



# HALLEY CABLES

# RE-2Y(St)YQY-fl MP 70° C

CU/PE/OSCR/PVC/SWB/PVC

## Instrumentation Cables PVC DK PE 300 V

PE insulated, collective screened, steel wire braided, PVC sheathed cable

RE-2Y(St)YQY-fl MP

### Construction:

|                     |  |
|---------------------|--|
| Conductor           | : plain copper wire, stranded.   |
| Insulation          | : PE compound.   |
| 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 stranded tinned copper drain wire 0,50 mm <sup>2</sup> .  |
| Inner sheath        | : PVC compound.  |
| Armour              | : braid of galvanized steel wires, aprox. 85% coverage.  |
| Outer sheath        | : PVC compound, flame retardant.   |
| Sheath colour       | : RAL 9005, black or RAL 5015, blue.   |

### Technical data and tests:

|                       |   |
|-----------------------|---|
| Rated voltage         | : 300 V.  |
| Test voltage          | : Urms core-core : 1500 V;<br>Urms core-screen : 1500 V.            |
| Temperature range     | : operation : - 30° C ~ + 70° C;<br>installation : - 5° C ~ + 50° C |
| Min. bending radius   | : 10 x D.   |
| Insulation resistance | : min. 5000 MΩ/km.  |
| Capacitance unbalance | : (1 kHz) : max. 500 pF/500 m.                                      |

### Standards:

|                  |  |
|------------------|--|
| Design           | : DIN EN 50288-7.                          |
| Conductors       | : IEC 60228 class 2, DIN EN 60228 class 2. |
| Insulation       | : EN 50290-2-23.                           |
| Inner sheath     | : EN 50290-2-22.                           |
| Outer sheath     | : EN 50290-2-22.                           |
| Flame retardancy | : IEC 60332-1 & EN 60332-1.                |

### Applications:

These cables are used for transmission of analogue and digital signals in instrument and control systems at chemistry and petrochemistry industry plants, power plants, natural gas and petroleum plants, etc... . 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. The armour above the sheath, steel wire braid serves as protection against mechanical traverse loads and act as a magnetic screen against interference. The galvanised steel wires are free of corrosion and oxidation.. They are for indoor and outdoor installation, in dry and wet locations; on racks, trays, in conduits.

### Technical data and tests:

|                      |  |
|----------------------|--|
| Conductor resistance | : 0,50 mm <sup>2</sup> : 36,7 Ω/km.<br>0,75 mm <sup>2</sup> : 25,0 Ω/km;<br>1,0 mm <sup>2</sup> : 18,5 Ω/km;<br>1,3 mm <sup>2</sup> : 14,2 Ω/km;<br>1,5 mm <sup>2</sup> : 12,3 Ω/km.   |
| Mutual Capacitance   | : $\leq 4$ pairs      all other pairs<br>0,50 mm <sup>2</sup> : max. 115 pF/m,      max. 90 pF/m;<br>0,75 mm <sup>2</sup> : max. 115 pF/m,      max. 90 pF/m;<br>1,0 mm <sup>2</sup> : max. 115 pF/m,      max. 90 pF/m;<br>1,3 mm <sup>2</sup> : max. 120 pF/m,      max. 105 pF/m;<br>1,5 mm <sup>2</sup> : max. 120 pF/m,      max. 105 pF/m. |
| L / R (ratio) (max.) | : 0,50 mm <sup>2</sup> : 25 μH/Ω;<br>0,75 mm <sup>2</sup> : 25 μH/Ω;<br>1,0 mm <sup>2</sup> : 25 μH/Ω;<br>1,3 mm <sup>2</sup> : 40 μH/Ω;<br>1,5 mm <sup>2</sup> : 40 μH/Ω.   |
| Insulation thickness | : 0,50 mm <sup>2</sup> : 0,40 mm;<br>0,75 mm <sup>2</sup> : 0,40 mm;<br>1,0 mm <sup>2</sup> : 0,40 mm;<br>1,3 mm <sup>2</sup> : 0,45 mm;<br>1,5 mm <sup>2</sup> : 0,45 mm.   |



