



1 1/4"-A flame-retardant

B2_{ca}

DESCRIPTION

Cable type : 5328 A-HLFRB

Reference : EC6-50-A-FRB

Cable with UV resistant, halogen free, low smoke, flame retardant jacket according to IEC 60754, IEC 60332-1, IEC 60332-3 cat. C, IEC 61034 and EN 50399 B2_{ca}-s1,d1,a1.

Compliant to EN 50575.

CHARACTERISTICS

Construction

| | | |
|--------------------------|------------------------------------|--|
| • Inner conductor | | |
| Material | smooth copper tube | |
| Diameter (mm) | 13.0 | |
| • Dielectric | | |
| Material | gas-injected cellular polyethylene | |
| Diameter (mm) | 33.5 | |
| • Outer conductor | | |
| Material | corrugated copper tube | |
| Diameter (mm) | 36.0 | |
| • Outer sheath | | |
| Material | flame retardant polyolefin | |
| Thickness (mm) | 1.5 | |
| Diameter (mm) | 39.0 | |

Mechanical characteristics

| | |
|--|---------------|
| • Minimum bending radius | |
| a) single bending (cm) | 20 |
| b) 15 repeated bends | 35 |
| • Maximum pulling strength (daN) | 240 |
| • Recommended temperature range | |
| - Storage | -70 to +85 °C |
| - Installation | -40 to +60 °C |
| - Operation | -55 to +85 °C |
| • Max. length per hoisting grip (m) | 70 |
| • Maximum hanger spacing (m) | 1.4 |
| • Flat plate crush res. (kg/mm) | 2.4 |
| • Bending moment (Nm) | 30 |
| • Approximate weight (kg/km) | 891 |

Electrical characteristics

| | |
|---|---------|
| • Characteristic impedance (Ω) | 50 ± 1 |
| • Nominal capacity (pF/m) | 76 |
| • Relative propagation velocity (%) | 88 |
| • Inductance ($\mu H/m$) | 0.189 |
| • DC-resistance at 20°C | |
| - inner conductor (Ω/km) | 0.95 |
| - outer conductor (Ω/km) | 0.69 |
| • RF peak voltage (kV) | 4.3 |
| • RF peak power (kW) | 184 |
| • Cut-off-frequency (GHz) | 3.7 |
| • Insulation resistance (M Ω .km) | >> 5000 |
| • Attenuation^[1] and power rating | |

| Frequency (MHz) | Attenuation at 20°C (68° F) ^[2] (dB/100m) | Mean power rating ^[3] (kW) |
|-----------------|--|---------------------------------------|
| 10 | 0.25 | 37.13 |
| 20 | 0.36 | 26.12 |
| 30 | 0.44 | 21.24 |
| 80 | 0.73 | 12.84 |
| 100 | 0.81 | 11.44 |
| 150 | 1.01 | 9.26 |
| 200 | 1.17 | 7.96 |
| 300 | 1.45 | 6.42 |
| 400 | 1.69 | 5.51 |
| 450 | 1.80 | 5.17 |
| 500 | 1.91 | 4.88 |
| 600 | 2.10 | 4.42 |
| 700 | 2.29 | 4.07 |
| 800 | 2.46 | 3.78 |
| 894 | 2.62 | 3.56 |
| 960 | 2.72 | 3.42 |
| 1000 | 2.79 | 3.34 |
| 1500 | 3.50 | 2.66 |
| 1700 | 3.76 | 2.48 |
| 1800 | 3.88 | 2.40 |
| 1880 | 3.98 | 2.34 |
| 2000 | 4.12 | 2.26 |
| 2170 | 4.32 | 2.15 |
| 2200 | 4.35 | 2.14 |
| 2300 | 4.47 | 2.08 |
| 2400 | 4.58 | 2.03 |
| 2500 | 4.69 | 1.98 |
| 2700 | 4.91 | 1.90 |
| 3000 | 5.22 | 1.78 |
| 4000 | - | - |
| 6000 | - | - |

[1] The attenuation can be approximated by the formula:

$$\alpha(f[\text{MHz}]) = A \cdot \sqrt{f[\text{MHz}]} + B \cdot f[\text{MHz}] \quad (\text{dB}/100\text{m})$$

A = 0.0783
B = 0.00031

[2] Nominal values

[3] Ambient temperature = 40°C; temperature of inner conductor = 100°C; VSWR = 1.0; no solar loading