

**Low-loss, 50 Ohm, 8 GHz, 85°C, ø12.78 mm, LSFH jacket**

SPUMA\_500-FR-01

**Properties**

- Halogen free cable with standard dimensions
- Low smoke
- Ozone, UV and weathering resistance
- CPR qualified
- Railway qualified



| Construction     |                              |                         |                     |
|------------------|------------------------------|-------------------------|---------------------|
| Component        | Material                     | Detail                  | Diameter            |
| Centre conductor | Aluminium / Copper           | Wire                    | 3.58 mm             |
| Dielectric       | SPE (Foamed Polyethylene)    |                         | 9.43 mm             |
| Outer conductor  | Aluminum / PES               | longitudinal Foil, 100% | 9.55 mm             |
| Outer conductor  | Copper, Tin plated           | Braid, 90%              | 10.36 mm            |
|                  | LSFH (modified polyethylene) | RAL 9005 - bk           | 12.78 mm +/- 0.1 mm |

| Electrical data                  |                         |
|----------------------------------|-------------------------|
| Impedance                        | 50 Ω +/- 2Ω             |
| Operating frequency              | ≤ 8 GHz                 |
| Capacitance                      | 77.4 pF/m               |
| Inductance                       | 0.2 μH/m                |
| Velocity of signal propagation   | 86 %                    |
| Signal delay                     | 3.87 ns/m               |
| Screening effectiveness          | 90 dB at frequency 6GHz |
| Insulation resistance            | 1000000 MΩ*m            |
| Operating Voltage (at sea level) | ≤ 1.2 kVrms             |
| Test voltage (50 Hz/1 min)       | ≤ 2 kVrms               |

| Mechanical data         |                 |
|-------------------------|-----------------|
| Weight                  | approx. 178 g/m |
| Static bending radius   | ≥ 34 mm         |
| Repeated bending radius | 130 mm          |

| Environmental data       |                  |
|--------------------------|------------------|
| Operation temperature    | -40 °C ... 85 °C |
| Installation temperature | -20 °C ... 60 °C |
| CPR class                | Eca              |

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| Environmental data         |                                            |
|----------------------------|--------------------------------------------|
| Flame propagation standard | EN 60332-1-2<br>IEC 60332-3-24             |
| Fire characteristics       | free of halogenes, acc. standard IEC 60754 |
| Smoke test                 | EN 61034-2                                 |
| UV resistance              | ISO 4892-2A                                |

| Additional Information                                    |
|-----------------------------------------------------------|
| EN 45545-2 compliant hazard level for indoor cables: HL3. |

| Suitable connectors |     |
|---------------------|-----|
| Cable group         | X31 |

| Ordering information |                  |                            |
|----------------------|------------------|----------------------------|
| Item number          | Item description | Available as assembly only |
| 85021564             | SPUMA_500-FR-01  | 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 =                                                                                   | 0.1051                             | b coefficient typical =            | 0.0059                             |
| fmax =                                                                                                    | 8                                  | P at 1 GHz =                       | 750                                |
| 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                                                                                                      | 0.034                              | 0.010                              | 2372                               |
| 0.20                                                                                                      | 0.048                              | 0.015                              | 1677                               |
| 0.40                                                                                                      | 0.069                              | 0.021                              | 1186                               |
| 0.60                                                                                                      | 0.085                              | 0.026                              | 968                                |
| 1.00                                                                                                      | 0.111                              | 0.034                              | 750                                |
| 1.50                                                                                                      | 0.138                              | 0.042                              | 612                                |
| 2.00                                                                                                      | 0.160                              | 0.049                              | 530                                |
| 6.00                                                                                                      | 0.293                              | 0.089                              | 306                                |
| 6.50                                                                                                      | 0.306                              | 0.093                              | 294                                |
| 7.00                                                                                                      | 0.319                              | 0.097                              | 283                                |
| 7.50                                                                                                      | 0.332                              | 0.101                              | 274                                |
| 8.00                                                                                                      | 0.344                              | 0.105                              | 265                                |

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