

# HUBER+SUHNER® DATA SHEET

## Coaxial Cable: RG\_316\_/U



### Description

PTFE - 50 Ohm - single screen

### Technical Data

#### Construction

|                  | Material                              | Detail        | Diameter       |
|------------------|---------------------------------------|---------------|----------------|
| Centre conductor | Steel, Copper+Silver plated           | Strand-07     | 0.54 mm        |
| Dielectric       | PTFE                                  |               | 1.55 mm        |
| Outer conductor  | Copper, Silver plated                 | Braid, 95 %   | 2 mm           |
| Jacket           | FEP                                   | RAL 8015 - br | 2.5 mm +/- 0.1 |
| Print            | HUBER+SUHNER RG 316 U 50 Ohm (PA no.) |               |                |

#### Electrical Data

|                                |                      |                                  |
|--------------------------------|----------------------|----------------------------------|
| Impedance                      | 50                   | $\Omega$ +/- 2                   |
| Max. operating frequency       | 3                    | GHz                              |
| Capacitance                    | 97                   | pF/m                             |
| Velocity of signal propagation | 69                   | %                                |
| Signal delay                   | 4.86                 | ns/m                             |
| Insulation resistance          | $\geq 1 \times 10^8$ | M $\Omega$ m                     |
| Min. screening effectiveness   | >38                  | dB (up to 1 GHz)                 |
| Max. operating voltage         | 0.85                 | kV <sub>rms</sub> (at sea level) |
| Test voltage                   | 1.7                  | kV <sub>rms</sub> (50 Hz/1 min)  |

#### Mechanical Data

|                     |                                 |          |
|---------------------|---------------------------------|----------|
| Weight              | 1.6                             | kg/100 m |
| Min. bending radius | static                          | 15 mm    |
|                     | repeated (for max. 50 bendings) | 25 mm    |
|                     | dynamic                         | 37.5 mm  |

#### Environmental Data

|                          |                   |                    |
|--------------------------|-------------------|--------------------|
| Temperature range        | -20 °C... + 60 °C | -65 °C... + 165 °C |
| Installation temperature | -20 °C... + 60 °C |                    |
| Flammability             | IEC 60332-3       |                    |
| 2002/95/EC (RoHS)        | compliant         |                    |

#### Ordering Information

Order as RG\_316\_/U

#### Additional Information

##### Remarks

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

**Cable group** U2 2 mm / 50 Ohm

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Rev.: J

**Matrix**                      **Attenuation** [ formula:  $(a \cdot f^{0.5} + b \cdot f)$  ] **and Power CW** [ formula:  $(p \cdot f^{0.5})$  ]

Coefficients:

|    |                  |    |   |                     |   |                           |   |
|----|------------------|----|---|---------------------|---|---------------------------|---|
| a= | 0.7727           | b= | 0.0972                                    | f <sub>max.</sub> = | 3   | p <sub>at</sub><br>1GHz = | 135                                       |
|    |                  |    |   |                     |   |                           |   |
|    | <b>Frequency</b> |    | <b>Nom. attenuation</b>                   |                     | <b>Nom. attenuation</b>                   |                           | <b>Max. CW power</b>                      |
|    | <b>(GHz)</b>     |    | <b>(dB / m)</b>                           |                     | <b>(dB / ft)</b>                          |                           | <b>(watt)</b>                             |
|    |                  |    | sea level<br>25° C ambient<br>temperature |                     | sea level<br>25° C ambient<br>temperature |                           | sea level<br>40° C ambient<br>temperature |
|    |                  |    |   |                     |   |                           |   |
|    | 0.2              |    | 0.37                                      |                     | 0.113                                     |                           | 302                                       |
|    | 0.3              |    | 0.45                                      |                     | 0.137                                     |                           | 246                                       |
|    | 0.5              |    | 0.59                                      |                     | 0.180                                     |                           | 191                                       |
|    | 0.6              |    | 0.66                                      |                     | 0.201                                     |                           | 174                                       |
|    | 0.8              |    | 0.77                                      |                     | 0.235                                     |                           | 151                                       |
|    | 0.9              |    | 0.82                                      |                     | 0.250                                     |                           | 142                                       |
|    | 1.1              |    | 0.92                                      |                     | 0.280                                     |                           | 129                                       |
|    | 1.2              |    | 0.96                                      |                     | 0.293                                     |                           | 123                                       |
|    | 1.4              |    | 1.05                                      |                     | 0.320                                     |                           | 114                                       |
|    | 1.5              |    | 1.09                                      |                     | 0.332                                     |                           | 110                                       |
|    | 1.7              |    | 1.17                                      |                     | 0.357                                     |                           | 104                                       |
|    | 1.8              |    | 1.21                                      |                     | 0.369                                     |                           | 101                                       |
|    | 2.0              |    | 1.29                                      |                     | 0.393                                     |                           | 95  |
|    | 2.1              |    | 1.32                                      |                     | 0.402                                     |                           | 93  |
|    | 2.3              |    | 1.40                                      |                     | 0.427                                     |                           | 89  |
|    | 2.4              |    | 1.43                                      |                     | 0.436                                     |                           | 87  |
|    | 2.6              |    | 1.50                                      |                     | 0.457                                     |                           | 84  |
|    | 2.7              |    | 1.53                                      |                     | 0.466                                     |                           | 82  |
|    | 2.9              |    | 1.60                                      |                     | 0.488                                     |                           | 79  |
|    | 3.0              |    | 1.63                                      |                     | 0.497                                     |                           | 78  |

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