

Industrial flexible cable, insulation and outer sheath in elastomer

### Description

#### Application

H07RN-F flexible cable is intended for installations with moving equipment, electric appliances and for building sites. The cable may be rated 0,6/1 kV where the installation has built-in protection and for motors in lifting appliances - machine tools - etc.

This cable can be used in refrigerating installations.

#### Installation

This cable can be installed in open air or be buried but with extra mechanical protection.

#### Conductors laid up

Assembled conductors.

#### Marking

USE <HAR> N (x ou G) S

- N = number of cores
- G = with Green-Yellow
- x = without Green-Yellow
- S = section in mm<sup>2</sup>

#### Nota

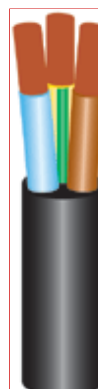
Max continuous operating conductor temperature in normal use :

+60°C ( in every case of mobile installation)

+85°C ( fixed protected installation )

+200°C ( in short circuit )

Permissible current rating is measured for an ambient temperature of 30°C and a maximum operating and conductor temperature of 85°C . For other temperature please refer to correction factors .



#### Standards

**International** HD 22.4; HD 516; IEC 60245-4 type 66

**National** NF C 32-102-4



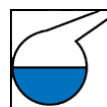
Lead free  
Yes



Mechanical resistance to  
impacts  
Very good



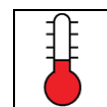
Cable flexibility  
Flexible



Chemical resistance  
Accidental



Water proof  
Good



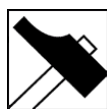
Operating temperature,  
range  
-25 .. 55 °C

### Contact

Nexans - Building activity  
4-10 rue Mozart  
92587 Clichy Cedex  
France  
filscablesbt-pc.fr@nexans.com



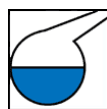
Lead free  
Yes



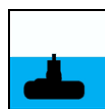
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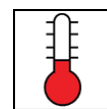
Cable flexibility  
Flexible



Chemical resistance  
Accidental



Water proof  
Good



Operating temperature,  
range  
-25 .. 55 °C

**Characteristics**
**Construction characteristics**

|               |                                |
|---------------|--------------------------------|
| Outer sheath  | Special cross-linked elastomer |
| Sheath colour | Black                          |
| Insulation    | Special cross-linked elastomer |
| Lead free     | Yes                            |

**Mechanical characteristics**

|                                  |           |
|----------------------------------|-----------|
| Mechanical resistance to impacts | Very good |
| Cable flexibility                | Flexible  |

**Usage characteristics**

|  |              |
|--|--------------|
| Chemical resistance                    | Accidental   |
| Water proof                            | Good         |
| Short-circuit maximum core temperature | 200 °C       |
| Operating temperature, range           | -25 .. 55 °C |
| Maximum core temperature still         | 60 °C        |

**New cores identification**

Core identification in accordance with HD 308 S2 (October 2001) Identification of cores in cables and flexible cords.

| Number of cores | HD 308 S2 since January 2004                 |                                     |
|-----------------|--|-------------------------------------|
|                 | G (earth core)                               | X (without earth core)              |
| 1               | Black (preferential)                         | Black (preferential)                |
| 2               | Blue + Brown                                 | Blue + Brown                        |
| 3*              | Green - Yellow + Blue + Brown                | Brown + Black + Grey                |
| 3**             |  | Blue + Brown + Black                |
| 4               | Green - Yellow + Brown + Black + Grey        | Blue + Brown + Black + Grey         |
| 5               | Green - Yellow + Blue + Brown + Black + Grey | Blue + Brown + Black + Grey + Black |
| > 5             | White printed numbers + 1 Green - Yellow     | White printed numbers               |

\* For the cables without Green/Yellow with a cross-section >4mm<sup>2</sup>

\*\* For the cables without Green/Yellow with a cross-section of 1,5mm<sup>2</sup> & 2,5mm<sup>2</sup>

**Single Core**

| Cross section mm <sup>2</sup> | Perm. current rating open air A | Voltage drop, single phase V/A.km | Max. outer diam. mm | Approx. weight kg/km | Max. linear resistance, phase conductor Ohm/km |
|-------------------------------|---------------------------------|-----------------------------------|---------------------|----------------------|--|
| 1.5                           | 23                              | 23.3                              | 7.1                 | 50                   | 13.3   |
| 2.5                           | 32                              | 14.0                              | 7.9                 | 66                   | 7.98   |
| 4                             | 43                              | 8.7                               | 9.0                 | 94                   | 4.95   |
| 6                             | 56                              | 5.9                               | 9.8                 | 109                  | 3.3  |
| 10                            | 77                              | 3.4                               | 11.9                | 182                  | 1.91   |
| 16                            | 102                             | 2.2                               | 13.4                | 256                  | 1.21   |

