diameter | | | | | Nominal radial thickness | Minimum diameter | Maximum diameter | | | | | Voltage | Current |
| | | sq mm | mm | mm | | | | | mm | mm | mm | | | | | V | A |
| 522-2225 | 4 | 2 | 7/0.60 | 2.10 | 3.70 | F(3 ? 4) | 24.8 | - | 3.0 | 29.8 | 31.3 | 1500 | 590 | 9.89 | 200 | 600 | 10 |
| 522-2228 | 9 | | | | | F(9 ? 3) | 39.0 | - | 3.5 | 45.5 | 47.0 | 1500 | 590 | 9.89 | 200 | 600 | 10 |
| 522-2232 | 4 | | | | | F(4 ? 3) | 24.8 | 0.2 | 3.0 | 33.0 | 34.5 | 1500 | 590 | 9.89 | 200 | 600 | 10 |

Table D.8 — Single, Twin and Three-Core, Pressure-Tight Cables, EPR Insulated, Collectively Screened, CSP (LFH) Sheathed

| 1 | 2 | 3 | | | 4 | 5 | 6 | 7 | 8 | | | 9 | 10 | 11 | 12 | 13 | |
|-----------------|-----------------|-----------------|--------|----------|--------------------------------|------------------------------|---|-------------------------------|--------------------------------|---------------------|---------------------|-----------------|---|---|----------------------|---------|---------|
| NSN 6145-99- | No. of cores | Conductor | | | Diameter over insulation | No. of cores per layer | Diameter over filled and laid-up cores | Diameter of screen wire | Outer Sheath | | | Voltage Test | Minimum insulation resistance per km at 20°C at 500V | Maximum conductor resistance per km at 20°C | Length on drum | Rating | |
| | | Nominal area | Strand | Diameter | | | | | Nominal radial thickness | Minimum diameter | Maximum diameter | | | | | Voltage | Current |
| | | sq mm | mm | mm | | | | | mm | mm | mm | | | | | V | A |
| 522-2233 | 1 | 1.5 | 7/0.50 | 1.80 | 7.40 | - | - | 0.2 | 2.0 | 12.3 | 13.0 | 5000 | 1400 | 13.57 | 200 | 1000 | 5 |
| 522-2231 | 2 | 2.0 | 7/0.60 | 2.10 | 3.70 | 2 | 9.6 | 0.2 | 1.5 | 13.2 | 14.0 | 1500 | 590 | 9.89 | 200 | 600 | 10 |
| 522-2236 | 3 | 2.0 | 7/0.60 | 2.10 | 3.70 | F.3 | 10.2 | 0.3 | 1.5 | 16.2 | 17.0 | 1500 | 590 | 9.89 | 200 | 600 | 10 |



Watertightness Tester According to DEF STAN 02-517 Part 1 Issue 2 for Cables

- End seals and flange sizes according to customer request
- Touch screen control or Computer control
- Piston pump up to 50 bars
- Solenoid valves and sensors are European
- Italian pump
- Main chamber is SS304
- Automatic control and monitoring of the pressure
- Option 1- Computer control with reporting in MS Word
- Option 2- Touch screen control and monitoring on the display – Brief report on thermal printer
- Training video included

Category

1. Equipment for Standards
2. Standards