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## DIMENSIONS

| No. of cores x cross section<br>mm <sup>2</sup> | Approx. outer diameter<br>mm | Copper weight<br>kg/km | Approx. cable weight<br>kg/km |
|---|------------------------------|------------------------|-------------------------------|
| 1x2x0,50  | 9,6                          | 14                     | 115                           |
| 2x2x0,50  | 12,1                         | 24                     | 170                           |
| 4x2x0,50  | 13,4                         | 43                     | 215                           |
| 5x2x0,50  | 13,9                         | 53                     | 235                           |
| 6x2x0,50  | 14,8                         | 62                     | 265                           |
| 8x2x0,50  | 16,0                         | 82                     | 310                           |
| 10x2x0,50                                       | 17,1                         | 101                    | 355                           |
| 12x2x0,50                                       | 18,1                         | 120                    | 395                           |
| 16x2x0,50                                       | 20,1                         | 158                    | 485                           |
| 20x2x0,50                                       | 21,9                         | 197                    | 575                           |
| 24x2x0,50                                       | 23,3                         | 235                    | 650                           |
| 1x2x0,75  | 10,0                         | 19                     | 130                           |
| 2x2x0,75  | 12,8                         | 34                     | 190                           |
| 4x2x0,75  | 14,2                         | 62                     | 250                           |
| 5x2x0,75  | 14,9                         | 77                     | 280                           |
| 6x2x0,75  | 15,7                         | 91                     | 315                           |
| 8x2x0,75  | 17,1                         | 120                    | 370                           |
| 10x2x0,75                                       | 18,4                         | 149                    | 425                           |
| 12x2x0,75                                       | 19,7                         | 178                    | 490                           |
| 16x2x0,75                                       | 21,9                         | 235                    | 605                           |
| 20x2x0,75                                       | 23,7                         | 293                    | 705                           |
| 24x2x0,75                                       | 25,4                         | 350                    | 820                           |
| 1x2x1   | 10,4                         | 24                     | 140                           |
| 2x2x1   | 13,5                         | 43                     | 210                           |
| 4x2x1   | 15,3                         | 82                     | 290                           |
| 5x2x1   | 15,8                         | 101                    | 325                           |
| 6x2x1   | 16,7                         | 120                    | 360                           |
| 8x2x1   | 18,2                         | 158                    | 430                           |
| 10x2x1  | 19,8                         | 197                    | 510                           |
| 12x2x1  | 21,1                         | 235                    | 575                           |
| 16x2x1  | 23,5                         | 312                    | 720                           |
| 20x2x1  | 25,6                         | 389                    | 855                           |
| 24x2x1  | 27,8                         | 466                    | 1020                          |
| 1x2x1,3   | 11,2                         | 30                     | 160                           |
| 2x2x1,3   | 14,5                         | 55                     | 240                           |
| 4x2x1,3   | 16,5                         | 105                    | 340                           |
| 5x2x1,3   | 17,1                         | 130                    | 380                           |
| 6x2x1,3   | 18,1                         | 155                    | 425                           |
| 8x2x1,3   | 20,1                         | 204                    | 525                           |
| 10x2x1,3  | 21,7                         | 254                    | 610                           |
| 12x2x1,3  | 23,3                         | 304                    | 705                           |
| 16x2x1,3  | 26,4                         | 404                    | 920                           |

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| No. of cores x cross section<br>mm <sup>2</sup> | Approx. outer diameter<br>mm | Copper weight<br>kg/km | Approx. cable weight<br>kg/km |
|---|------------------------------|------------------------|-------------------------------|
| 20x2x1,3  | 28,6                         | 504                    | 1085                          |
| 24x2x1,3  | 31,2                         | 604                    | 1285                          |
| 1x2x1,5   | 11,4                         | 34                     | 170                           |
| 2x2x1,5   | 15,0                         | 62                     | 260                           |
| 4x2x1,5   | 16,9                         | 120                    | 360                           |
| 5x2x1,5   | 17,6                         | 149                    | 405                           |
| 6x2x1,5   | 18,8                         | 178                    | 465                           |
| 8x2x1,5   | 20,7                         | 235                    | 565                           |
| 10x2x1,5  | 22,5                         | 293                    | 670                           |
| 12x2x1,5  | 24,0                         | 350                    | 765                           |
| 16x2x1,5  | 27,2                         | 466                    | 1000                          |
| 20x2x1,5  | 29,7                         | 581                    | 1195                          |
| 24x2x1,5  | 32,2                         | 696                    | 1405                          |

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