## H07RN-F

| Cross section<br>mm <sup>2</sup> | Perm. current<br>rating open air<br>A | Voltage drop,<br>single phase<br>V/A.km | Max. outer<br>diam.<br>mm | Approx.<br>weight<br>kg/km | Max. linear resistance,<br>phase conductor<br>Ohm/km |
|----------------------------------|---------------------------------------|---|---------------------------|----------------------------|--|
| 25                               | 136                                   | 1.4                                     | 15.8                      | 369                        | 0.78   |
| 35                               | 168                                   | 1.04                                    | 17.9                      | 482                        | 0.554  |
| 50                               | 203                                   | 0.75                                    | 20.6                      | 662                        | 0.386  |
| 70                               | 254                                   | 0.56                                    | 23.3                      | 895                        | 0.272  |
| 120                              | 363                                   | 0.36                                    | 28.6                      | 1430                       | 0.161  |
| 150                              | 416                                   | 0.31                                    | 31.4                      | 1740                       | 0.129  |
| 185                              | 475                                   | 0.28                                    | 34.4                      | 2160                       | 0.106  |
| 240                              | 559                                   | 0.23                                    | 38.3                      | 2730                       | 0.0801   |
| 300                              | 637                                   | 0.2                                     | 41.9                      | 3480                       | 0.0641   |
| 500                              | 833                                   | 0.16                                    | 52.0                      | 5700                       | 0.0384   |

### Two cores

| Cross section<br>mm <sup>2</sup> | Perm. current<br>rating open air<br>A | Voltage drop,<br>single phase<br>V/A.km | Max. outer<br>diam.<br>mm | Approx.<br>weight<br>kg/km | Max. linear resistance,<br>phase conductor<br>Ohm/km |
|----------------------------------|---------------------------------------|---|---------------------------|----------------------------|--|
| 1                                | 18                                    | 39.4                                    | 10.0                      | 99                         | 19.5   |
| 1.5                              | 23                                    | 27.0                                    | 11.0                      | 111                        | 13.3   |
| 4                                | 43                                    | 10.1                                    | 15.1                      | 238                        | 4.95   |
| 6                                | 56                                    | 6.7                                     | 16.8                      | 279                        | 3.3  |
| 10                               | 77                                    | 3.8                                     | 22.6                      | 538                        | 1.91   |
| 16                               | 102                                   | 2.5                                     | 25.7                      | 744                        | 1.21   |
| 25                               | 136                                   | 1.68                                    | 30.7                      | 1074                       | 0.78   |

### Three cores

| Cross section<br>mm <sup>2</sup> | Perm. current<br>rating open air<br>A | Voltage drop,<br>single phase<br>V/A.km | Max. outer<br>diam.<br>mm | Approx.<br>weight<br>kg/km | Max. linear resistance,<br>phase conductor<br>Ohm/km |
|----------------------------------|---------------------------------------|---|---------------------------|----------------------------|--|
| 1.5                              | 23                                    | 27.0                                    | 11.9                      | 134                        | 13.3   |
| 2.5                              | 32                                    | 16.2                                    | 14.0                      | 195                        | 7.98   |
| 6                                | 56                                    | 7.0                                     | 18.0                      | 346                        | 3.3  |
| 10                               | 77                                    | 4.0                                     | 24.2                      | 663                        | 1.91   |
| 16                               | 102                                   | 2.5                                     | 27.6                      | 924                        | 1.21   |
| 25                               | 136                                   | 1.7                                     | 33.0                      | 1345                       | 0.78   |
| 35                               | 168                                   | 1.21                                    | 37.1                      | 1760                       | 0.554  |
| 50                               | 203                                   | 0.87                                    | 42.9                      | 2390                       | 0.386  |
| 70                               | 262                                   | 0.64                                    | 48.3                      | 3110                       | 0.272  |
| 95                               | 320                                   | 0.5                                     | 54.0                      | 4170                       | 0.206  |
| 120                              | 373                                   | 0.4                                     | 60.0                      | 5080                       | 0.161  |
| 150                              | 432                                   | 0.35                                    | 66.0                      | 6220                       | 0.129  |
| 185                              | 495                                   | 0.3                                     | 72.0                      | 7730                       | 0.106  |
| 240                              | 587                                   | 0.26                                    | 82.0                      | 9780                       | 0.08   |
| 300                              | 680                                   | 0.22                                    | 90.0                      | 12620                      | 0.064  |

