



HALLEY CABLES

RE-2X(St)HSWAH-MP

Instrumentation Cables HFFR 300 V

CU/XLPE/OSCR/LSZH/SWA/LSZH

XLPE insulated, collective screened, armoured, HFFR sheathed cable

www.halleycables.com

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Construction:

- Conductor : plain copper wire, stranded.
- Insulation : XLPE compound, (RE-2X....).
- Core identification : black / white cores numbered 1-1, 2-2,... Upon request: colour coded according to IEC 60189-2.
Other core configurations manufactured upon request.
- Pair : two conductors twisted to a pair.
- Lay-up : pairs laid up in layers of optimum pitch.
- Separator : polyester tape.
- Screen : AL-PES tape over tinned copper drain wire 0,50 mm².
- Inner sheath : HFFR compound.
- Armour : galvanized round steel wire.
- Outer sheath : HFFR compound.
- Sheath colour : RAL 9005, black or RAL 5015, blue.

Technical data and tests:

- Rated voltage : 300 V.
- Test voltage : Urms core-core : 1500 V;
Urms core-screen : 1500 V.
- Temperature range : operation : - 30° C ~ + 90° C;
installation : - 5° C ~ + 50° C.
- Min. bending radius : 10 x D.
- Insulation resistance : min. 5000 MΩ/km.
- Capacitance unbalanced : (1 kHz) : max. 500 pF/500 m.

Standards:

- Design : DIN EN 50288-7.
- Conductor : IEC 60228 class 2, DIN EN 60228 class 2.
- Insulation : EN 50290-2-29.
- Inner/Outer sheath: EN 50290-2-27.
- Armour : EN 10257-1.
- Flame test : IEC 60332-1 & DIN EN 60332-1;
IEC 60332-3 & DIN EN 50266-2-4.
- Halogen-free test : IEC 60754-1/2 & DIN EN 50267-2.
- Smoke density test : IEC 61034-2 & DIN EN 61034-2.

Technical data and tests:

- Insulation thickness : 0,50 mm² : 0,40 mm;
0,75 mm² : 0,40 mm;
1,0 mm² : 0,40 mm;
1,3 mm² : 0,45 mm;
1,50 mm² : 0,45 mm;
- Conductor resistance : 0,50 mm² : 36,7 Ω/km;
0,75 mm² : 25,0 Ω/km;
1,0 mm² : 18,5 Ω/km;
1,3 mm² : 14,2 Ω/km;
1,5 mm² : 12,3 Ω/km.
- L/R (ratio) (max) : 0,50 mm² : 25 μH/Ω;
0,75 mm² : 25 μH/Ω;
1,0 mm² : 25 μH/Ω;
1,3 mm² : 40 μH/Ω;
1,5 mm² : 40 μH/Ω.
- Mutual capacitance (1 kHz) : ≤ 4 pairs all other pairs
0,50 mm² : max. 115 pF/m, max. 90 pF/m;
0,75 mm² : max. 115 pF/m, max. 90 pF/m;
1,0 mm² : max. 115 pF/m, max. 90 pF/m;
1,3 mm² : max. 120 pF/m, max. 105 pF/m;
1,5 mm² : max. 120 pF/m, max. 105 pF/m.

Applications:

These cables are used for transmission of analogue and digital signals in instrumentation and control systems at chemistry and petrochemistry industry plants, power plants, natural gas and petroleum plants, etc... These cables are used in the environments which must have no corrosive gases emitted in the event of fire. In case of fire, these cables inhibit the propagation of the flames whereby the development of smoke is extremely low. Instrumentation cables are not allowed for direct connection to a low impedance source, e.g. public mains electricity supply. With blue sheath it is suitable for intrinsically safe systems. These cables are not recommended for direct burial. They are for indoor and outdoor installation, in dry and wet locations; on racks, trays, in conduits.



