



# SHIELD

SHIELDED CABLES

LEZ BARRYFLEX SHIELD RC4V-K 0,6/1 kV

LEZ AFIRENAS SHIELD Z1C4Z1-K (A5)

AFIREFENIX SHIELD 50Z1-K (A5+) 300/500 V PH120

**Miguêlez**  
CABLES

## BARRYFLEX SHIELD H05VVC4V5-K

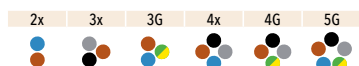
DoP : MEH05VVC4V5K.

MIGUÉLEZ ARTICLE GROUP

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- Standard (construction/tests): EN 50525-2-51.
- Technical designation: H05VVC4V5-K.
- Construction: Conductor: Copper, class 5 / Insulation: PVC type T12 / Inner Sheath: PVC type TM2 / Shield: Copper braid / Oversheath: PVC type TM5.
- Rated voltage (Uo/U): 300/500 V AC.
- Max. conductor temperature. Normal operation / short-circuit (t≤5s): 70°C / 160°C.
- Range: Multiconductor cable. Cross-sectional area: From 0.5 to 2.5 mm².
- Reaction to fire classification (CPR - EN 50575 & EN 13501-6): Eca.
- Other fire performance features (when CPR Regulation is not applicable): Flame retardant (IEC 60332-1-2).
- Applications: Shielded cable suitable for fixed installations that require electromagnetic protection. Especially designed for the interconnection of parts of machines intended for manufacturing, including machine tools, where some degree of protection against electromagnetic interference is necessary and in the case of applications requiring resistance to general application mineral oils.  
Indoor installation. Outdoors for temporary periods of short duration.  
For fixed installation. Provided that the cable is not under mechanical stress during any movement, it can be moved after installation, especially for the repositioning, maintenance, adjustment and inspection of machines.  
Where the cables are not required to move in use, installation in conduit, trunking etc. is advised.  
Contamination by hydrocarbons, acids and alkalis shall be avoided and the cables shall be protected against mechanical damage.
- Ambient operating temperature (ranges):
  - Minimum: -30 °C (static - without exposure to movement, mechanical damages, shocks, or vibrations).
  - Maximum: +50 °C.
- Minimum temperature for cable laying during installation and assembly of accessories: 5 °C. Under normal conditions of care. This temperature is valid for the cable itself and not for the environment. If possible, the temperature of the cable shall be raised before laying (e.g., storing the cable in a heated room), in order to facilitate handling and reduce the risk of damages.
- Minimum bending radius: 10 x D. D = overall diameter of the cable in mm. Bending nearby the temperature limits should be carried out extra carefully.
- Maximum pulling force:
  - If the traction force is applied on the copper conductors:  $F = 15 \times S$  (N). "S" = cross sectional area of conductors (mm²).
  - If the traction force is applied on the oversheath:  $F = 3 \times D^2$  (N). "D" = overall diameter of the cable (mm).
- Identification: Oversheath colour → Black.
- Core identification for multicore cables (From 2 to 5): HD 308 S2.



- Core identification for multiconductor cables (N > 5 cores): EN 50334 (N-1 numbered black cores + G/Y).



Longitudinal layout of marks:



Transversal layout of marks:



- Packaging: Drum/cut to length.

| Code*       | No. of cores & nominal cross-sectional area | Insulation thickness | Overall diameter | Total weight | Maximum electrical resistance at 20°C (DC) |
|-------------|---------------------------------------------|----------------------|------------------|--------------|--------------------------------------------|
|             | mm²                                         | mm                   | mm               | kg/km        | Ω/km                                       |
| 8216020-750 | 2 x 0.75                                    | 0.6                  | 8.6              | 132          | 26.0                                       |
| 82160200010 | 2 x 1                                       | 0.6                  | 9.3              | 142          | 19.5                                       |
| 82160201-50 | 2 x 1.5                                     | 0.7                  | 10.0             | 171          | 13.3                                       |
| 82160202-50 | 2 x 2.5                                     | 0.8                  | 11.4             | 208          | 7.98                                       |
| 8216031-750 | 3 G 0.75                                    | 0.6                  | 9.0              | 148          | 26.0                                       |
| 82160310010 | 3 G 1                                       | 0.6                  | 9.9              | 166          | 19.5                                       |
| 82160311-50 | 3 G 1.5                                     | 0.7                  | 10.5             | 198          | 13.3                                       |
| 82160312-50 | 3 G 2.5                                     | 0.8                  | 12.0             | 249          | 7.98                                       |
| 82160410-50 | 4 G 0.5                                     | 0.6                  | 9.3              | 140          | 39.0                                       |
| 8216041-750 | 4 G 0.75                                    | 0.6                  | 9.8              | 164          | 26.0                                       |
| 82160410010 | 4 G 1                                       | 0.6                  | 10.6             | 184          | 19.5                                       |
| 82160411-50 | 4 G 1.5                                     | 0.7                  | 11.4             | 225          | 13.3                                       |
| 82160412-50 | 4 G 2.5                                     | 0.8                  | 13.3             | 289          | 7.98                                       |
| 82160510-50 | 5 G 0.5                                     | 0.6                  | 10.2             | 148          | 39.0                                       |
| 8216051-750 | 5 G 0.75                                    | 0.6                  | 10.5             | 180          | 26.0                                       |
| 82160510010 | 5 G 1                                       | 0.6                  | 11.5             | 203          | 19.5                                       |
| 82160511-50 | 5 G 1.5                                     | 0.7                  | 12.7             | 252          | 13.3                                       |
| 82160512-50 | 5 G 2.5                                     | 0.8                  | 14.5             | 329          | 7.98                                       |
| 82160710-50 | 7 G 0.5                                     | 0.6                  | 11.0             | 172          | 39.0                                       |
| 8216071-750 | 7 G 0.75                                    | 0.6                  | 11.5             | 212          | 26.0                                       |
| 82160710010 | 7 G 1                                       | 0.6                  | 12.7             | 240          | 19.5                                       |
| 82160711-50 | 7 G 1.5                                     | 0.7                  | 13.7             | 307          | 13.3                                       |
| 82160712-50 | 7 G 2.5                                     | 0.8                  | 15.9             | 410          | 7.98                                       |
| 82161010-50 | 10 G 0.5                                    | 0.6                  | 13.4             | 212          | 39.0                                       |
| 8216101-750 | 10 G 0.75                                   | 0.6                  | 13.8             | 260          | 26.0                                       |
| 82161010010 | 10 G 1                                      | 0.6                  | 15.7             | 295          | 19.5                                       |
| 82161011-50 | 10 G 1.5                                    | 0.7                  | 17.0             | 389          | 13.3                                       |
| 82161012-50 | 10 G 2.5                                    | 0.8                  | 19.8             | 532          | 7.98                                       |
| 82162010-50 | 20 G 0.5                                    | 0.6                  | 16.9             | 346          | 39.0                                       |
| 8216201-750 | 20 G 0.75                                   | 0.6                  | 17.8             | 419          | 26.0                                       |
| 82162010010 | 20 G 1                                      | 0.6                  | 19.5             | 482          | 19.5                                       |
| 82162011-50 | 20 G 1.5                                    | 0.7                  | 21.4             | 647          | 13.3                                       |
| 82163010-50 | 30 G 0.5                                    | 0.6                  | 20.1             | 480          | 39.0                                       |
| 8216301-750 | 30 G 0.75                                   | 0.6                  | 21.2             | 579          | 26.0                                       |
| 82163010010 | 30 G 1                                      | 0.6                  | 23.3             | 680          | 19.5                                       |
| 82163011-50 | 30 G 1.5                                    | 0.7                  | 25.7             | 907          | 13.3                                       |

\* Short product code. Must be completed with the corresponding characters for 'oversheath colour' and 'packaging'. Check the 'Miguelélez product code' section on our web page, in 'Downloads'.

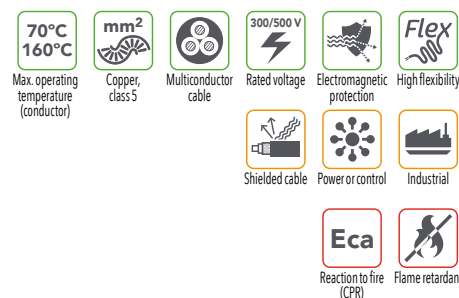
\*\* Check the CPR-classified range and the range included in the certifications indicated for each product, as well as much more information about our products, on the website: [www.miguelélez.com](http://www.miguelélez.com)

\*\*\* Dimensional and weight values are approximate and subject to normal manufacturing tolerances.

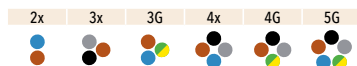
\*\*\*\* It is the sole responsibility of the end user to determine suitability of this product for its intended use and application. Please, consult the regulations, laws or standards that are applicable to each particular case.

The installation systems and additional requirements established by any regulation, law and/or standards applicable to each particular case must be met.

## BARRYFLEX SHIELD VC4V-K 300/500 V

DoP: ME05VC4VK. MIGUÉLEZ ARTICLE GROUP  
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- Standards (construction/tests): Especial construction based on EN 50525-2-11 standard.
- Technical designation: VC4V-K 300/500 V.
- Construction: Conductor: Copper, class 5 / Insulation: PVC / Shield: Al/PET tape + Cu Sn braid / Oversheath: PVC.  
100% shield coverage (Cu Sn braid > 65%). *Other shielded constructions or materials under request.*
- Rated voltage (Uo/U): 300/500 V A.C.
- Max. conductor temperature. Normal operation / short-circuit (t≤5s): 70 °C / 160 °C.
- Range: Multiconductor cable. Cross-sectional areas: From 0.5 to 4 mm<sup>2</sup>.
- Reaction to fire classification (CPR - EN 50575 & EN 13501-6): Eca.
- Other fire performance features (when CPR Regulation is not applicable): Flame retardant (IEC 60332-1-2).
- Applications: Shielded cable suitable for fixed installations that require electromagnetic protection.  
Especially designed for use as a control and power cable in industrial plants.  
Suitable for installation inside conduits or protective channels.
- Identification: Sheath colour → Black.
  - Core identification for multicore cables (From 2 to 5): HD 308 S2.



