

# RG393 LSFH, 50 Ohm, 6 GHz, 105°C, ø10.05 mm, RADOX® jacket

## ENVIROFLEX\_393

### Properties

- Halogen free alternative to RG cables
- Low smoke
- Ozone, UV and weathering resistance
- UL AWM style 3651



| Construction     |                          |               |                      |
|------------------|--------------------------|---------------|----------------------|
| Component        | Material                 | Detail        | Diameter             |
| Centre conductor | Copper, Silver plated    | Strand-07     | 2.46 mm              |
| Dielectric       | SPEX (Crosslink Foam PE) |               | 7.25 mm              |
| Outer conductor  | Copper, Silver plated    | Braid, 92%    | 8 mm                 |
| Outer conductor  | Copper, Silver plated    | Braid, 99%    | 8.68 mm              |
| Jacket           | RADOX                    | black/bl line | 10.05 mm +/- 0.15 mm |

| Electrical data                  |                                                      |
|----------------------------------|------------------------------------------------------|
| Impedance                        | 50 Ω +/- 2Ω                                          |
| Operating frequency              | ≤ 6 GHz                                              |
| Capacitance                      | 94.5 pF/m                                            |
| Velocity of signal propagation   | 70.7 %                                               |
| Signal delay                     | 4.71 ns/m                                            |
| Screening effectiveness          | 78 dB at frequency 0.001 GHz ... 3GHz                |
| Insulation resistance            | 10000000 MΩ*m                                        |
| Inner conductor resistance       | 4.75 Ω/km                                            |
| Outer conductor resistance       | 4.845 Ω/km                                           |
| Operating Voltage (at sea level) | ≤ 5 kVrms                                            |
| Voltage Rating UL                | 300 V                                                |
| Phase vs temperature             | 2800 ppm within the temperature range -40 ... 100 °C |
| Phase vs bending                 | 1.6 °/GHz                                            |
| Test voltage (50 Hz/1 min)       | ≤ 10 kVrms                                           |

| Mechanical data         |                 |
|-------------------------|-----------------|
| Weight                  | approx. 180 g/m |
| Static bending radius   | ≥ 30 mm         |
| Repeated bending radius | 100 mm          |

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| Mechanical data |                                             |
|-----------------|---------------------------------------------|
| Abrasion test   | MIL-T-81490 - §4.7.19 - prod. II - modified |

| Environmental data         |                                            |
|----------------------------|--------------------------------------------|
| Operation temperature      | -40 °C ... 105 °C                          |
| Installation temperature   | -20 °C ... 60 °C                           |
| Flame propagation standard | IEC 60332-2                                |
|                            | UL 1581 § 1080 (VW-1)                      |
|                            | EN 60332-1-2                               |
| Fire characteristics       | free of halogenes, acc. standard IEC 60754 |
| Smoke test                 | EN 61034-2                                 |
| Ageing test                | MIL-C-17 § 4.8.16                          |
| Cold bend test             | MIL-C-17 § 4.8.19                          |
| UV resistance              | IEC 60068-2-5, proc. C                     |
| Thermal stress test        | IEC 61196-1 § 10.9                         |

| Additional Information                                                 |  |
|------------------------------------------------------------------------|--|
| Railway certificates discontinued by end of 2017. No replacement type. |  |

| Suitable connectors |     |
|---------------------|-----|
| Cable group         | U33 |

| Ordering information |                  |                            |
|----------------------|------------------|----------------------------|
| Item number          | Item description | Available as assembly only |
| 22512282             | ENVIROFLEX_393   | No                         |

| Power Matrix                                                                                              |                                    |                                    |                                    |
|-----------------------------------------------------------------------------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| Calculation: typical Attenuation [ formula: (a*f^0.5 + b*f) ] and maximum Power CW [ formula: (p/f^0.5) ] |                                    |                                    |                                    |
| a coefficient typical =                                                                                   | <b>0.1704</b>                      | b coefficient typical =            | <b>0.1153</b>                      |
| fmax =                                                                                                    | <b>6</b>                           | P at 1 GHz =                       | <b>495</b>                         |
| Frequency                                                                                                 | Nom. attenuation                   | Nom. attenuation                   | CW power                           |
| GHz                                                                                                       | (dB/m)                             | (dB/ft)                            | (W)                                |
|                                                                                                           | sea level 25°C ambient temperature | sea level 25°C ambient temperature | sea level 40°C ambient temperature |
| 0.10                                                                                                      | 0.065                              | 0.020                              | 1565                               |
| 0.20                                                                                                      | 0.099                              | 0.030                              | 1107                               |
| 0.30                                                                                                      | 0.128                              | 0.039                              | 904                                |
| 0.40                                                                                                      | 0.154                              | 0.047                              | 783                                |
| 0.60                                                                                                      | 0.201                              | 0.061                              | 639                                |
| 0.80                                                                                                      | 0.245                              | 0.075                              | 553                                |
| 1.00                                                                                                      | 0.286                              | 0.087                              | 495                                |
| 1.20                                                                                                      | 0.325                              | 0.099                              | 452                                |
| 1.40                                                                                                      | 0.363                              | 0.111                              | 418                                |
| 1.60                                                                                                      | 0.400                              | 0.122                              | 391                                |
| 1.80                                                                                                      | 0.436                              | 0.133                              | 369                                |
| 2.00                                                                                                      | 0.472                              | 0.144                              | 350                                |
| 2.50                                                                                                      | 0.558                              | 0.170                              | 313                                |
| 3.00                                                                                                      | 0.641                              | 0.195                              | 286                                |
| 3.50                                                                                                      | 0.722                              | 0.220                              | 265                                |
| 4.00                                                                                                      | 0.802                              | 0.244                              | 248                                |
| 5.00                                                                                                      | 0.958                              | 0.292                              | 221                                |

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| Power Matrix |       |       |     |
|--------------|-------|-------|-----|
| 6.00         | 1.109 | 0.338 | 202 |

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