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DIMENSIONS

| No. of cores x cross section mm ² | Approx. bedding diameter mm | Approx. outer diameter mm | Copper weight kg/km | Approx. cable weight kg/km |
|---|--------------------------------|------------------------------|------------------------|-------------------------------|
| 1x2x0,50 | 5,8 | 10,2 | 14 | 195 |
| 1x2x0,75 | 6,2 | 10,6 | 19 | 210 |
| 1x2x1 | 6,6 | 11,0 | 24 | 225 |
| 1x2x1,3 | 7,2 | 11,8 | 30 | 254 |
| 1x2x1,5 | 7,4 | 12,0 | 34 | 265 |
| 2x2x0,50 | 8,1 | 12,7 | 24 | 275 |
| 2x2x0,75 | 8,8 | 13,4 | 34 | 305 |
| 2x2x1 | 9,5 | 14,1 | 43 | 335 |
| 2x2x1,3 | 10,5 | 15,1 | 55 | 380 |
| 2x2x1,5 | 10,8 | 15,6 | 62 | 405 |
| 4x2x0,50 | 9,4 | 14,0 | 43 | 340 |
| 4x2x0,75 | 10,2 | 14,8 | 62 | 380 |
| 4x2x1 | 11,1 | 15,9 | 82 | 435 |
| 4x2x1,3 | 12,3 | 17,1 | 105 | 500 |
| 4x2x1,5 | 12,7 | 17,5 | 120 | 525 |
| 5x2x0,50 | 9,9 | 14,5 | 53 | 365 |
| 5x2x0,75 | 10,7 | 15,5 | 77 | 420 |
| 5x2x1 | 11,6 | 16,4 | 101 | 475 |
| 5x2x1,3 | 12,9 | 17,7 | 130 | 545 |
| 5x2x1,5 | 13,4 | 18,2 | 149 | 580 |
| 6x2x0,50 | 10,6 | 15,4 | 62 | 405 |
| 6x2x0,75 | 11,5 | 16,3 | 91 | 460 |
| 6x2x1 | 12,5 | 17,3 | 120 | 520 |
| 6x2x1,3 | 13,9 | 18,7 | 155 | 605 |
| 6x2x1,5 | 14,4 | 20,1 | 178 | 750 |
| 8x2x0,50 | 11,8 | 16,6 | 82 | 465 |
| 8x2x0,75 | 12,9 | 17,7 | 120 | 540 |
| 8x2x1 | 14,0 | 18,8 | 158 | 615 |
| 8x2x1,3 | 15,7 | 21,4 | 204 | 835 |
| 8x2x1,5 | 16,3 | 22,0 | 235 | 885 |
| 10x2x0,50 | 12,9 | 17,7 | 101 | 525 |
| 10x2x0,75 | 14,2 | 19,0 | 149 | 610 |
| 10x2x1 | 15,4 | 21,1 | 197 | 815 |
| 10x2x1,3 | 17,3 | 23,0 | 254 | 950 |
| 10x2x1,5 | 17,9 | 23,8 | 293 | 1025 |
| 12x2x0,50 | 13,9 | 18,7 | 120 | 575 |
| 12x2x0,75 | 15,3 | 21,0 | 178 | 790 |

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| No. of cores x cross section mm ² | Approx. bedding diameter mm | Approx. outer diameter mm | Copper weight kg/km | Approx. cable weight kg/km |
|---|--------------------------------|------------------------------|------------------------|-------------------------------|
| 12x2x1 | 16,7 | 22,4 | 235 | 905 |
| 12x2x1,3 | 18,7 | 24,6 | 304 | 1075 |
| 12x2x1,5 | 19,4 | 25,3 | 350 | 1145 |
| 16x2x0,50 | 15,7 | 21,4 | 158 | 795 |
| 16x2x0,75 | 17,3 | 23,2 | 235 | 945 |
| 16x2x1 | 18,9 | 24,8 | 312 | 1085 |
| 16x2x1,3 | 21,2 | 27,3 | 404 | 1300 |
| 16x2x1,5 | 22,0 | 28,1 | 466 | 1390 |
| 20x2x0,50 | 17,3 | 23,2 | 197 | 915 |
| 20x2x0,75 | 19,1 | 25,0 | 293 | 1080 |
| 20x2x1 | 20,8 | 26,9 | 389 | 1265 |
| 20x2x1,3 | 23,4 | 29,5 | 504 | 1500 |
| 20x2x1,5 | 24,3 | 30,6 | 581 | 1630 |
| 24x2x0,50 | 18,7 | 24,6 | 235 | 1015 |
| 24x2x0,75 | 20,6 | 26,7 | 350 | 1225 |
| 24x2x1 | 22,6 | 28,7 | 466 | 1420 |
| 24x2x1,3 | 25,8 | 32,8 | 604 | 1920 |
| 24x2x1,5 | 26,8 | 33,8 | 696 | 2060 |