- Core identification for multiconductor cables (more than 5 cores): EN 50334 (Black numbered cores + yellow/green).
- Packaging: Drum/cut to length.

| Code*       | No. of cores & nominal cross-sectional area | Insulation thickness | Overall diameter | Total weight | Maximum electrical resistance at 20°C (D.C.) |
|-------------|---------------------------------------------|----------------------|------------------|--------------|----------------------------------------------|
|             | mm <sup>2</sup>                             | mm                   | mm               | kg/km        | Ω/km                                         |
| 82190200-50 | 2 x 0,5                                     | 0,6                  | 6,5              | 60           | 39,0                                         |
| 82190207-50 | 2 x 0,75                                    | 0,6                  | 6,7              | 67           | 26,0                                         |
| 82190200-10 | 2 x 1                                       | 0,6                  | 7,1              | 77           | 19,5                                         |
| 82190201-50 | 2 x 1,5                                     | 0,7                  | 7,9              | 97           | 13,3                                         |
| 82190202-50 | 2 x 2,5                                     | 0,8                  | 9,2              | 136          | 7,98                                         |
| 82190310-50 | 3 G 0,5                                     | 0,6                  | 7,1              | 72           | 39,0                                         |
| 82190317-50 | 3 G 0,75                                    | 0,6                  | 7,3              | 83           | 26,0                                         |
| 82190310-10 | 3 G 1                                       | 0,6                  | 7,7              | 95           | 19,5                                         |
| 82190311-50 | 3 G 1,5                                     | 0,7                  | 8,8              | 122          | 13,3                                         |
| 82190312-50 | 3 G 2,5                                     | 0,8                  | 10,2             | 175          | 7,98                                         |
| 82190410-50 | 4 G 0,5                                     | 0,6                  | 7,7              | 84           | 39,0                                         |
| 82190417-50 | 4 G 0,75                                    | 0,6                  | 8,1              | 98           | 26,0                                         |
| 82190410-10 | 4 G 1                                       | 0,6                  | 8,6              | 110          | 19,5                                         |
| 82190411-50 | 4 G 1,5                                     | 0,7                  | 9,5              | 145          | 13,3                                         |
| 82190412-50 | 4 G 2,5                                     | 0,8                  | 11,2             | 208          | 7,98                                         |
| 82190510-50 | 5 G 0,5                                     | 0,6                  | 8,5              | 97           | 39,0                                         |
| 82190517-50 | 5 G 0,75                                    | 0,6                  | 8,8              | 113          | 26,0                                         |
| 82190510-10 | 5 G 1                                       | 0,6                  | 9,3              | 130          | 19,5                                         |
| 82190511-50 | 5 G 1,5                                     | 0,7                  | 10,6             | 169          | 13,3                                         |
| 82190512-50 | 5 G 2,5                                     | 0,8                  | 12,4             | 246          | 7,98                                         |
| 82190610-50 | 6 G 0,5                                     | 0,6                  | 9,3              | 115          | 39,0                                         |
| 82190617-50 | 6 G 0,75                                    | 0,6                  | 9,5              | 130          | 26,0                                         |
| 82190610-10 | 6 G 1                                       | 0,6                  | 10,1             | 144          | 19,5                                         |
| 82190611-50 | 6 G 1,5                                     | 0,7                  | 11,5             | 188          | 13,3                                         |
| 82190612-50 | 6 G 2,5                                     | 0,8                  | 13,5             | 266          | 7,98                                         |
| 82190710-50 | 7 G 0,5                                     | 0,6                  | 9,3              | 124          | 39,0                                         |
| 82190717-50 | 7 G 0,75                                    | 0,6                  | 9,5              | 141          | 26,0                                         |
| 82190710-10 | 7 G 1                                       | 0,6                  | 10,1             | 157          | 19,5                                         |
| 82190711-50 | 7 G 1,5                                     | 0,7                  | 11,5             | 207          | 13,3                                         |
| 82190712-50 | 7 G 2,5                                     | 0,8                  | 13,5             | 295          | 7,98                                         |
| 82190810-50 | 8 G 0,5                                     | 0,6                  | 10,3             | 137          | 39,0                                         |
| 82190817-50 | 8 G 0,75                                    | 0,6                  | 10,7             | 156          | 26,0                                         |
| 82190810-10 | 8 G 1                                       | 0,6                  | 11,6             | 181          | 19,5                                         |
| 82190811-50 | 8 G 1,5                                     | 0,7                  | 13,0             | 240          | 13,3                                         |
| 82190812-50 | 8 G 2,5                                     | 0,8                  | 15,2             | 339          | 7,98                                         |
| 82190910-50 | 9 G 0,5                                     | 0,6                  | 11,3             | 150          | 39,0                                         |
| 82190917-50 | 9 G 0,75                                    | 0,6                  | 11,5             | 171          | 26,0                                         |
| 82190910-10 | 9 G 1                                       | 0,6                  | 12,5             | 201          | 19,5                                         |
| 82190911-50 | 9 G 1,5                                     | 0,7                  | 14,0             | 268          | 13,3                                         |
| 82190912-50 | 9 G 2,5                                     | 0,8                  | 16,5             | 379          | 7,98                                         |
| 82191010-50 | 10 G 0,5                                    | 0,6                  | 11,8             | 163          | 39,0                                         |
| 82191017-50 | 10 G 0,75                                   | 0,6                  | 12,0             | 186          | 26,0                                         |
| 82191010-10 | 10 G 1                                      | 0,6                  | 13,0             | 218          | 19,5                                         |
| 82191011-50 | 10 G 1,5                                    | 0,7                  | 14,6             | 292          | 13,3                                         |
| 82191012-50 | 10 G 2,5                                    | 0,8                  | 17,2             | 416          | 7,98                                         |
| 82191110-50 | 11 G 0,5                                    | 0,6                  | 11,8             | 172          | 39,0                                         |
| 82191117-50 | 11 G 0,75                                   | 0,6                  | 12,0             | 197          | 26,0                                         |
| 82191110-10 | 11 G 1                                      | 0,6                  | 13,0             | 231          | 19,5                                         |
| 82191111-50 | 11 G 1,5                                    | 0,7                  | 14,6             | 311          | 13,3                                         |
| 82191112-50 | 11 G 2,5                                    | 0,8                  | 17,2             | 446          | 7,98                                         |

| Code*       | No. of cores & nominal cross-sectional area | Insulation thickness | Overall diameter | Total weight | Maximum electrical resistance at 20°C (D.C.) |
|-------------|---------------------------------------------|----------------------|------------------|--------------|----------------------------------------------|
|             | mm <sup>2</sup>                             | mm                   | mm               | kg/km        | Ω/km                                         |
| 82191210-50 | 12 G 0,5                                    | 0,6                  | 12,1             | 183          | 39,0                                         |
| 82191217-50 | 12 G 0,75                                   | 0,6                  | 12,3             | 214          | 26,0                                         |
| 82191210-10 | 12 G 1                                      | 0,6                  | 13,4             | 246          | 19,5                                         |
| 82191211-50 | 12 G 1,5                                    | 0,7                  | 15,0             | 338          | 13,3                                         |
| 82191212-50 | 12 G 2,5                                    | 0,8                  | 17,9             | 482          | 7,98                                         |
| 82191310-50 | 13 G 0,5                                    | 0,6                  | 12,7             | 196          | 39,0                                         |
| 82191317-50 | 13 G 0,75                                   | 0,6                  | 12,9             | 228          | 26,0                                         |
| 82191310-10 | 13 G 1                                      | 0,6                  | 14,0             | 264          | 19,5                                         |
| 82191311-50 | 13 G 1,5                                    | 0,7                  | 15,9             | 363          | 13,3                                         |
| 82191312-50 | 13 G 2,5                                    | 0,8                  | 18,8             | 519          | 7,98                                         |
| 82191410-50 | 14 G 0,5                                    | 0,6                  | 12,7             | 204          | 39,0                                         |
| 82191417-50 | 14 G 0,75                                   | 0,6                  | 12,9             | 239          | 26,0                                         |
| 82191410-10 | 14 G 1                                      | 0,6                  | 14,2             | 279          | 19,5                                         |
| 82191411-50 | 14 G 1,5                                    | 0,7                  | 15,9             | 382          | 13,3                                         |
| 82191412-50 | 14 G 2,5                                    | 0,8                  | 18,8             | 549          | 7,98                                         |
| 82191510-50 | 15 G 0,5                                    | 0,6                  | 13,3             | 219          | 39,0                                         |
| 82191517-50 | 15 G 0,75                                   | 0,6                  | 13,8             | 255          | 26,0                                         |
| 82191510-10 | 15 G 1                                      | 0,6                  | 14,9             | 302          | 19,5                                         |
| 82191511-50 | 15 G 1,5                                    | 0,7                  | 16,8             | 409          | 13,3                                         |
| 82191512-50 | 15 G 2,5                                    | 0,8                  | 19,8             | 587          | 7,98                                         |
| 82191610-50 | 16 G 0,5                                    | 0,6                  | 13,3             | 228          | 39,0                                         |
| 82191617-50 | 16 G 0,75                                   | 0,6                  | 13,8             | 265          | 26,0                                         |
| 82191610-10 | 16 G 1                                      | 0,6                  | 14,9             | 315          | 19,5                                         |
| 82191611-50 | 16 G 1,5                                    | 0,7                  | 16,8             | 428          | 13,3                                         |
| 82191612-50 | 16 G 2,5                                    | 0,8                  | 19,8             | 616          | 7,98                                         |
| 82191710-50 | 17 G 0,5                                    | 0,6                  | 14,2             | 246          | 39,0                                         |
| 82191717-50 | 17 G 0,75                                   | 0,6                  | 14,5             | 285          | 26,0                                         |
| 82191710-10 | 17 G 1                                      | 0,6                  | 15,7             | 332          | 19,5                                         |
| 82191711-50 | 17 G 1,5                                    | 0,7                  | 17,9             | 457          | 13,3                                         |
| 82191712-50 | 17 G 2,5                                    | 0,8                  | 21,1             | 656          | 7,98                                         |
| 82191810-50 | 18 G 0,5                                    | 0,6                  | 14,2             | 254          | 39,0                                         |
| 82191817-50 | 18 G 0,75                                   | 0,6                  | 14,5             | 295          | 26,0                                         |
| 82191810-10 | 18 G 1                                      | 0,6                  | 15,7             | 345          | 19,5                                         |
| 82191811-50 | 18 G 1,5                                    | 0,7                  | 17,9             | 476          | 13,3                                         |
| 82191812-50 | 18 G 2,5                                    | 0,8                  | 21,1             | 686          | 7,98                                         |
| 82191910-50 | 19 G 0,5                                    | 0,6                  | 14,2             | 263          | 39,0                                         |
| 82191917-50 | 19 G 0,75                                   | 0,6                  | 14,7             | 306          | 26,0                                         |
| 82191910-10 | 19 G 1                                      | 0,6                  | 15,9             | 360          | 19,5                                         |
| 82191911-50 | 19 G 1,5                                    | 0,7                  | 17,9             | 495          | 13,3                                         |
| 82191912-50 | 19 G 2,5                                    | 0,8                  | 21,1             | 715          | 7,98                                         |
| 82192010-50 | 20 G 0,5                                    | 0,6                  | 14,9             | 279          | 39,0                                         |
| 82192017-50 | 20 G 0,75                                   | 0,6                  | 15,4             | 327          | 26,0                                         |
| 82192010-10 | 20 G 1                                      | 0,6                  | 16,7             | 382          | 19,5                                         |
| 82192011-50 | 20 G 1,5                                    | 0,7                  | 18,8             | 523          | 13,3                                         |
| 82192012-50 | 20 G 2,5                                    | 0,8                  | 22,2             | 754          | 7,98                                         |

\* Short product code. Must be completed with the corresponding characters for 'outer layer colour' and 'packaging'. Check the 'Miguelélez product code' section on our web page, in 'Downloads'.

