



## STANDARD

# 5092

Cable type :

**5092**

Reference :

**EC4-50-HF**

Cable with standard UV resistant PE jacket, halogen free according to IEC 60754

## FLAME RETARDANT

# HLFR

Cable type :

**5092-HLFR**

Reference :

**EC4-50-HF-FR**

Cable with UV resistant, halogen free, low smoke, flame retardant jacket according to IEC 60754-2, IEC 60332-1-2, IEC 60332-3 Cat. C and IEC 61034-1+2

## CHARACTERISTICS

### Construction

- **Inner conductor**
  - Material copper clad aluminium wire
  - Diameter (mm) 3.55
- **Dielectric**
  - Material gas-injected cellular polyethylene
  - Diameter (mm) 9.0
- **Outer conductor**
  - Material corrugated copper tube
  - Diameter (mm) 12.2
- **Jacket**
  - Material black polyethylene
  - Thickness (mm) 0.65
  - Diameter (mm) 13.5

### Mechanical

- **Minimum bending radius**
  - a) single bending (cm) 3
  - b) 15 repeated bends (cm) 4
- **Maximum pulling strength** (daN) 70
- **Recommended temperature range**
  - Storage -70 to +85°C
  - Installation -40 to +60°C
  - Operation -55 to +85°C
- **Maximum length per hoisting grip** (m) 70
- **Maximum hanger spacing** 0.5
- **Flat plate crush resistance** (kg/mm) 1.7
- **Bending moment** (Nm) 2.7
- **Weight** (kg/km) 200

[1] a = 0.30018

b = 0.001327

$\alpha(f) = a \cdot \sqrt{f} + b \cdot f$  [dB/100m]

### Electrical

- **Characteristic impedance** ( $\Omega$ ) 50  $\pm$  1
- **Nominal capacity** (pF/m) 82
- **Relative propagation velocity** (%) 82
- **Inductance** ( $\mu$ H/m) 0.200
- **DC-resistance at 20°C**
  - inner conductor ( $\Omega$ /km) 2.65
  - outer conductor ( $\Omega$ /km) 3.0
- **RF peak voltage** (kV) 1.13
- **RF peak power** (kW) 12.8
- **Cut-off-frequency** (GHz) 13.2
- **Insulation resistance** (M $\Omega$ .km) >>5000

### Attenuation [1] and power rating

| Frequency (MHz) | Attenuation at 20°C(*) (dB/100m) | Mean power rating(**) (kW) |
|-----------------|----------------------------------|----------------------------|
| 10              | 0.96                             | 9.90                       |
| 20              | 1.37                             | 6.96                       |
| 30              | 1.68                             | 5.66                       |
| 80              | 2.79                             | 3.42                       |
| 100             | 3.13                             | 3.04                       |
| 150             | 3.88                             | 2.46                       |
| 200             | 4.51                             | 2.11                       |
| 300             | 5.60                             | 1.70                       |
| 400             | 6.53                             | 1.46                       |
| 450             | 6.96                             | 1.37                       |
| 500             | 7.38                             | 1.29                       |
| 600             | 8.15                             | 1.17                       |
| 700             | 8.87                             | 1.07                       |
| 800             | 9.55                             | 1.00                       |
| 894             | 10.16                            | 0.94                       |
| 960             | 10.57                            | 0.90                       |
| 1000            | 10.82                            | 0.88                       |
| 1500            | 13.62                            | 0.70                       |
| 1700            | 14.63                            | 0.65                       |
| 1800            | 15.12                            | 0.63                       |
| 1880            | 15.51                            | 0.61                       |
| 2000            | 16.08                            | 0.59                       |
| 2170            | 16.86                            | 0.57                       |
| 2200            | 17.00                            | 0.56                       |
| 2300            | 17.45                            | 0.55                       |
| 2400            | 17.89                            | 0.53                       |
| 2500            | 18.33                            | 0.52                       |
| 3000            | 20.42                            | 0.47                       |
| 4000            | 24.29                            | 0.39                       |
| 6000            | 31.21                            | 0.31                       |

(\*) nominal values

(\*\*) Ambient temperature = 40°C; Temperature of inner conductor = 100°C; VSWR = 1.0; no solar loading



716MBL12X



NF50B12X



716MB12X



NM50BL12X

## CONNECTORS & TOOLS

| Reference         | Description                                       |
|-------------------|---|
| 716MB12X          | 7-16 DIN male, with silicone gasket               |
| 716FB12X          | 7-16 DIN female, with silicone gasket             |
| 716MBL12X         | 7-16 DIN male, right angle, with silicone gasket  |
| NM50B12X          | N male, with silicone gasket                      |
| NF50B12X          | N female, with silicone gasket                    |
| NM50BL12X         | N male, right angle, with silicone gasket         |
| SPTC50B12X        | Cable preparation tool for straight connectors    |
| SPTC50BL12X       | Cable preparation tool for right angle connectors |
| Cutting knife (d) | Spare parts for cable preparation tools           |
| Peeling knife (e) | (Refer to installation instruction of the tool)   |

### Specification of N-connectors 7-16 connectors

#### Electrical

|  |                 |                               |
|--|-----------------|-------------------------------|
| • <b>Nominal impedance</b> ( $\Omega$ )                    | 50              | 50                            |
| • <b>Reflection coefficient at 2 GHz</b>                   | $\leq 0.02$ (*) | $\leq 0.02$ (*)               |
| • <b>Insulation resistance</b> ( $G\Omega$ )               | $\geq 5$        | $\geq 10$                     |
| • <b>Test voltage</b> (at sea level)<br>(kV rms, 50 Hz)    | 2.5             | 4                             |
| • <b>Working voltage</b> (at sea level)<br>(kV rms, 50 Hz) | 1               | 2.7                           |
| • <b>Screening effectiveness up to 1 GHz</b> (dB)          | $>128$          | $>128$                        |
| • <b>Outer contact resistance</b> (m $\Omega$ )            | $\leq 1$        | $\leq 1$                      |
| • <b>Inner contact resistance</b> (m $\Omega$ )            | $\leq 1$        | $\leq 1$                      |
| • <b>PIM ratio</b> (2 x 20 W carrier) (dBc)                |                 | $\leq -155$<br>(Typical -163) |

#### Mechanical

|                                      |        |        |
|--------------------------------------|--------|--------|
| • <b>Torque on coupling nut</b> (Nm) | 8      | 30     |
| • <b>Cable retention</b> (N)         | $>400$ | $>700$ |

#### Environmental

|  |            |
|--|------------|
| • <b>Temperature range</b> ( $^{\circ}C$ ) | -40 to +85 |
| • <b>Degree of protection</b> (humidity)   | IP67, IP68 |

#### Materials

|                         |   |
|-------------------------|---|
| • <b>External parts</b> | Passivated silver plated or electroless nickel plated brass |
| • <b>Outer contact</b>  | Passivated silver plated brass                              |
| • <b>Inner contact</b>  | Passivated silver plated<br>Cu alloy                        |
| • <b>Dielectric</b>     | PTFE TPX  |
| • <b>Gaskets</b>        | High quality silicone                                       |

(\*)  $\leq 0.03$  for right angle connector



SPTC50B12X

SPTC50BL12X

## ACCESSORIES

| Description                                 | Reference   |
|---|-------------|
| • <b>Grounding clamp with normal outlet</b> | GCS12X      |
| • <b>Fixing clamps</b>                      | see page 39 |
| • <b>Additional weatherproofing</b>         | see page 48 |



GCS12X