

# SUCOFLEX®126

The low loss, phase stable assembly up to 26.5 GHz

Edition 2016



## Advantages of SUCOFLEX 126 versus SUCOFLEX 104 P

- 30 % lower loss
- 20 % higher power
- Improved return loss
- Same phase/loss stability
- Same flexibility
- Same connectors
- Same price

# SUCOFLEX® 126

The high performance microwave cable assembly working up to 26.5 GHz

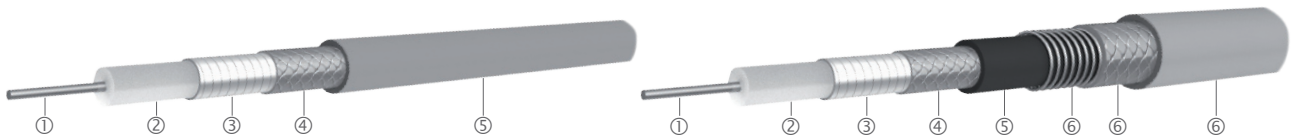
## Product features

- Optimised inner conductor construction
- Extremely precise measurements with highest phase stability combined with low loss and excellent return loss up to 26.5 GHz
- Excellent reliability with A-ruggedisation, that withstand flexure and crushing
- Reduced downtime because of increased intervals between calibrations
- Comprehensive connector portfolio
- Available from stock

## Recommended connectors

|       |                                        |
|-------|----------------------------------------|
| SF126 | BNC, DV, N, PC3.5; PC7, SMA, TNC, 7/16 |
|       | Other connectors available on request  |

## Construction



| Cable           | Inner conductor<br>① | Dielectric<br>② | Outer conductor<br>③ ④ | Jacket<br>⑤ | Ruggedisation<br>⑥        | Outer diameter<br>mm |
|-----------------|----------------------|-----------------|------------------------|-------------|---------------------------|----------------------|
| SUCOFLEX_126    | CuAg strand          | LD-PTFE         | CuAg tape/braid        | FEP, blue   | no                        | 5.5                  |
| SUCOFLEX_126_E  | CuAg strand          | LD-PTFE         | CuAg tape/braid        | PUR, blue   | no                        | 5.5                  |
| SUCOFLEX_126_EA | CuAg strand          | LD-PTFE         | CuAg tape/braid        | PUR         | stainless steel/PUR, blue | 10.3                 |

## Available connectors

| Connector | Series, pattern                    | HUBER+SUHNER<br>connector type | SF126<br>SF126E | SF126EA | Operating<br>frequency<br>(GHz) | VSWR<br>per<br>connector | Remarks                                              |
|-----------|------------------------------------|--------------------------------|-----------------|---------|---------------------------------|--------------------------|------------------------------------------------------|
| BNC       | Straight cable plug                | 11_BNC-452                     | •               | •       | 4.0                             | 1.14                     |                                                      |
| DV        | Straight cable plug                | 11_DV-41                       | •               | •       | 26.5                            | 1.16                     | 3.5 mm connector for Agilent Technologies instrument |
| N         | Straight cable plug                | 11_N-47                        | •               | •       | 15.0                            | 1.12                     |                                                      |
|           | Straight cable plug                | 11_N-452                       | •               | •       | 18.0                            | 1.12                     |                                                      |
|           | Straight cable plug                | 11_N-454                       | •               | •       | 15.0                            | 1.12                     | Hexagonal nut w. safety holes                        |
|           | Right angle cable plug             | 16_N-457                       | •               | •       | 12.4                            | 1.14                     |                                                      |
|           | Straight cable jack                | 21_N-452                       | •               | •       | 18                              | 1.12                     |                                                      |
|           | Straight panel bulkhead cable jack | 24_N-452                       | •               | •       | 18                              | 1.12                     | Mounting hole size 12                                |
| PC 3.5    | Straight cable plug                | 11_PC3.5-43                    | •               | •       | 18<br>26.5                      | 1.12<br>1.16             |                                                      |
|           | Straight cable jack                | 21_PC3.5-43                    | •               | •       | 18<br>26.5                      | 1.12<br>1.16             |                                                      |
| PC 7      | Straight cable plug                | 11_PC7-42                      | •               | •       | 18                              | 1.10                     |                                                      |
| SMA       | Straight cable plug                | 11_SMA-451                     | •               | •       | 18                              | 1.12                     |                                                      |
|           | Straight cable plug                | 11_SMA-452                     | •               | •       | 18                              | 1.16                     | Phase matching connector                             |
|           | Straight cable plug                | 11_SMA-456                     | •               | •       | 18                              | 1.12                     | Hexagonal nut w. safety holes                        |
|           | Straight cable plug                | 11_SMA-468                     | •               | •       | 18                              | 1.12                     | Quick lock nut                                       |
|           | Right angle cable plug             | 16_SMA-452                     | •               | •       | 18                              | 1.12                     |                                                      |
|           | Straight cable jack                | 21_SMA-451                     | •               | •       | 18                              | 1.12                     |                                                      |
|           | Straight panel bulkhead cable jack | 24_SMA-451                     | •               | •       | 18                              | 1.12                     | Mounting hole size 35                                |
| TNC       | Straight cable plug                | 11_TNC-456                     | •               | •       | 18                              | 1.12                     |                                                      |
|           | Straight panel bulkhead cable jack | 24_TNC-456                     | •               | •       | 18                              | 1.12                     | Mounting hole size 4                                 |
| 7/16      | Straight cable plug                | 11_716-402                     | •               | •       | 7.5                             | 1.12                     |                                                      |
|           | Straight cable jack                | 21_716-402                     | •               |         | 7.5                             | 1.12                     |                                                      |