\*\* Check the CPR-classified range and the range included in the certifications indicated for each product, as well as much more information about our products, on the website: [www.miguelélez.com](http://www.miguelélez.com)

\*\*\* Dimensional and weight values are approximate and subject to normal manufacturing tolerances.

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## AFIRENAS SHIELD Z1C4Z1-K (AS) 300/500 V

DoP : MC05Z1C4Z1K-02. MIGUÉLEZ ARTICLE GROUP  
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- Standard (construction/tests): EN 50525-3-11 (reference).

- Technical designation: Z1C4Z1-K (AS) 300/500 V.

- Construction:

Conductor: Copper, class 5 / Insulation: Thermoplastic polyolefin LSZH / Shield: Al/PET tape + Cu Sn braid /  
Oversheath: Thermoplastic polyolefin LSZH.

100% shield coverage (Cu Sn braid > 65%).

- Rated voltage (Uo/U): 300/500 V AC.

- Max. conductor temperature. Normal operation / short-circuit ( $t \leq 5s$ ): 70 °C / 160 °C.

- Range: Multiconductor cable.

Configurations: 2x(0,5...4) mm<sup>2</sup> / 3x o 3G(0,5...4) mm<sup>2</sup> / 4x o 4G(0,5...4) mm<sup>2</sup> / 5G(0,75...4) mm<sup>2</sup> / (6...30) X o G 0,5 mm<sup>2</sup> / (6...28) X o G 0,75 mm<sup>2</sup> / (6...24) X o G 1 mm<sup>2</sup> / (6...17) X o G 1,5 mm<sup>2</sup> / (6...12) X o G 2,5 mm<sup>2</sup>.

- Reaction to fire classification (CPR - EN 50575 & EN 13501-6): Cca-s1b,d1,a1.

- Other fire performance features (when CPR Regulation is not applicable): Flame & fire retardant, halogen-free and low gas and smoke emission with low opacity/toxicity/corrosivity/conductivity (IEC 60332-1-2, IEC 60332-3-24, IEC 60754-1, IEC 60754-2 and IEC 61034-2).

- Applications: Shielded cable suitable for fixed installations that require protection against disturbances and electromagnetic interference. Especially designed to be used as a signaling, command or control cable in those installations which require electromagnetic protection (solenoid valve control, automaton and machine start-up, regulation...) and a special performance in case of fire (tunnels, high-rise buildings, fire hazard premises, airports, hospitals (or other public access premises)).

– Ambient operating temperature (ranges):

- Minimum: -30 °C (static – without exposure to movement, mechanical damages, shocks, or vibrations).
- Maximum: +50 °C.

– Minimum temperature for cable laying during installation and assembly of accessories: 0 °C. Under normal conditions of care. This temperature is valid for the cable itself and not for the environment. If possible, the temperature of the cable shall be raised before laying (e.g., storing the cable in a heated room), in order to facilitate handling and reduce the risk of damages.

– Minimum bending radius: 10 x D. D = overall diameter of the cable in mm. Bending nearby the temperature limits should be carried out extra carefully.

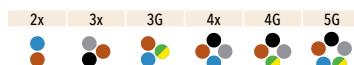
– Maximum pulling force:

- If the traction force is applied on the copper conductors:  $F = 50xS$  (N). "S" = cross sectional area of conductors (mm<sup>2</sup>).
- If the traction force is applied on the oversheath:  $F = 3xD^2$  (N). "D" = overall diameter of the cable (mm).

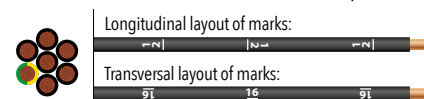
It is assumed that the cable route is well designed for the laying procedure with well-established curves and enough cable rollers (if needed). Special attention shall be paid to the required minimum bending radius.

- Identification: Oversheath colour → Green.

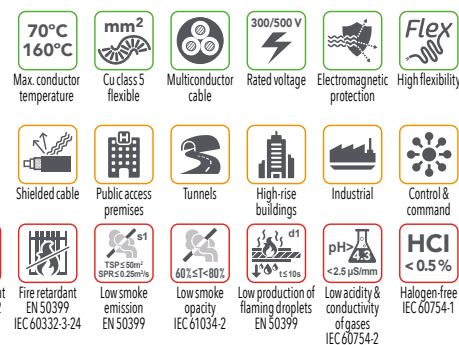
– Core identification for multicore cables (From 2 to 5): HD 308 S2.



– Core identification for multiconductor cables (N > 5 cores): EN 50334 (N-1 numbered black cores + G/Y).



- Packaging: Drum/cut to length.



| Code*       | No. of cores & nominal cross-sectional area | Insulation thickness | Overall diameter | Total weight | Maximum DC resistance at 20 °C |
|-------------|---------------------------------------------|----------------------|------------------|--------------|--------------------------------|
|             | mm <sup>2</sup>                             | mm                   | mm               | kg/km        | Ω/km                           |
| 82170200-50 | 2 x 0.5                                     | 0.6                  | 7.7              | 76           | 39.0                           |
| 8217020-50  | 2 x 0.75                                    | 0.6                  | 7.8              | 81           | 26.0                           |
| 82170200010 | 2 x 1                                       | 0.6                  | 8.3              | 87           | 19.5                           |
| 82170201-50 | 2 x 1.5                                     | 0.7                  | 9.2              | 107          | 13.3                           |
| 82170202-50 | 2 x 2.5                                     | 0.8                  | 10.5             | 144          | 7.98                           |
| 82170200040 | 2 x 4                                       | 0.8                  | 11.8             | 183          | 4.95                           |
| 82170310-50 | 3 G 0.5                                     | 0.6                  | 8.0              | 87           | 39.0                           |
| 8217031-750 | 3 G 0.75                                    | 0.6                  | 8.2              | 95           | 26.0                           |
| 82170310010 | 3 G 1                                       | 0.6                  | 8.6              | 104          | 19.5                           |
| 82170311-50 | 3 G 1.5                                     | 0.7                  | 9.7              | 129          | 13.3                           |
| 82170312-50 | 3 G 2.5                                     | 0.8                  | 11.2             | 187          | 7.98                           |
| 82170310040 | 3 G 4                                       | 0.8                  | 12.5             | 237          | 4.95                           |
| 82170410-50 | 4 G 0.5                                     | 0.6                  | 8.7              | 100          | 39.0                           |
| 8217041-750 | 4 G 0.75                                    | 0.6                  | 8.9              | 110          | 26.0                           |
| 82170410010 | 4 G 1                                       | 0.6                  | 9.3              | 121          | 19.5                           |
| 82170411-50 | 4 G 1.5                                     | 0.7                  | 10.5             | 154          | 13.3                           |
| 82170412-50 | 4 G 2.5                                     | 0.8                  | 12.1             | 221          | 7.98                           |
| 82170410040 | 4 G 4                                       | 0.8                  | 13.6             | 279          | 4.95                           |
| 8217051-750 | 5 G 0.75                                    | 0.6                  | 9.6              | 126          | 26.0                           |
| 82170510010 | 5 G 1                                       | 0.6                  | 10.0             | 140          | 19.5                           |
| 82170511-50 | 5 G 1.5                                     | 0.7                  | 11.3             | 180          | 13.3                           |
| 82170512-50 | 5 G 2.5                                     | 0.8                  | 13.1             | 262          | 7.98                           |
| 82170510040 | 5 G 4                                       | 0.8                  | 14.7             | 341          | 4.95                           |
| 82170610-50 | 6 G 0.5                                     | 0.6                  | 10.0             | 127          | 39.0                           |
| 8217061-750 | 6 G 0.75                                    | 0.6                  | 10.3             | 142          | 26.0                           |
| 82170610010 | 6 G 1                                       | 0.6                  | 10.7             | 158          | 19.5                           |
| 82170611-50 | 6 G 1.5                                     | 0.7                  | 12.1             | 205          | 13.3                           |
| 82170612-50 | 6 G 2.5                                     | 0.8                  | 14.0             | 287          | 7.98                           |
| 82170710-50 | 7 G 0.5                                     | 0.6                  | 10.4             | 141          | 39.0                           |
| 8217071-750 | 7 G 0.75                                    | 0.6                  | 10.7             | 159          | 26.0                           |
| 82170710010 | 7 G 1                                       | 0.6                  | 11.1             | 177          | 19.5                           |
| 82170711-50 | 7 G 1.5                                     | 0.7                  | 12.6             | 231          | 13.3                           |
| 82170712-50 | 7 G 2.5                                     | 0.8                  | 14.7             | 327          | 7.98                           |
| 82170810-50 | 8 G 0.5                                     | 0.6                  | 11.3             | 154          | 39.0                           |
| 8217081-750 | 8 G 0.75                                    | 0.6                  | 11.5             | 175          | 26.0                           |
| 82170810010 | 8 G 1                                       | 0.6                  | 12.0             | 196          | 19.5                           |
| 82170811-50 | 8 G 1.5                                     | 0.7                  | 13.6             | 255          | 13.3                           |
| 82170812-50 | 8 G 2.5                                     | 0.8                  | 16.0             | 365          | 7.98                           |
| 82171010-50 | 10 G 0.5                                    | 0.6                  | 12.4             | 177          | 39.0                           |
| 8217101-750 | 10 G 0.75                                   | 0.6                  | 12.7             | 203          | 26.0                           |
| 82171010010 | 10 G 1                                      | 0.6                  | 13.3             | 230          | 19.5                           |
| 82171011-50 | 10 G 1.5                                    | 0.7                  | 15.1             | 310          | 13.3                           |
| 82171012-50 | 10 G 2.5                                    | 0.8                  | 17.7             | 443          | 7.98                           |
| 82171210-50 | 12 G 0.5                                    | 0.6                  | 12.6             | 194          | 39.0                           |
| 8217121-750 | 12 G 0.75                                   | 0.6                  | 13.1             | 227          | 26.0                           |
| 82171210010 | 12 G 1                                      | 0.6                  | 13.6             | 261          | 19.5                           |
| 82171211-50 | 12 G 1.5                                    | 0.7                  | 15.6             | 359          | 13.3                           |
| 82171212-50 | 12 G 2.5                                    | 0.8                  | 18.2             | 513          | 7.98                           |
| 82171410-50 | 14 G 0.5                                    | 0.6                  | 13.3             | 217          | 39.0                           |
| 8217141-750 | 14 G 0.75                                   | 0.6                  | 13.6             | 253          | 26.0                           |
| 82171410010 | 14 G 1                                      | 0.6                  | 14.4             | 297          | 19.5                           |
| 82171411-50 | 14 G 1.5                                    | 0.7                  | 16.4             | 406          | 13.3                           |
| 82171710-50 | 17 G 0.5                                    | 0.6                  | 14.6             | 261          | 39.0                           |
| 8217171-750 | 17 G 0.75                                   | 0.6                  | 15.0             | 302          | 26.0                           |
| 82171710010 | 17 G 1                                      | 0.6                  | 15.7             | 353          | 19.5                           |
| 82171711-50 | 17 G 1.5                                    | 0.7                  | 18.0             | 486          | 13.3                           |
| 82172010-50 | 20 G 0.5                                    | 0.6                  | 15.4             | 297          | 39.0                           |
| 8217201-750 | 20 G 0.75                                   | 0.6                  | 15.9             | 354          | 26.0                           |
| 82172010010 | 20 G 1                                      | 0.6                  | 16.6             | 415          | 19.5                           |
| 82172410-50 | 24 G 0.5                                    | 0.6                  | 16.8             | 332          | 39.0                           |
| 8217241-750 | 24 G 0.75                                   | 0.6                  | 17.4             | 394          | 26.0                           |
| 82172410010 | 24 G 1                                      | 0.6                  | 18.2             | 474          | 19.5                           |
| 82172810-50 | 28 G 0.5                                    | 0.6                  | 17.8             | 375          | 39.0                           |
| 8217281-750 | 28 G 0.75                                   | 0.6                  | 18.3             | 455          | 26.0                           |
| 82172910-50 | 29 G 0.5                                    | 0.6                  | 17.9             | 385          | 39.0                           |
| 82173010-50 | 30 G 0.5                                    | 0.6                  | 18.5             | 392          | 39.0                           |