**Four cores**

| Cross section mm <sup>2</sup> | Perm. current rating open air A | Voltage drop, single phase V/A.km | Max. outer diam. mm | Approx. weight kg/km | Max. linear resistance, phase conductor Ohm/km |
|-------------------------------|---------------------------------|-----------------------------------|---------------------|----------------------|--|
| 1                             | 16                              | 34.08                             | 12.0                | 144                  | 19.5   |
| 1.5                           | 21                              | 23.3                              | 13.1                | 165                  | 13.3   |
| 2.5                           | 29                              | 14.0                              | 15.5                | 245                  | 7.98   |
| 4                             | 38                              | 8.71                              | 18.0                | 357                  | 4.95   |
| 6                             | 50                              | 5.84                              | 20.0                | 443                  | 3.3  |
| 10                            | 68                              | 3.42                              | 26.5                | 818                  | 1.91   |
| 16                            | 92                              | 2.2                               | 30.1                | 1150                 | 1.21   |
| 25                            | 122                             | 1.44                              | 36.6                | 1700                 | 0.78   |
| 35                            | 150                             | 1.04                              | 41.1                | 2180                 | 0.554  |
| 50                            | 182                             | 0.75                              | 47.5                | 3030                 | 0.386  |
| 70                            | 232                             | 0.56                              | 54.0                | 3990                 | 0.272  |
| 95                            | 281                             | 0.44                              | 61.0                | 5360                 | 0.206  |
| 120                           | 325                             | 0.36                              | 66.0                | 6500                 | 0.161  |
| 150                           | 373                             | 0.31                              | 73.0                | 7990                 | 0.129  |
| 185                           | 425                             | 0.28                              | 80.0                | 9910                 | 0.106  |
| 240                           | 500                             | 0.23                              | 91.0                | 13120                |  |

**Five cores**

| Cross section mm <sup>2</sup> | Perm. current rating open air A | Voltage drop, single phase V/A.km | Max. outer diam. mm | Approx. weight kg/km | Max. linear resistance, phase conductor Ohm/km |
|-------------------------------|---------------------------------|-----------------------------------|---------------------|----------------------|--|
| 1                             | 16                              | 34.1                              | 14.0                | 180                  | 19.5   |
| 1.5                           | 21                              | 23.6                              | 14.4                | 238                  | 13.3   |
| 2.5                           | 29                              | 14.0                              | 17.0                | 297                  | 7.98   |
| 4                             | 38                              | 8.72                              | 19.9                | 453                  | 4.95   |
| 6                             | 50                              | 5.84                              | 22.2                | 557                  | 3.3  |
| 10                            | 68                              | 3.43                              | 29.1                | 1001                 | 1.91   |
| 16                            | 92                              | 2.2                               | 33.3                | 1430                 | 1.21   |
| 25                            | 122                             | 1.44                              | 40.4                | 2096                 | 0.78   |
| 35                            |                                 |                                   |                     | 2716                 |  |
| 50                            |                                 |                                   |                     | 3809                 | 0.386  |
| 70                            |                                 |                                   |                     | 5087                 |  |
| 95                            |                                 |                                   |                     | 6637                 |  |

**Twelve cores**

| Cross section mm <sup>2</sup> | Perm. current rating open air A | Voltage drop, single phase V/A.km | Max. outer diam. mm | Approx. weight kg/km | Max. linear resistance, phase conductor Ohm/km |
|-------------------------------|---------------------------------|-----------------------------------|---------------------|----------------------|--|
| 1.5                           | 11                              | 23.3                              | 22.14               | 510                  | 13.3   |

**Eighteen cores**

| Cross section<br>mm <sup>2</sup> | Perm. current rating open air<br>A | Voltage drop, single phase<br>V/A.km | Max. outer diam.<br>mm | Approx. weight<br>kg/km | Max. linear resistance, phase conductor<br>Ohm/km |
|----------------------------------|------------------------------------|--------------------------------------|------------------------|-------------------------|---|
| 1.5                              | 9                                  | 20.7                                 | 26.3                   | 730                     | 13.3  |

**thirty six cores**

| Cross section<br>mm <sup>2</sup> | Perm. current rating open air<br>A | Max. outer diam.<br>mm | Approx. weight<br>kg/km | Max. linear resistance, phase conductor<br>Ohm/km |
|----------------------------------|------------------------------------|------------------------|-------------------------|---|
| 1.5                              | 6                                  | 35.2                   | 1325                    | 13.3  |