

## Flexible RF cable

**RADOX\_RF\_142**    **Item: 85023684**

## Description

RADOX RF: Highly flame retardant LSFH alternatives to RG cables

RG142 LSFH, 50 Ohm, 8 GHz, 105°C, ø5.34 mm, RADOX® jacket, Flame retardant, Railway qualified



## Technical Data

### Construction

|                  | Material                 | Detail        | Diameter         |
|------------------|--------------------------|---------------|------------------|
| Centre conductor | Copper, Silver plated    | Wire          | 0.95 mm          |
| Dielectric       | SPEX (Crosslink Foam PE) |               | 2.98 mm          |
| Outer conductor  | Copper, Silver plated    | Braid, 97%    | 3.58 mm          |
| Outer conductor  | Copper, Silver plated    | Braid, 95 %   | 4.18 mm          |
| Jacket           | RADOX EM104              | RAL 9005 - bk | 5.34 mm +/- 0.06 |

Print: HUBER+SUHNER RADOX RF 142 50 Ohm (UL logo) AWM Style 3651 (production order number)

### Electrical Data

|                                |                                        |
|--------------------------------|----------------------------------------|
| Impedance                      | 50 Ω +/- 2                             |
| Operating Frequency            | 8 GHz                                  |
| Capacitance                    | 94.5 pF/m                              |
| Velocity of signal propagation | 70.9 %                                 |
| Signal delay                   | 4.7 ns/m                               |
| Screening effectiveness        | ≥ 75 dB (up to 5 GHz)                  |
| Operating voltage              | ≤ 2.5 kV <sub>rms</sub> (at sea level) |
| Test voltage                   | 5 kV <sub>rms</sub> (50 Hz/1 min)      |

### Mechanical Data

|                     |                                |              |
|---------------------|--------------------------------|--------------|
| Weight              |                                | 5.7 kg/100 m |
| Min. bending radius | static                         | 30 mm        |
|                     | repeated (for ≤ 3000 bendings) | 50 mm        |

### Environmental Data

|                                                      |                               |
|------------------------------------------------------|-------------------------------|
| Temperature range                                    | -40 °C ... +105 °C            |
| Installation temperature                             | -20 °C... +60 °C              |
| Flame propagation test                               | EN 60332-1-2, EN 50305, 9.1.2 |
| 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     |

## Additional Information

EN 45545 compliant Hazard level for indoor cables: HL3 NFPA-130 compliant An operating temperature of -55°C is feasible for static applications. Extended to 8GHz, to support typical WiFi6E applications.

### Remarks

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

### Suitable Connectors

|             |                  |
|-------------|------------------|
| Cable group | U9 3 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 = 0.365

b = 0.142

 $f_{\max} = 8$ 

P at 1GHz = 225

| 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 |
| 0.4       | 0.29                                      | 0.088                                     | 356                                       |
| 0.8       | 0.44                                      | 0.134                                     | 252                                       |
| 1.2       | 0.57                                      | 0.174                                     | 205                                       |
| 1.6       | 0.69                                      | 0.210                                     | 178                                       |
| 2.0       | 0.8                                       | 0.244                                     | 159                                       |
| 2.4       | 0.91                                      | 0.276                                     | 145                                       |
| 2.8       | 1.01                                      | 0.307                                     | 134                                       |
| 3.2       | 1.11                                      | 0.337                                     | 126                                       |
| 3.6       | 1.2                                       | 0.367                                     | 119                                       |
| 4.0       | 1.3                                       | 0.396                                     | 113                                       |
| 4.4       | 1.39                                      | 0.424                                     | 107                                       |
| 4.8       | 1.48                                      | 0.451                                     | 103                                       |
| 5.2       | 1.57                                      | 0.479                                     | 99                                        |
| 5.6       | 1.66                                      | 0.506                                     | 95                                        |
| 6.0       | 1.75                                      | 0.532                                     | 92                                        |
| 6.4       | 1.83                                      | 0.558                                     | 89                                        |
| 6.8       | 1.92                                      | 0.584                                     | 86                                        |
| 7.2       | 2.0                                       | 0.610                                     | 84                                        |
| 7.6       | 2.09                                      | 0.636                                     | 82                                        |
| 8.0       | 2.17                                      | 0.661                                     | 80                                        |

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