\* Short product code. Must be completed with the corresponding characters for 'oversheath colour' and 'packaging'. Check the 'Miguelélez product code' section on our web page, in 'Downloads'.

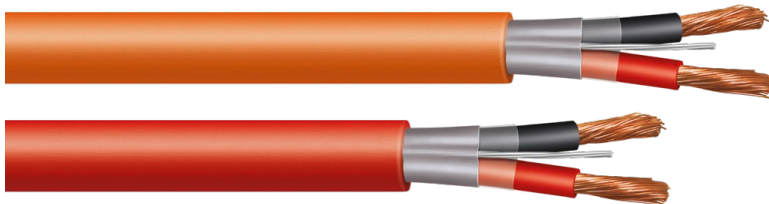
\*\* Check the CPR-classified range and the range included in the certifications indicated for each product, as well as much more information about our products, on the website: www.miguelélez.com

\*\*\* Dimensional and weight values are approximate and subject to normal manufacturing tolerances.

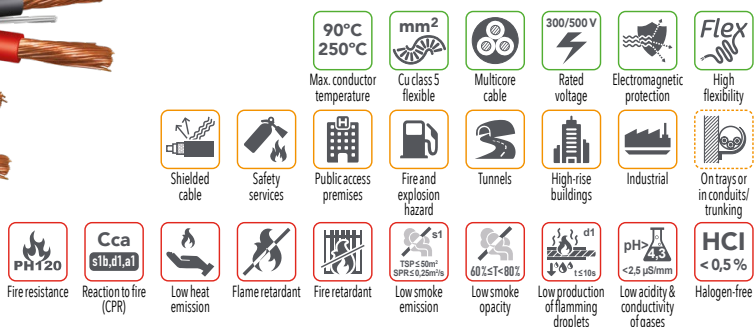
\*\*\*\* It is the sole responsibility of the end user to determine suitability of this product for its intended use and application. Please, consult the regulations, laws or standards that are applicable to each particular case.

The installation systems and additional requirements established by any regulation, law and/or standards applicable to each particular case must be met.



AFIREFENIX **SHIELD** SOZ1-K (AS+) 300/500 V PH120DoP : MC05SOZ1K. MIGUÉLEZ ARTICLE GROUP  
**220**

EN 50200 / IEC 60331-2



- **Standards (construction & tests):** UNE 211025.
  - **Technical designation:** SOZ1-K (AS+) 300/500 V PH120.
  - **Construction:** Conductor: Copper, class 5 / Insulation: Silicone / Shield: Al/PET tape + drain wire Cu Sn / Oversheath: Thermoplastic polyolefin, LSZH. Shield coverage (100 %).
  - **Rated voltage (Uo/U):** 300/500 V AC. (Voltage test 2000 V AC).
  - **Max. conductor temperature. Normal operation / short-circuit (t≤5s):** 90 °C / 250 °C.
  - **Range:** Multicore cable. Configurations: 2x1,5 mm<sup>2</sup> & 2x2,5 mm<sup>2</sup>.
  - **Fire resistance:** PH120 / Reaction to fire (CPR - EN 50575 & EN 13501-6): Cca-s1b,d1,a1.
  - **Additional performance in case of fire (if the Construction Products Regulation is not applicable):** Fire resistant, fire & flame retardant, halogen-free and low gas and smoke emission with low opacity/toxicity/corrosivity/conductivity (EN 50200, IEC 60331-2, IEC 60332-1-2, IEC 60332-3-24, IEC 61034-2, IEC 60754-1 e IEC 60754-2).
  - **Applications:** Shielded cable with intrinsic resistance to fire, recommended for electrical circuits that require protection against disturbances and electromagnetic interference. Specifically designed for use in security circuits associated with fire-fighting equipment, signaling, detection and alarm systems (pushbuttons, detectors...).
  - Ambient operating temperature (ranges):
    - Minimum: –30 °C (static – without exposure to movement, mechanical damages, shocks, or vibrations).
    - Maximum: +70 °C.
  - Minimum temperature for cable laying during installation and assembly of accessories: 0 °C. Under normal conditions of care. This temperature is valid for the cable itself and not for the environment. If possible, the temperature of the cable shall be raised before laying, e.g., in a heated building, to facilitate handling and reduce the risk of damages.
  - Minimum bending radius: 10 x D. D = overall diameter of the cable in mm. Bending nearby the temperature limits should be carried out extra carefully.
  - Maximum pulling force:
    - It is assumed that the cable route is well designed for the laying procedure with well-established curves and enough cable rollers (if needed).
    - Special attention shall be paid to the required minimum bending radius.
      - If the traction force is applied on the copper conductors: **F = 50xS** (N). "S" = cross sectional area of conductors (mm<sup>2</sup>).
      - If the traction force is applied on the oversheath: **F = 3xD<sup>2</sup>** (N). "D" = overall diameter of the cable (mm).
  - **Identification:** Oversheath colour → Red (94) or orange (88).
    - Core identification: 2x (red and black).
- 2x
- **Packaging:** Drum/cut to length.  
Other packaging formats on request.

| Code*       | No. of cores & nominal cross-sectional area | Insulation thickness | Overall diameter | Total weight | Maximum DC resistance at 20 °C |
|-------------|---------------------------------------------|----------------------|------------------|--------------|--------------------------------|
|             | mm <sup>2</sup>                             | mm                   | mm               | kg/km        | Ω/km                           |
| 82200201-50 | 2 x 1,5                                     | 0,8                  | 8,3              | 85           | 13,3                           |
| 82200202-50 | 2 x 2,5                                     | 0,8                  | 9,0              | 110          | 7,98                           |

\* Short product code. Must be completed with the corresponding characters for 'oversheath colour' and 'packaging'. Check the 'Miguelélez product code' section on our web page, in 'Downloads'.

\*\* Check the CPR-classified range and the range included in the certifications indicated for each product, as well as much more information about our products, on the website: www.miguelélez.com

\*\*\* Dimensional and weight values are approximate and subject to normal manufacturing tolerances.

\*\*\*\* It is the sole responsibility of the end user to determine suitability of this product for its intended use and application. Please, consult the regulations, laws or standards that are applicable to each particular case.

The installation systems and additional requirements established by any regulation, law and/or standards applicable to each particular case must be met.

## BARRYFLEX SHIELD VC4V-K 0.6/1 kV

DoP : ME1000VC4VK. MIGUELÉZ ARTICLE GROUP  
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- Standards (construction/tests): UNE 21123-1 and IEC 60502-1.
- Technical designation: VC4V-K 0.6/1 kV.
- Construction: Conductor: Copper, class 5 / Insulation: PVC type PVC/A / Shield: Al/PET tape + Cu Sn braid / Oversheath: PVC type ST1.  
100% shield coverage (Cu Sn braid > 65%). Other shield constructions or materials under request.
- Rated voltage (Uo/U): 0.6/1 kV AC.
- Max. conductor temperature. Normal operation / short-circuit ( $t \leq 5s$ ): 70 °C / 160 °C.
- Range: Single-core or multicore cable.  
Configurations: 1 x (1.5...240) mm<sup>2</sup> / 2 x (1.5...150) mm<sup>2</sup> / (3-4)x or G(1.5...150) mm<sup>2</sup> / 5G(1.5...95) mm<sup>2</sup> / (6...27)G(1.5...2.5) mm<sup>2</sup>.
- Reaction to fire classification (CPR - EN 50575 & EN 13501-6): Eca
- Other fire performance features (when the CPR Regulation is not applicable): Flame retardant (IEC 60332-1-2).
- Applications\*\*\*\*: Shielded cable suitable for fixed installations that require electromagnetic protection.  
Especially designed to be used as a power, command or control cable in industrial plants ( $s \leq 10$  mm<sup>2</sup> VFD, solenoid valves, regulation...).  
Perfect for protecting the cable, nearby signal cables or electronic devices against possible disturbances and interferences.  
Suitable for indoor and outdoor (protected from permanent and direct UV radiation) installations, on supports (brackets, clamps, cable trays or ladders), in conduits or buried in conduit.

#### Ambient operating temperature (ranges):

- Minimum: -30 °C (static - without exposure to movement, mechanical damages, shocks, or vibrations).
- Maximum: +50 °C.

Minimum temperature for cable laying during installation and assembly of accessories: 0 °C.

This temperature is valid for the cable itself and not for the environment.

If possible, the temperature of the cable shall be raised before laying (e.g., storing the cable in a heated room), in order to facilitate handling and reduce the risk of damages.

#### Minimum bending radius: 10 x D. D = overall diameter of the cable in mm.

Bending nearby the temperature limits should be carried out extra carefully.

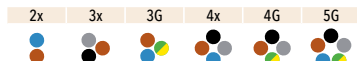
#### Maximum pulling force:

- If the traction force is applied on the copper conductors:  $F = 50xS$  (N). "S" = cross sectional area of conductors (mm<sup>2</sup>).
- If the traction force is applied on the oversheath:  $F = 3xD^2$  (N). "D" = overall diameter of the cable (mm).

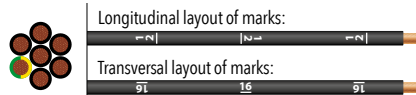
It is assumed that the cable route is well designed for the laying procedure with well-established curves and enough cable rollers (if needed). Special attention shall be paid to the required minimum bending radius.

#### Identification: Oversheath colour → Black (92).

- Core identification for multicore cables (From 2 to 5): HD 308 S2.



