

## Flexible RF cable

**ENVIROFLEX\_316\_D**      **Item: 22512281**

## Description

Enviroflex: LSFH alternatives to RG cables

RG316D/RD316 LSFH, 50 Ohm, 6 GHz, 105°C, ø3.16 mm, RADOX® jacket, Flame retardant, UL AWM style 3651, CPR qualified



## Technical Data

### Construction

|                  | Material                    | Detail        | Diameter         |
|------------------|-----------------------------|---------------|------------------|
| Centre conductor | Steel, Copper+Silver plated | Strand-07     | 0.54 mm          |
| Dielectric       | SPEX (Crosslink Foam PE)    |               | 1.53 mm          |
| Outer conductor  | Copper, Silver plated       | Braid, 96%    | 1.99 mm          |
| Outer conductor  | Copper, Silver plated       | Braid, 90 %   | 2.44 mm          |
| Jacket           | RADOX                       | black/bl line | 3.16 mm +/- 0.08 |

Print: HUBER+SUHNER ENVIROFLEX 316 D 50 Ohm (UL logo) AWM Style 3651 Dca-s1b,d1,a1 (production order number)

### Electrical Data

|                                |                  |                                        |
|--------------------------------|------------------|----------------------------------------|
| Impedance                      |                  | 50 Ω +/- 2                             |
| Operating Frequency            |                  | 6 GHz                                  |
| Capacitance                    |                  | 94.5 pF/m                              |
| Velocity of signal propagation |                  | 70.1 %                                 |
| Signal delay                   |                  | 4.72 ns/m                              |
| Screening effectiveness        |                  | ≥ 70 dB (up to 6 GHz)                  |
| Operating voltage              |                  | ≤ 1.3 kV <sub>rms</sub> (at sea level) |
| Test voltage                   |                  | 3 kV <sub>rms</sub> (50 Hz/1 min)      |
| Voltage Rating UL              |                  | 300 V                                  |
| Phase vs Temperature           | -40°C... + 100°C | 10000 ppm                              |
| Phase vs Bending               |                  | 0.7 °/GHz                              |

### Mechanical Data

|                     |                                             |              |
|---------------------|---------------------------------------------|--------------|
| Weight              |                                             | 2.1 kg/100 m |
| Min. bending radius | static                                      | 5 mm         |
|                     | repeated (for ≤ 30000 bendings)             | 30 mm        |
|                     | dynamic                                     | 30 mm        |
| Abrasion test       | MIL-T-81490 - §4.7.19 - prod. II - modified |              |

### 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                                         |
| Thermal stress test                                  | IEC 61196-1 § 10.9                                        |
| Uv resistance test                                   | IEC 60068-2-5, proc. C                                    |
| Flame propagation test                               | EN 60332-1-2, UL 1581 § 1100, EN 50305, 9.1.2, FAR 25.869 |
| Smoke density test                                   | EN 61034-2                                                |
| Halogen test                                         | IEC 60754                                                 |
| Halogen free                                         | Yes                                                       |
| 2011/65/EU (RoHS - including 2015/863 and 2017/2102) | compliant                                                 |
| 1907/2006/EC (REACH)                                 | compliant                                                 |
| 2000/53/EC (ELV)                                     | compliant                                                 |
| 2012/19/EU (WEEE)                                    | no special marking needed                                 |
| 2011/305/EU (CPR)                                    | compliant, Dca-s1b,d1,a1                                  |
| Flex life test                                       | MIL-T-81490 - §4.7.15 - prod. II - modified               |

## Additional Information

Railway certificates discontinued by end of 2017. Replacement type for railway: RADOX\_RF\_316\_D.

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### Remarks

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

### Suitable Connectors

Cable group

U4 2 mm / 50 Ohm

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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 = 0.7648

b = 0.1301

 $f_{\max} = 6$ 

P at 1GHz = 110

| 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 |
| 0,3       | 0,46                                      | 0,140                                     | 201                                       |
| 0,6       | 0,67                                      | 0,204                                     | 142                                       |
| 0,9       | 0,84                                      | 0,257                                     | 116                                       |
| 1,2       | 0,99                                      | 0,303                                     | 100                                       |
| 1,5       | 1,13                                      | 0,345                                     | 90                                        |
| 1,8       | 1,26                                      | 0,384                                     | 82                                        |
| 2,1       | 1,38                                      | 0,421                                     | 76                                        |
| 2,4       | 1,5                                       | 0,456                                     | 71                                        |
| 2,7       | 1,61                                      | 0,490                                     | 67                                        |
| 3,0       | 1,71                                      | 0,523                                     | 64                                        |
| 3,3       | 1,82                                      | 0,554                                     | 61                                        |
| 3,6       | 1,92                                      | 0,585                                     | 58                                        |
| 3,9       | 2,02                                      | 0,615                                     | 56                                        |
| 4,2       | 2,11                                      | 0,644                                     | 54                                        |
| 4,5       | 2,21                                      | 0,673                                     | 52                                        |
| 4,8       | 2,3                                       | 0,701                                     | 50                                        |
| 5,1       | 2,39                                      | 0,729                                     | 49                                        |
| 5,4       | 2,48                                      | 0,756                                     | 47                                        |
| 5,7       | 2,57                                      | 0,783                                     | 46                                        |
| 6,0       | 2,65                                      | 0,809                                     | 45                                        |