

## Flexible RF cable ENVIROFLEX\_178

Item: 23010656

### Description

Enviroflex: LSFH alternatives to RG cables

RG178 LSFH, 50 Ohm, 3 GHz, 105°C, ø1.84 mm, RADOX® jacket, Flame retardant, UL AWM style 3651



### Technical Data

#### Construction

|                  | Material                    | Detail        | Diameter         |
|------------------|-----------------------------|---------------|------------------|
| Centre conductor | Steel, Copper+Silver plated | Strand-07     | 0.305 mm         |
| Dielectric       | SPEX (Crosslink Foam PE)    |               | 0.82 mm          |
| Outer conductor  | Copper, Silver plated       | Braid, 95%    | 1.27 mm          |
| Jacket           | RADOX                       | RAL 5010 - bl | 1.84 mm +/- 0.07 |

Print: HUBER+SUHNER ENVIROFLEX 178 50 Ohm (UL logo) AWM Style 3651 (production order number)

#### Electrical Data

|                                |                  |                                      |
|--------------------------------|------------------|--------------------------------------|
| Impedance                      |                  | 50 Ω +/- 2                           |
| Operating Frequency            |                  | 3 GHz                                |
| Capacitance                    |                  | 94.5 pF/m                            |
| Velocity of signal propagation |                  | 70.7 %                               |
| Signal delay                   |                  | 4.71 ns/m                            |
| Screening effectiveness        |                  | ≥ 40 dB (up to 3 GHz)                |
| Operating voltage              |                  | ≤ 1 kV <sub>rms</sub> (at sea level) |
| Test voltage                   |                  | 2 kV <sub>rms</sub> (50 Hz/1 min)    |
| Voltage Rating UL              |                  | 300 V                                |
| Phase vs Temperature           | -40°C... + 100°C | 8400 ppm                             |
| Phase vs Bending               |                  | 0.7 °/GHz                            |

#### Mechanical Data

|                     |                                 |               |
|---------------------|---------------------------------|---------------|
| Weight              |                                 | 0.65 kg/100 m |
| Min. bending radius | static                          | 5 mm          |
|                     | repeated (for ≤ 30000 bendings) | 20 mm         |
|                     | dynamic                         | 30 mm         |

#### Environmental Data

|                                                      |                        |
|------------------------------------------------------|------------------------|
| Temperature range                                    | -40 °C ... +105 °C     |
| Temperature rating UL                                | 105 °C                 |
| Installation temperature                             | -20 °C... +60 °C       |
| Cold bend test                                       | MIL-C-17 § 4.8.19      |
| Ageing test                                          | MIL-C-17 § 4.8.16      |
| Solar radiation test                                 | IEC 60068-2-5, proc. C |
| Uv resistance test                                   | IEC 60068-2-5, proc. C |
| Flame propagation test                               | UL 1581 § 1100,        |
| Halogen test                                         | IEC 60754              |
| Halogen free                                         | Yes                    |
| 2011/65/EU (RoHS - including 2015/863 and 2017/2102) | compliant              |
| 1907/2006/EC (REACH)                                 | compliant              |

### Additional Information

#### Remarks

(For details refer to the HUBER+SUHNER RF CABLES GENERAL CATALOGUE or contact your nearest HUBER+SUHNER partner)

#### Suitable Connectors

|             |                  |
|-------------|------------------|
| Cable group | U1 1 mm / 50 Ohm |
|-------------|------------------|

## Flexible RF cable

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**Matrix**      typical Attenuation [ formula:  $(a \cdot f^{0.5} + b \cdot f)$  ] and maximum Power CW [ formula:  $(p/f^{0.5})$  ]

Coefficients:

a = 1.4067

b = 0.2229

f<sub>max</sub> = 3

P at 1GHz = 60

| Frequency | Nom. attenuation                          | Nom. attenuation                          | Max. CW power                             |
|-----------|-------------------------------------------|-------------------------------------------|-------------------------------------------|
| (GHz)     | (dB / m)                                  | (dB / ft)                                 | (W)                                       |
|           | sea level 25° C<br>ambient<br>temperature | sea level 25° C<br>ambient<br>temperature | sea level 40° C<br>ambient<br>temperature |
| 0,15      | 0,58                                      | 0,176                                     | 155                                       |
| 0,3       | 0,84                                      | 0,255                                     | 110                                       |
| 0,45      | 1,04                                      | 0,318                                     | 89                                        |
| 0,6       | 1,22                                      | 0,373                                     | 77                                        |
| 0,75      | 1,39                                      | 0,422                                     | 69                                        |
| 0,9       | 1,54                                      | 0,468                                     | 63                                        |
| 1,05      | 1,68                                      | 0,511                                     | 59                                        |
| 1,2       | 1,81                                      | 0,551                                     | 55                                        |
| 1,35      | 1,94                                      | 0,590                                     | 52                                        |
| 1,5       | 2,06                                      | 0,627                                     | 49                                        |
| 1,65      | 2,17                                      | 0,663                                     | 47                                        |
| 1,8       | 2,29                                      | 0,698                                     | 45                                        |
| 1,95      | 2,4                                       | 0,731                                     | 43                                        |
| 2,1       | 2,51                                      | 0,764                                     | 41                                        |
| 2,25      | 2,61                                      | 0,796                                     | 40                                        |
| 2,4       | 2,71                                      | 0,827                                     | 39                                        |
| 2,55      | 2,81                                      | 0,858                                     | 38                                        |
| 2,7       | 2,91                                      | 0,888                                     | 37                                        |
| 2,85      | 3,01                                      | 0,917                                     | 36                                        |
| 3,0       | 3,11                                      | 0,946                                     | 35                                        |

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