- Core identification for multiconductor cables (N > 5 cores): EN 50334 (N-1 numbered black cores + G/Y).



- Packaging: Drum/cut to length (03).

| Code*       | No. of cores & nominal cross-sectional area | Insulation thickness | Overall diameter | Total weight | Maximum electrical resistance at 20°C (DC) |
|-------------|---------------------------------------------|----------------------|------------------|--------------|--------------------------------------------|
|             | mm <sup>2</sup>                             | mm                   | mm               | kg/km        | Ω/km                                       |
| 82180100160 | 1 x 16                                      | 1.0                  | 10.5             | 215          | 1.21                                       |
| 82180100250 | 1 x 25                                      | 1.2                  | 12.1             | 299          | 0.780                                      |
| 82180100350 | 1 x 35                                      | 1.2                  | 13.3             | 399          | 0.554                                      |
| 82180100500 | 1 x 50                                      | 1.4                  | 15.1             | 572          | 0.386                                      |
| 82180100700 | 1 x 70                                      | 1.4                  | 16.9             | 782          | 0.272                                      |
| 82180100950 | 1 x 95                                      | 1.6                  | 19.0             | 1008         | 0.206                                      |
| 82180101200 | 1 x 120                                     | 1.6                  | 20.6             | 1244         | 0.161                                      |
| 82180101500 | 1 x 150                                     | 1.8                  | 22.8             | 1569         | 0.129                                      |
| 82180101850 | 1 x 185                                     | 2.0                  | 24.8             | 1853         | 0.106                                      |
| 82180102400 | 1 x 240                                     | 2.2                  | 28.4             | 2499         | 0.0801                                     |
| 82180201-50 | 2 x 1.5                                     | 0.8                  | 9.8              | 118          | 13.3                                       |
| 82180202-50 | 2 x 2.5                                     | 0.8                  | 10.6             | 149          | 7.98                                       |
| 82180200040 | 2 x 4                                       | 1.0                  | 12.6             | 194          | 4.95                                       |
| 82180200060 | 2 x 6                                       | 1.0                  | 13.6             | 250          | 3.30                                       |
| 82180200100 | 2 x 10                                      | 1.0                  | 15.4             | 372          | 1.91                                       |
| 82180311-50 | 3 G 1.5                                     | 0.8                  | 10.3             | 132          | 13.3                                       |
| 82180312-50 | 3 G 2.5                                     | 0.8                  | 11.1             | 173          | 7.98                                       |
| 82180310040 | 3 G 4                                       | 1.0                  | 13.2             | 229          | 4.95                                       |
| 82180310060 | 3 G 6                                       | 1.0                  | 14.3             | 304          | 3.30                                       |
| 82180310100 | 3 G 10                                      | 1.0                  | 16.3             | 460          | 1.91                                       |
| 82180411-50 | 4 G 1.5                                     | 0.8                  | 11.1             | 153          | 13.3                                       |
| 82180412-50 | 4 G 2.5                                     | 0.8                  | 12.1             | 210          | 7.98                                       |
| 82180410040 | 4 G 4                                       | 1.0                  | 14.5             | 284          | 4.95                                       |
| 82180410060 | 4 G 6                                       | 1.0                  | 15.7             | 381          | 3.30                                       |
| 82180410100 | 4 x 10                                      | 1.0                  | 17.8             | 576          | 1.91                                       |
| 82180511-50 | 5 G 1.5                                     | 0.8                  | 12.0             | 183          | 13.3                                       |
| 82180512-50 | 5 G 2.5                                     | 0.8                  | 13.1             | 247          | 7.98                                       |
| 82180510040 | 5 G 4                                       | 1.0                  | 15.8             | 340          | 4.95                                       |
| 82180510060 | 5 G 6                                       | 1.0                  | 17.1             | 458          | 3.30                                       |
| 82180510100 | 5 G 10                                      | 1.0                  | 19.5             | 708          | 1.91                                       |
| 82180611-50 | 6 G 1.5                                     | 0.8                  | 12.9             | 232          | 13.3                                       |
| 82180612-50 | 6 G 2.5                                     | 0.8                  | 14.1             | 295          | 7.98                                       |
| 82180711-50 | 7 G 1.5                                     | 0.8                  | 12.9             | 249          | 13.3                                       |
| 82180712-50 | 7 G 2.5                                     | 0.8                  | 14.1             | 316          | 7.98                                       |
| 82181011-50 | 10 G 1.5                                    | 0.8                  | 16.0             | 327          | 13.3                                       |
| 82181012-50 | 10 G 2.5                                    | 0.8                  | 17.6             | 400          | 7.98                                       |
| 82181411-50 | 14 G 1.5                                    | 0.8                  | 17.5             | 462          | 13.3                                       |
| 82181412-50 | 14 G 2.5                                    | 0.8                  | 19.3             | 543          | 7.98                                       |
| 82181711-50 | 17 G 1.5                                    | 0.8                  | 18.9             | 535          | 13.3                                       |
| 82181712-50 | 17 G 2.5                                    | 0.8                  | 20.9             | 631          | 7.98                                       |
| 82181911-50 | 19 G 1.5                                    | 0.8                  | 19.8             | 586          | 13.3                                       |
| 82181912-50 | 19 G 2.5                                    | 0.8                  | 21.9             | 742          | 7.98                                       |
| 82182411-50 | 24 G 1.5                                    | 0.8                  | 21.8             | 690          | 13.3                                       |
| 82182412-50 | 24 G 2.5                                    | 0.8                  | 24.2             | 867          | 7.98                                       |
| 82182711-50 | 27 G 1.5                                    | 0.8                  | 22.9             | 767          | 13.3                                       |
| 82182712-50 | 27 G 2.5                                    | 0.8                  | 25.4             | 943          | 7.98                                       |

\* Color and packing codes (standard):

- Black oversheath (92).
- Drum/cut to length (03).

\* Short product code. Must be completed with the corresponding characters for 'oversheath colour' and 'packaging'. Check the 'Miguelélez product code' section on our web page, in 'Downloads'.

\*\* Check the CPR-classified range and the range included in the certifications indicated for each product, as well as much more information about our products, on the website: [www.miguelélez.com](http://www.miguelélez.com)

\*\*\* Dimensional and weight values are approximate and subject to normal manufacturing tolerances.

\*\*\*\* It is the sole responsibility of the end user to determine suitability of this product for its intended use and application. Please, consult the regulations, laws or standards that are applicable to each particular case.

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## BARRYFLEX SHIELD RC4V-K 0.6/1 kV

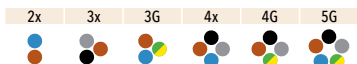
DoP : ME1000RC4VK.

MIGUÉLEZ ARTICLE GROUP

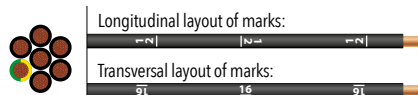
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- Standards (construction/tests): UNE 21123-2 and IEC 60502-1.
- Technical designation: RC4V-K 0.6/1 kV.
- Construction: Conductor: Copper, class 5 / Insulation: XLPE / Shield: Al/PET tape + Cu Sn braid / Oversheath: PVC. 100% shield coverage (Cu Sn braid > 65%). Other shield constructions or materials under request.
- Rated voltage (Uo/U): 0.6/1 kV AC.
- Max. conductor temperature. Normal operation / short-circuit (t≤5s): 90 °C / 250 °C.
- Range: Single-core or multiconductor cable.  
Configurations: 1x(1.5...185) mm² / 2x(1.5...50) mm² / 3x or G(1.5...35) mm² / (4-5)x or G(1.5...25) mm² / (6...27)G1.5 mm² / (6...27)G2.5 mm².  
Multiconductor cable from 6 to 20. Cross-sectional area= 1.5 / 2.5 mm².
- Reaction to fire classification (CPR - EN 50575 & EN 13501-6): Eca.
- Other fire performance features (when CPR Regulation is not applicable): Flame retardant (IEC 60332-1-2).
- Applications\*\*\*\*: Shielded cable suitable for fixed installations that require electromagnetic protection. Especially designed to be used as a power, command or control cable in industrial plants (≤10 mm² VFD, solenoid valves, regulation...). Perfect for protecting the cable, nearby signal cables or electronic devices against possible disturbances and interferences. Suitable for indoor and outdoor (protected from direct UV radiation) installations, on supports (brackets, clamps, cable trays or ladders), in conduits or buried in conduit.
  - Ambient operating temperature (ranges):
    - Minimum: -30 °C (static – without exposure to movement, mechanical damages, shocks, or vibrations).
    - Maximum: +50 °C.
  - Minimum temperature for cable laying during installation and assembly of accessories: 0 °C. Under normal conditions of care. This temperature is valid for the cable itself and not for the environment. If possible, the temperature of the cable shall be raised before laying (e.g., storing the cable in a heated room), in order to facilitate handling and reduce the risk of damages.
  - Minimum bending radius: 10 x D. D = overall diameter of the cable in mm. Bending nearby the temperature limits should be carried out extra carefully.
  - Maximum pulling force:
    - If the traction force is applied on the copper conductors:  $F = 50 \times S$  (N). "S" = cross sectional area of conductors (mm²).
    - If the traction force is applied on the oversheath:  $F = 3 \times D^2$  (N). "D" = overall diameter of the cable (mm).
  - It is assumed that the cable route is well designed for the laying procedure with well-established curves and enough cable rollers (if needed). Special attention shall be paid to the required minimum bending radius.
- Identification: Oversheath colour → Black (92).
  - Core identification for multicore cables (From 2 to 5): HD 308 S2.



- Core identification for multiconductor cables (N> 5 cores): EN 50334 (N-1 numbered black cores + G/Y).



