



# SUCOFLEX® 300 - Lightweight Series

**SUCOFLEX® 300** Microwave Cable Assemblies offer a lightweight connection solution combined with a low loss. The weight is reduced up to 40% compared to conventional low loss cables assemblies. These features make it ideal for aerospace and spaceflight applications.

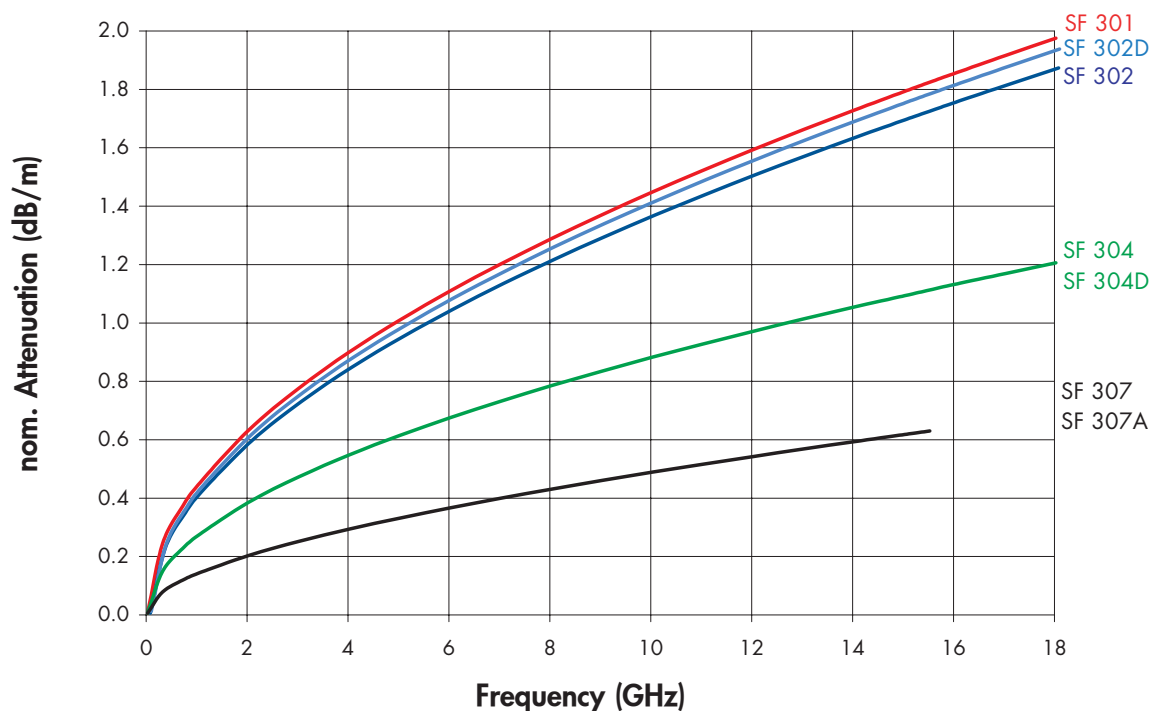
## Cable Assembly Design



**Note:** SUCOFLEX® 300 lightweight low-loss microwave cables are available as "ready to use" assemblies only

1	Centre conductor	Lightweight wire with silver plated conductive surface
2	Dielectric	Low density PTFE
3	1st Shield	Helical wrapped silver plated tape
3a	Skin	SUCOFLEX 307
4	2nd Shield	Silver plated round wire braid
5	Jacket	Solid extruded ETFE
6	Connector	Connector designs with different materials available - e.g. optimised for low weight, max. mechanical strength

## Cable Attenuation



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## Assembly Insertion Loss

The nominal or maximum loss at +25°C of an assembly provided with two connectors (male or female) is calculated according to the following formulas.

$$\alpha_{25} = a \cdot \sqrt{f} + b \cdot f$$

$$IL = \alpha_{25} \cdot (l + l_{C1} + l_{C2}) + (c_1 + c_2) \cdot \sqrt{f}$$

where

$\alpha_{25}$	Cable Attenuation at 25°C	[dB/m]
$a, b$	Attenuation Parameters Cable	see cable data sheet
$f$	Frequency	[GHz]
$IL$	Assembly Insertion Loss	[dB]
$l$	Length Assembly	[m]
$l_{C1}, l_{C2}$	Length Extension (for swept connectors only)	[m] see connector data sheet
$c_1 + c_2$	Coefficient Connectors	see connector data sheet

## Assembly VSWR / Return Loss

The VSWR or Return Loss of an assembly provided with two connectors (male or female) is calculated according to the following formula.

$$VSWR_{ASSY} = VSWR_{C1} \cdot VSWR_{C2}$$

$$RL = 20 \cdot \log \left[ \frac{VSWR_{ASSY} + 1}{VSWR_{ASSY} - 1} \right]$$

The maximum VSWR levels of the connectors are listed on the connector data sheets.

**Note:** Calculated assembly VSWR is valid for "S11" as well as "S22" on 4-pole view

## Cable Assembly Identification

Each cable assembly will be fitted with an identification shrink tube marked with the HUBER+SUHNER serial number. Further information like the customer's part number can be printed on request.

## Spaceflight Requirements

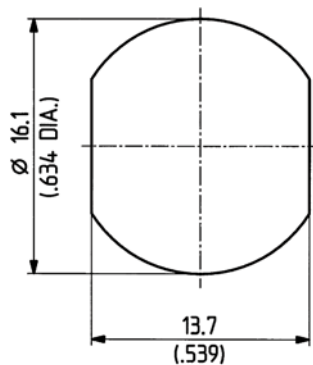
Cable assemblies for spaceflight applications are manufactured by ESA certified assemblers in a class 10'000 clean room environment. These cable assemblies meet the outgassing requirements according to ESA PSS-01-702 and are 100% X-ray inspected.

Please identify your orders as "SPACEFLIGHT ORDER" to ensure that you will receive spaceflight

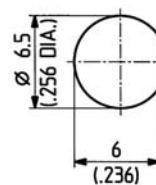
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## Mounting Holes

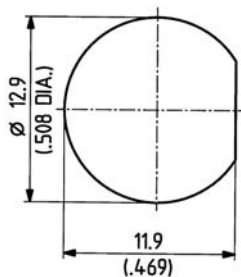
ML 12



ML 35



ML 4



The HUBER+SUHNER is certified according to ISO 9001 and ISO 14001.

### WAIVER

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