- Packaging: Drum/cut to length (03).

| Code*       | No. of cores & nominal cross-sectional area | Insulation thickness | Overall diameter | Total weight | Maximum electrical resistance at 20°C (DC) |
|-------------|---------------------------------------------|----------------------|------------------|--------------|--------------------------------------------|
|             |                                             |                      |                  |              |                                            |
|             | mm²                                         | mm                   | mm               | kg/km        | Ω/km                                       |
| 82130100160 | 1 x 16                                      | 0,7                  | 10,2             | 205          | 1,21                                       |
| 82130100250 | 1 x 25                                      | 0,9                  | 11,7             | 285          | 0,780                                      |
| 82130100350 | 1 x 35                                      | 0,9                  | 13,0             | 380          | 0,554                                      |
| 82130100500 | 1 x 50                                      | 1                    | 14,8             | 545          | 0,386                                      |
| 82130100700 | 1 x 70                                      | 1,1                  | 16,7             | 745          | 0,272                                      |
| 82130100950 | 1 x 95                                      | 1,1                  | 18,2             | 960          | 0,206                                      |
| 82130101200 | 1 x 120                                     | 1,2                  | 20,4             | 1185         | 0,161                                      |
| 82130101500 | 1 x 150                                     | 1,4                  | 22,4             | 1495         | 0,129                                      |
| 82130101850 | 1 x 185                                     | 1,6                  | 24,7             | 1790         | 0,106                                      |
| 82130201-50 | 2 x 1,5                                     | 0,7                  | 9,2              | 113          | 13,3                                       |
| 82130202-50 | 2 x 2,5                                     | 0,7                  | 10,0             | 142          | 7,98                                       |
| 82130200040 | 2 x 4                                       | 0,7                  | 11,2             | 185          | 4,95                                       |
| 82130200060 | 2 x 6                                       | 0,7                  | 12,2             | 239          | 3,30                                       |
| 82130200100 | 2 x 10                                      | 0,7                  | 14,0             | 355          | 1,91                                       |
| 82130200160 | 2 x 16                                      | 0,7                  | 16,2             | 484          | 1,21                                       |
| 82130200250 | 2 x 25                                      | 0,9                  | 19,2             | 708          | 0,780                                      |
| 82130311-50 | 3 G 1,5                                     | 0,7                  | 9,7              | 126          | 13,3                                       |
| 82130312-50 | 3 G 2,5                                     | 0,7                  | 10,5             | 165          | 7,98                                       |
| 82130310040 | 3 G 4                                       | 0,7                  | 11,8             | 219          | 4,95                                       |
| 82130310060 | 3 G 6                                       | 0,7                  | 12,9             | 290          | 3,30                                       |
| 82130310100 | 3 G 10                                      | 0,7                  | 14,8             | 439          | 1,91                                       |
| 82130300160 | 3 x 16                                      | 0,7                  | 17,2             | 625          | 1,21                                       |
| 82130300250 | 3 x 25                                      | 0,9                  | 20,4             | 916          | 0,780                                      |
| 82130411-50 | 4 G 1,5                                     | 0,7                  | 10,4             | 146          | 13,3                                       |
| 82130412-50 | 4 G 2,5                                     | 0,7                  | 11,4             | 200          | 7,98                                       |
| 82130410040 | 4 G 4                                       | 0,7                  | 12,8             | 271          | 4,95                                       |
| 82130410060 | 4 G 6                                       | 0,7                  | 14,0             | 363          | 3,30                                       |
| 82130400100 | 4 x 10                                      | 0,7                  | 16,2             | 549          | 1,91                                       |
| 82130400160 | 4 x 16                                      | 0,7                  | 18,9             | 792          | 1,21                                       |
| 82130400250 | 4 x 25                                      | 0,9                  | 22,5             | 1175         | 0,780                                      |
| 82130511-50 | 5 G 1,5                                     | 0,7                  | 11,3             | 175          | 13,3                                       |
| 82130512-50 | 5 G 2,5                                     | 0,7                  | 12,4             | 236          | 7,98                                       |
| 82130510040 | 5 G 4                                       | 0,7                  | 14,0             | 324          | 4,95                                       |
| 82130510060 | 5 G 6                                       | 0,7                  | 15,3             | 437          | 3,30                                       |
| 82130510100 | 5 G 10                                      | 0,7                  | 17,8             | 675          | 1,91                                       |
| 82130510160 | 5 G 16                                      | 0,7                  | 20,7             | 972          | 1,21                                       |
| 82130510250 | 5 G 25                                      | 0,9                  | 24,8             | 1476         | 0,780                                      |
| 82130711-50 | 7 G 1,5                                     | 0,7                  | 12,1             | 238          | 13,3                                       |
| 82130712-50 | 7 G 2,5                                     | 0,7                  | 13,3             | 301          | 7,98                                       |
| 82131011-50 | 10 G 1,5                                    | 0,7                  | 15,0             | 309          | 13,3                                       |
| 82131012-50 | 10 G 2,5                                    | 0,7                  | 16,6             | 378          | 7,98                                       |
| 82131411-50 | 14 G 1,5                                    | 0,7                  | 16,5             | 432          | 13,3                                       |
| 82131412-50 | 14 G 2,5                                    | 0,7                  | 18,3             | 508          | 7,98                                       |
| 82131911-50 | 19 G 1,5                                    | 0,7                  | 18,6             | 538          | 13,3                                       |
| 82131912-50 | 19 G 2,5                                    | 0,7                  | 20,7             | 681          | 7,98                                       |
| 82132411-50 | 24 G 1,5                                    | 0,7                  | 20,5             | 628          | 13,3                                       |
| 82132412-50 | 24 G 2,5                                    | 0,7                  | 22,7             | 789          | 7,98                                       |

\* Color and packing codes (standard):  
 - Black oversheath (92).  
 - Drum/cut to length (03).

\* Short product code. Must be completed with the corresponding characters for 'oversheath colour' and 'packaging'. Check the 'Miguelélez product code' section on our web page, in 'Downloads'.

\*\* Check the CPR-classified range and the range included in the certifications indicated for each product, as well as much more information about our products, on the website: [www.miguelélez.com](http://www.miguelélez.com)

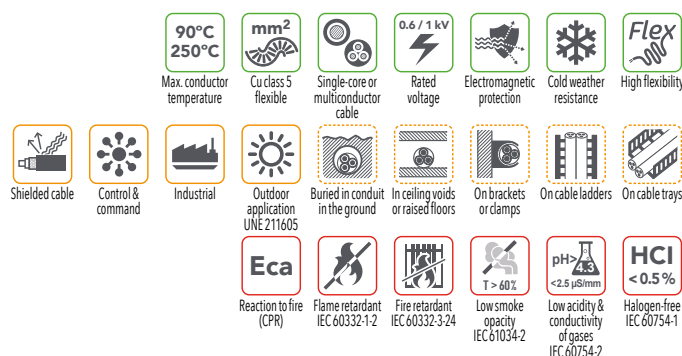
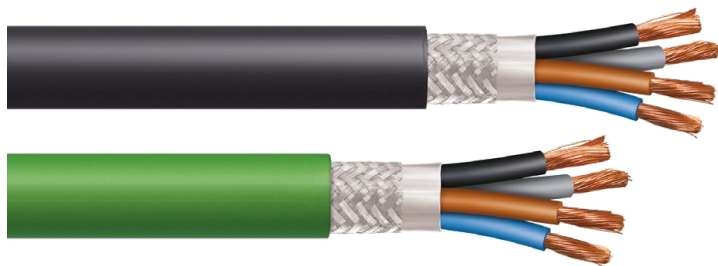
\*\*\*\* It is the sole responsibility of the end user to determine suitability of this product for its intended use and application. Please, consult the regulations, laws or standards that are applicable to each particular case. The installation systems and additional requirements established by any regulation, law and/or standards applicable to each particular case must be met.

AFIRENAS **SHIELD** RC4Z1-K 0.6/1 kV

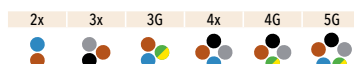
DoP : ME1000RC4Z1K.

MIGUÉLEZ ARTICLE GROUP

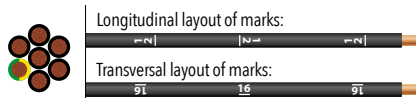
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- **Standard (construction/tests):** IEC 60502-1.
- **Technical designation:** RC4Z1-K 0.6/1 kV.
- **Construction:**  
Conductor: Copper, class 5 / Insulation: XLPE / Shield: Al/PET tape + Cu Sn braid / Oversheath: Thermoplastic polyolefin type ST8, LSZH.  
**100% shield coverage (Cu Sn braid > 65%). Other shield constructions or materials under request.**
- **Rated voltage (Uo/U):** 0.6/1 kV AC.
- **Max. conductor temperature. Normal operation / short-circuit (t≤5s):** 90 °C / 250 °C.
- **Range:** Single-core or multiconductor cable.  
**Configurations:** 1x(16-...-185) mm<sup>2</sup> / 2x(1.5-...-50) mm<sup>2</sup> / 3x or G(1.5-...-35) mm<sup>2</sup> / 4x or G(1.5-...-25) mm<sup>2</sup> / 5G(1.5-...-25) mm<sup>2</sup> / (6-...-27)G1.5 mm<sup>2</sup> / (6-...-27)G2.5 mm<sup>2</sup>.
- **Reaction to fire classification (CPR - EN 50575 & EN 13501-6):** Eca.
- **Other fire performance features (when CPR Regulation is not applicable):** Flame retardant, fire retardant, halogen-free and low gas and smoke emission with low opacity/toxicity/corrosivity/conductivity (IEC 60332-1-2, IEC 60332-3-24, IEC 60754-1, IEC 60754-2, IEC 61034-2).
- **Applications\*\*\*\*:** Shielded cable, specially designed to be used as a power, command & control cable in those installations which require electromagnetic protection and a special performance in case of fire.  
 Perfect for protecting nearby signal cables or electronic devices against disturbances and interferences or for protecting itself against external disturbances and interferences. Suitable for indoor and outdoor installations (protected from direct UV radiation), on supports (brackets, clamps, cable trays or ladders), in conduits or buried in conduit.
- **Ambient operating temperature (ranges):**
  - Minimum: -30 °C (static - without exposure to movement, mechanical damages, shocks, or vibrations).
  - Maximum: +50 °C.
- **Minimum temperature for cable laying during installation and assembly of accessories:** 0 °C. Under normal conditions of care. This temperature is valid for the cable itself and not for the environment. If possible, the temperature of the cable shall be raised before laying (e.g., storing the cable in a heated room) in order to facilitate handling and reduce the risk of damages.
- **Minimum bending radius:** 10 x D. D = overall diameter of the cable in mm. Bending nearby the temperature limits should be carried out extra carefully.
- **Maximum pulling force:**
  - If the traction force is applied on the copper conductors: **F = 50xS (N)**. "S" = cross sectional area of conductors (mm<sup>2</sup>).
  - If the traction force is applied on the oversheath: **F = 3xD<sup>2</sup> (N)**. "D" = overall diameter of the cable (mm).
 It is assumed that the cable route is well designed for the laying procedure with well-established curves and enough cable rollers (if needed). Special attention shall be paid to the required minimum bending radius.
- **Identification:** Oversheath colour → Green or black (under request).
  - **Core identification for multicore cables (From 2 to 5):** HD 308 S2.



- **Core identification for multiconductor cables (N > 5 cores):** EN 50334 (N-1 numbered black cores + G/Y).



- **Packaging:** Drum/cut to length.

| Code*       | No. of cores & nominal cross-sectional area | Insulation thickness | Overall diameter | Total weight | Maximum electrical resistance at 20°C (DC) |
|-------------|---------------------------------------------|----------------------|------------------|--------------|--------------------------------------------|
|             | mm <sup>2</sup>                             | mm                   | mm               | kg/km        | Ω/km                                       |
| 82140100160 | 1 x 16                                      | 0.7                  | 10.2             | 210          | 1.21                                       |
| 82140100250 | 1 x 25                                      | 0.9                  | 11.7             | 300          | 0.780                                      |
| 82140100350 | 1 x 35                                      | 0.9                  | 12.7             | 390          | 0.554                                      |
| 82140100500 | 1 x 50                                      | 1                    | 14.5             | 550          | 0.386                                      |
| 82140100700 | 1 x 70                                      | 1.1                  | 16.5             | 758          | 0.272                                      |
| 82140100950 | 1 x 95                                      | 1.1                  | 18.0             | 973          | 0.206                                      |
| 82140101200 | 1 x 120                                     | 1.2                  | 19.9             | 1205         | 0.161                                      |
| 82140101500 | 1 x 150                                     | 1.4                  | 22.0             | 1516         | 0.129                                      |
| 82140101850 | 1 x 185                                     | 1.6                  | 24.0             | 1780         | 0.106                                      |
| 82140102400 | 1 x 240                                     | 1.7                  | 26.6             | 2405         | 0.0801                                     |
| 82140201-50 | 2 x 1.5                                     | 0.7                  | 10.0             | 118          | 13.3                                       |
| 82140202-50 | 2 x 2.5                                     | 0.7                  | 10.8             | 148          | 7.98                                       |
| 82140200040 | 2 x 4                                       | 0.7                  | 12.0             | 193          | 4.95                                       |
| 82140200060 | 2 x 6                                       | 0.7                  | 13.0             | 249          | 3.30                                       |
| 82140200100 | 2 x 10                                      | 0.7                  | 14.8             | 270          | 1.91                                       |
| 82140200160 | 2 x 16                                      | 0.7                  | 16.8             | 504          | 1.21                                       |
| 82140200250 | 2 x 25                                      | 0.9                  | 19.8             | 737          | 0.780                                      |
| 82140311-50 | 3 G 1.5                                     | 0.7                  | 10.4             | 132          | 13.3                                       |
| 82140312-50 | 3 G 2.5                                     | 0.7                  | 11.3             | 172          | 7.98                                       |
| 82140310040 | 3 G 4                                       | 0.7                  | 12.5             | 228          | 4.95                                       |
| 82140310060 | 3 G 6                                       | 0.7                  | 13.6             | 302          | 3.30                                       |
| 82140310100 | 3 G 10                                      | 0.7                  | 15.5             | 457          | 1.91                                       |
| 82140300160 | 3 x 16                                      | 0.7                  | 17.7             | 651          | 1.21                                       |
| 82140300250 | 3 x 25                                      | 0.9                  | 20.9             | 954          | 0.780                                      |
| 82140411-50 | 4 G 1.5                                     | 0.7                  | 11.2             | 152          | 13.3                                       |
| 82140412-50 | 4 G 2.5                                     | 0.7                  | 12.2             | 209          | 7.98                                       |
| 82140410040 | 4 G 4                                       | 0.7                  | 13.6             | 282          | 4.95                                       |
| 82140410060 | 4 G 6                                       | 0.7                  | 14.8             | 378          | 3.30                                       |
| 82140400100 | 4 x 10                                      | 0.7                  | 17.0             | 572          | 1.91                                       |
| 82140400160 | 4 x 16                                      | 0.7                  | 19.4             | 824          | 1.21                                       |
| 82140400250 | 4 x 25                                      | 0.9                  | 23.0             | 1223         | 0.780                                      |
| 82140511-50 | 5 G 1.5                                     | 0.7                  | 12.0             | 183          | 13.3                                       |
| 82140512-50 | 5 G 2.5                                     | 0.7                  | 13.1             | 246          | 7.98                                       |
| 82140510040 | 5 G 4                                       | 0.7                  | 14.7             | 338          | 4.95                                       |
| 82140510060 | 5 G 6                                       | 0.7                  | 16.1             | 455          | 3.30                                       |
| 82140510100 | 5 G 10                                      | 0.7                  | 18.5             | 703          | 1.91                                       |
| 82140510160 | 5 G 16                                      | 0.7                  | 21.2             | 1012         | 1.21                                       |
| 82140510250 | 5 G 25                                      | 0.9                  | 25.3             | 1536         | 0.780                                      |
| 82140711-50 | 7 G 1.5                                     | 0.7                  | 12.1             | 245          | 13.3                                       |
| 82140712-50 | 7 G 2.5                                     | 0.7                  | 13.3             | 325          | 7.98                                       |
| 82141011-50 | 10 G 1.5                                    | 0.7                  | 15.0             | 315          | 13.3                                       |
| 82141012-50 | 10 G 2.5                                    | 0.7                  | 16.6             | 390          | 7.98                                       |
| 82141411-50 | 14 G 1.5                                    | 0.7                  | 16.5             | 450          | 13.3                                       |
| 82141412-50 | 14 G 2.5                                    | 0.7                  | 18.3             | 515          | 7.98                                       |
| 82141911-50 | 19 G 1.5                                    | 0.7                  | 18.6             | 561          | 13.3                                       |
| 82141912-50 | 19 G 2.5                                    | 0.7                  | 20.7             | 697          | 7.98                                       |

\* Short product code. Must be completed with the corresponding characters for 'oversheath colour' and 'packaging'. Check the 'Miguelélez product code' section on our web page, in 'Downloads'.

\*\* Check the CPR-classified range and the range included in the certifications indicated for each product, as well as much more information about our products, on the website: [www.miguelélez.com](http://www.miguelélez.com)

\*\*\* Dimensional and weight values are approximate and subject to normal manufacturing tolerances.

\*\*\*\* It is the sole responsibility of the end user to determine suitability of this product for its intended use and application. Please, consult the regulations, laws or standards that are applicable to each particular case. The installation systems and additional requirements established by any regulation, law and/or standards applicable to each particular case must be met.



## AFIRENAS SHIELD Z1C4Z1-K (AS) 0.6/1 kV

DoP : MC1000Z1C4Z1K. MIGUÉLEZ ARTICLE GROUP  
215Fire retardant, halogen-free  
and low gas and smoke  
emission with low opacityIEC 60332-1-2  
IEC 60332-3-24  
IEC 60754-1  
IEC 60754-2  
IEC 61034-2

- Standard (construction/tests): IEC 60502-1 (Special construction based on standard IEC 60502-1).

- Technical name: Z1C4Z1-K (AS) 0.6/1 kV.

- Construction:

Conductor: Copper, class 5 / Insulation: Thermoplastic polyolefin LSZH / Shield: Al/PET tape + Cu Sn braid /  
Oversheath: Thermoplastic polyolefin LSZH.

100% shield coverage (Cu Sn braid > 65%). Other shield constructions or materials under request.

- Rated voltage (Uo/U): 0.6/1 kV AC.

- Max. conductor temperature. Normal operation / short-circuit (t≤5s): 70°C / 160°C.

- Range: Single-core or multiconductor cable.

Configurations: 1x(1.5...240) mm<sup>2</sup> / 2x(1.5...25) mm<sup>2</sup> / 3x or 3G(1.5...25) mm<sup>2</sup> / 4x or 4G(1.5...25) mm<sup>2</sup>  
5G(1.5...25) mm<sup>2</sup> / (6...23)G1.5 mm<sup>2</sup> / (6...25)G2.5 mm<sup>2</sup>.

- Reaction to fire classification (CPR - EN 50575 & EN 13501-6): Cca-s1a,d1,a1.

- Other fire performance features (when CPR Regulation is not applicable):

Flame & fire retardant, halogen-free and low gas and smoke emission with low opacity/toxicity/corrosivity/conductivity (IEC 60332-1-2, IEC 60332-3-24, IEC 60754-1, IEC 60754-2 and IEC 61034-2).

- Applications\*\*\*\*: Shielded cable, specially designed to be used in those installations which require electromagnetic protection and a special performance in case of fire. Especially designed as a power, command or control cable in tunnels, public access premises or locations with fire and explosion hazard. Perfect for protecting nearby signal cables or electronic devices against disturbances and interferences or for protecting itself against external disturbances and interferences. Suitable for indoor and outdoor installations (protected from direct and permanent UV radiation), on supports (brackets, clamps, cable trays or ladders), in conduits or buried in conduit.

– Ambient operating temperature (ranges):

- Minimum: -30 °C (static - without exposure to movement, mechanical damages, shocks, or vibrations).
- Maximum: +50 °C.

– Minimum temperature for cable laying during installation and assembly of accessories: 0 °C. Under normal conditions of care. This temperature is valid for the cable itself and not for the environment. If possible, the temperature of the cable shall be raised before laying (e.g., storing the cable in a heated room) in order to facilitate handling and reduce the risk of damages.

– Minimum bending radius: 10 x D. D = overall diameter of the cable in mm. Bending nearby the temperature limits should be carried out extra carefully.

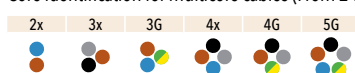
– Maximum pulling force:

- If the traction force is applied on the copper conductors:  $F = 50xS(N)$ . "S" = cross sectional area of conductors (mm<sup>2</sup>).
- If the traction force is applied on the oversheath:  $F = 3xD^2(N)$ . "D" = overall diameter of the cable (mm).

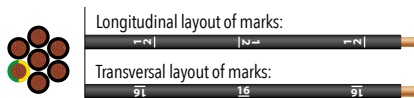
It is assumed that the cable route is well designed for the laying procedure with well-established curves and enough cable rollers (if needed). Special attention shall be paid to the required minimum bending radius.

- Identification: Oversheath colour → Green.

– Core identification for multicore cables (From 2 to 5): HD 308 S2.

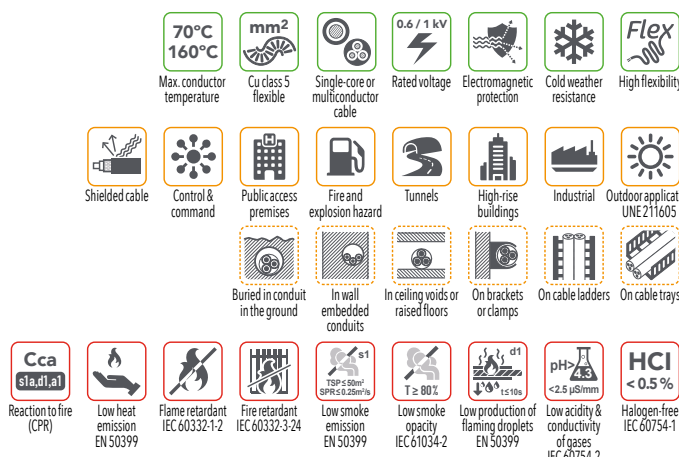


– Core identification for multiconductor cables (N > 5 cores): EN 50334 (N-1 numbered black cores + G/Y).



- Packaging: Drum/cut to length.

| Code*       | No. of cores & nominal cross-sectional area<br>mm <sup>2</sup> | Insulation thickness<br>mm | Overall diameter<br>mm | Total weight<br>kg/km | Maximum electrical resistance at 20°C (DC)<br>Ω/km |
|-------------|----------------------------------------------------------------|----------------------------|------------------------|-----------------------|----------------------------------------------------|
| 82150101-50 | 1 x 1.5                                                        | 0.8                        | 6.7                    | 67                    | 13.3                                               |
| 82150102-50 | 1 x 2.5                                                        | 0.8                        | 7.1                    | 79                    | 7.98                                               |
| 82150100040 | 1 x 4                                                          | 1.0                        | 8.1                    | 107                   | 4.95                                               |
| 82150100060 | 1 x 6                                                          | 1.0                        | 8.6                    | 131                   | 3.30                                               |
| 82150100100 | 1 x 10                                                         | 1.0                        | 9.5                    | 178                   | 1.91                                               |
| 82150100160 | 1 x 16                                                         | 1.0                        | 10.5                   | 238                   | 1.21                                               |
| 82150100250 | 1 x 25                                                         | 1.2                        | 12.0                   | 334                   | 0.780                                              |
| 82150100350 | 1 x 35                                                         | 1.2                        | 13.3                   | 433                   | 0.554                                              |
| 82150100500 | 1 x 50                                                         | 1.4                        | 15.1                   | 591                   | 0.386                                              |
| 82150100700 | 1 x 70                                                         | 1.4                        | 17.1                   | 798                   | 0.272                                              |
| 82150100950 | 1 x 95                                                         | 1.6                        | 19.0                   | 1033                  | 0.206                                              |
| 82150101200 | 1 x 120                                                        | 1.6                        | 20.9                   | 1283                  | 0.161                                              |
| 82150101500 | 1 x 150                                                        | 1.8                        | 23.0                   | 1573                  | 0.129                                              |
| 82150101850 | 1 x 185                                                        | 2.0                        | 25.2                   | 1903                  | 0.106                                              |
| 82150102400 | 1 x 240                                                        | 2.2                        | 28.0                   | 2469                  | 0.0801                                             |
| 82150201-50 | 2 x 1.5                                                        | 0.8                        | 9.8                    | 128                   | 13.3                                               |
| 82150202-50 | 2 x 2.5                                                        | 0.8                        | 10.6                   | 154                   | 7.98                                               |
| 82150200040 | 2 x 4                                                          | 1.0                        | 12.8                   | 210                   | 4.95                                               |
| 82150200060 | 2 x 6                                                          | 1.0                        | 14.4                   | 262                   | 3.30                                               |
| 82150200100 | 2 x 10                                                         | 1.0                        | 16.2                   | 402                   | 1.91                                               |
| 82150200160 | 2 x 16                                                         | 1.0                        | 18.2                   | 530                   | 1.21                                               |
| 82150200250 | 2 x 25                                                         | 1.2                        | 21.4                   | 748                   | 0.780                                              |
| 82150311-50 | 3 G 1.5                                                        | 0.8                        | 10.2                   | 138                   | 13.3                                               |
| 82150312-50 | 3 G 2.5                                                        | 0.8                        | 11.1                   | 182                   | 7.98                                               |
| 82150310040 | 3 G 4                                                          | 1.0                        | 13.4                   | 250                   | 4.95                                               |
| 82150310060 | 3 G 6                                                          | 1.0                        | 15.1                   | 322                   | 3.30                                               |
| 82150300100 | 3 x 10                                                         | 1.0                        | 17.0                   | 504                   | 1.91                                               |
| 82150310100 | 3 G 10                                                         | 1.0                        | 17.0                   | 504                   | 1.91                                               |
| 82150300160 | 3 x 16                                                         | 1.0                        | 19.2                   | 698                   | 1.21                                               |
| 82150300250 | 3 x 25                                                         | 1.2                        | 22.6                   | 978                   | 0.780                                              |
| 82150401-50 | 4 x 1.5                                                        | 0.8                        | 11.1                   | 150                   | 13.3                                               |
| 82150411-50 | 4 G 1.5                                                        | 0.8                        | 11.1                   | 150                   | 13.3                                               |
| 82150402-50 | 4 x 2.5                                                        | 0.8                        | 12.0                   | 224                   | 7.98                                               |
| 82150412-50 | 4 G 2.5                                                        | 0.8                        | 12.0                   | 224                   | 7.98                                               |
| 82150410040 | 4 x 4                                                          | 1.0                        | 14.6                   | 308                   | 4.95                                               |
| 82150410040 | 4 G 4                                                          | 1.0                        | 14.6                   | 308                   | 4.95                                               |
| 82150400060 | 4 x 6                                                          | 1.0                        | 16.5                   | 415                   | 3.30                                               |
| 82150410060 | 4 G 6                                                          | 1.0                        | 16.5                   | 415                   | 3.30                                               |
| 82150400100 | 4 x 10                                                         | 1.0                        | 18.6                   | 628                   | 1.91                                               |
| 82150400160 | 4 x 16                                                         | 1.0                        | 21.0                   | 852                   | 1.21                                               |
| 82150400250 | 4 x 25                                                         | 1.2                        | 24.8                   | 1288                  | 0.780                                              |
| 82150511-50 | 5 G 1.5                                                        | 0.8                        | 12.0                   | 192                   | 13.3                                               |
| 82150512-50 | 5 G 2.5                                                        | 0.8                        | 13.1                   | 255                   | 7.98                                               |
| 82150510040 | 5 G 4                                                          | 1.0                        | 16.0                   | 268                   | 4.95                                               |
| 82150510060 | 5 G 6                                                          | 1.0                        | 17.9                   | 482                   | 3.30                                               |
| 82150510100 | 5 G 10                                                         | 1.0                        | 20.3                   | 750                   | 1.91                                               |
| 82150510160 | 5 G 16                                                         | 1.0                        | 23.0                   | 1065                  | 1.21                                               |
| 82150510250 | 5 G 25                                                         | 1.2                        | 27.3                   | 1602                  | 0.780                                              |
| 82150611-50 | 6 G 1.5                                                        | 0.8                        | 12.9                   | 224                   | 13.3                                               |
| 82150612-50 | 6 G 2.5                                                        | 0.8                        | 14.1                   | 289                   | 7.98                                               |
| 82150711-50 | 7 G 1.5                                                        | 0.8                        | 12.9                   | 245                   | 13.3                                               |
| 82150712-50 | 7 G 2.5                                                        | 0.8                        | 14.1                   | 319                   | 7.98                                               |
| 82150811-50 | 8 G 1.5                                                        | 0.8                        | 14.1                   | 275                   | 13.3                                               |
| 82150812-50 | 8 G 2.5                                                        | 0.8                        | 15.5                   | 359                   | 7.98                                               |
| 82150911-50 | 9 G 1.5                                                        | 0.8                        | 14.8                   | 300                   | 13.3                                               |
| 82150912-50 | 9 G 2.5                                                        | 0.8                        | 16.2                   | 394                   | 7.98                                               |
| 82151011-50 | 10 G 1.5                                                       | 0.8                        | 16.0                   | 330                   | 13.3                                               |
| 82151012-50 | 10 G 2.5                                                       | 0.8                        | 17.6                   | 435                   | 7.98                                               |
| 82151111-50 | 11 G 1.5                                                       | 0.8                        | 16.0                   | 350                   | 13.3                                               |
| 82151112-50 | 11 G 2.5                                                       | 0.8                        | 17.6                   | 464                   | 7.98                                               |
| 82151211-50 | 12 G 1.5                                                       | 0.8                        | 16.5                   | 375                   | 13.3                                               |
| 82151212-50 | 12 G 2.5                                                       | 0.8                        | 18.1                   | 499                   | 7.98                                               |
| 82151311-50 | 13 G 1.5                                                       | 0.8                        | 17.0                   | 401                   | 13.3                                               |
| 82151312-50 | 13 G 2.5                                                       | 0.8                        | 18.7                   | 536                   | 7.98                                               |
| 82151411-50 | 14 G 1.5                                                       | 0.8                        | 17.5                   | 426                   | 13.3                                               |
| 82151412-50 | 14 G 2.5                                                       | 0.8                        | 19.3                   | 570                   | 7.98                                               |
| 82151511-50 | 15 G 1.5                                                       | 0.8                        | 18.0                   | 451                   | 13.3                                               |
| 82151512-50 | 15 G 2.5                                                       | 0.8                        | 19.9                   | 604                   | 7.98                                               |
| 82151611-50 | 16 G 1.5                                                       | 0.8                        | 18.5                   | 477                   | 13.3                                               |
| 82151612-50 | 16 G 2.5                                                       | 0.8                        | 20.4                   | 640                   | 7.98                                               |
| 82151711-50 | 17 G 1.5                                                       | 0.8                        | 18.9                   | 504                   | 13.3                                               |
| 82151712-50 | 17 G 2.5                                                       | 0.8                        | 20.9                   | 677                   | 7.98                                               |
| 82151811-50 | 18 G 1.5                                                       | 0.8                        | 19.4                   | 528                   | 13.3                                               |
| 82151812-50 | 18 G 2.5                                                       | 0.8                        | 21.4                   | 711                   | 7.98                                               |
| 82151911-50 | 19 G 1.5                                                       | 0.8                        | 19.8                   | 553                   | 13.3                                               |
| 82151912-50 | 19 G 2.5                                                       | 0.8                        | 21.9                   | 745                   | 7.98                                               |
| 82152011-50 | 20 G 1.5                                                       | 0.8                        | 20.2                   | 577                   | 13.3                                               |
| 82152012-50 | 20 G 2.5                                                       | 0.8                        | 22.4                   | 779                   | 7.98                                               |
| 82152111-50 | 21 G 1.5                                                       | 0.8                        | 20.8                   | 611                   | 13.3                                               |
| 82152112-50 | 21 G 2.5                                                       | 0.8                        | 23.0                   | 823                   | 7.98                                               |
| 82152211-50 | 22 G 1.5                                                       | 0.8                        | 21.2                   | 637                   | 13.3                                               |
| 82152212-50 | 22 G 2.5                                                       | 0.8                        | 23.5                   | 858                   | 7.98                                               |
| 82152311-50 | 23 G 1.5                                                       | 0.8                        | 21.6                   | 660                   | 13.3                                               |
| 82152312-50 | 23 G 2.5                                                       | 0.8                        | 23.9                   | 891                   | 7.98                                               |
| 82152412-50 | 24 G 2.5                                                       | 0.8                        | 24.4                   | 925                   | 7.98                                               |
| 82152512-50 | 25 G 2.5                                                       | 0.8                        | 24.8                   | 958                   | 7.98                                               |



\* Short product code. Must be completed with the corresponding characters for 'oversheath colour' and 'packaging'. Check the 'Miguelélez product code' section on our web page, in 'Downloads'.

\*\* Check the CPR-classified range and the range included in the certifications indicated for each product, as well as much more information about our products, on the website: [www.miguelélez.com](http://www.miguelélez.com)

\*\*\* Dimensional and weight values are approximate and subject to normal manufacturing tolerances.  
\*\*\*\* It is the sole responsibility of the end user to determine suitability of this product for its intended use and application. Please, consult the regulations, laws or standards that are applicable to each particular case.  
The installation systems and additional requirements established by any regulation, law and/or standards applicable to each particular case must be met.