# SUCOFLEX® 126

## Assembly types

|                                                       |         | SUCOFLEX 126 | SUCOFLEX 126E | SUCOFLEX 126EA      |
|-------------------------------------------------------|---------|--------------|---------------|---------------------|
| Max. operating frequency                              | GHz     | 26.5         | 26.5          | 26.5                |
| Application                                           |         | dynamic      | dynamic       | dynamic             |
| Velocity of propagation                               | %       | 77           | 77            | 77                  |
| Weight                                                | g/m     | 70           | 66            | 171                 |
| Min. bending radius static                            | mm      | 16           | 16            | 30                  |
| Min. bending radius repeated                          | mm      | 25           | 25            | 50                  |
| Temperature range                                     | °C      | −55 to +125  | −40 to +85    | −40 to +85          |
| Crush resistance                                      | kN/m    | 8            | 8             | 80                  |
| Tensile load                                          | N       | 250          | 250           | 500                 |
| Inner conductor                                       |         | stranded     | stranded      | stranded            |
| Dielectric                                            |         | LD-PTFE      | LD-PTFE       | LD-PTFE             |
| Outer conductor                                       |         | tape/braid   | tape/braid    | tape/braid          |
| Jacket                                                |         | FEP          | PUR           | PUR                 |
| Ruggedisation                                         |         | no           | no            | stainless steel/PUR |
| Outer diameter                                        | mm      | 5.5          | 5.5           | 10.3                |
| Screening effectiveness<br>(up to 18 GHz)             | dB      | > 90         | > 90          | > 90                |
| Phase stability vs. flexure<br>(360°, diameter 55 mm) | °el/GHz | < 0.9        | < 0.9         | < 0.9               |
| Phase stability vs. temperature<br>(−40 to +85 °C)    | ppm     | < 1500       | < 1500        | < 1500              |
| Assembly phase matching<br>tolerances                 | °el/GHz | ± 0.5        | ± 0.5         | ± 0.5               |
| Cable attenuation at 25 °C                            | dB/m    | see graph    | see graph     | see graph           |
| Insertion loss stability vs.<br>bending               | dB      | ± 0.2        | ± 0.2         | ± 0.2               |
| Insertion loss stability vs.<br>temperature           | %/°C    | < 0.2        | < 0.2         | < 0.2               |
| Insertion loss stability vs.<br>shaking               | dB      | ± 0.1        | ± 0.1         | ± 0.1               |
| Power handling                                        | watt    | see graph    | see graph     | see graph           |

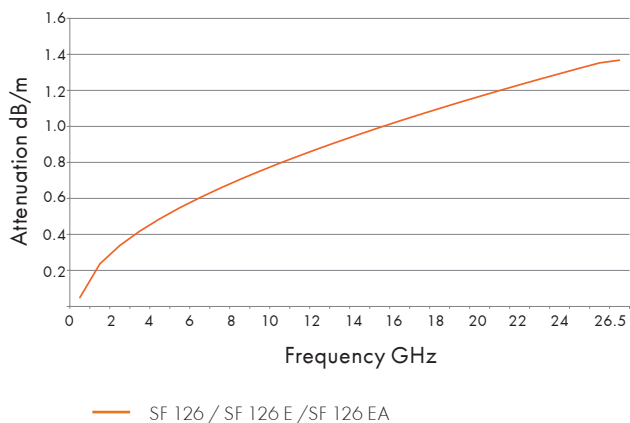
## Stock assemblies

| Item no.                          | Type                      | Length | Frequency | Max. insertion<br>loss at 25 °C | Max.<br>VSWR | RoHS<br>compliant |
|-----------------------------------|---------------------------|--------|-----------|---------------------------------|--------------|-------------------|
|                                   |                           | mm     | GHz       | dB                              |              |                   |
| <b>SUCOFLEX_126_E</b>             |                           |        |           |                                 |              |                   |
| 85072824                          | SF126E/SMAm/SMAm/500mm    | 500    | 18.0      | 0.82                            | 1.25         | yes               |
| 85072825                          | SF126E/SMAm/SMAm/1000mm   | 1000   | 18.0      | 1.43                            | 1.25         | yes               |
| 85072826                          | SF126E/PC35m/PC35m/1000mm | 1000   | 26.5      | 1.77                            | 1.35         | yes               |
| <b>SUCOFLEX_126_EA (armoured)</b> |                           |        |           |                                 |              |                   |
| 85072828                          | SF126EA/Nm/Nm/1000mm      | 1000   | 18.0      | 1.43                            | 1.25         | yes               |
| 85072827                          | SF126EA/SMAm/SMAm/1000mm  | 1000   | 18.0      | 1.43                            | 1.25         | yes               |
| 85072829                          | SF126EA/Nm/Nf/1500mm      | 1500   | 18.0      | 2.03                            | 1.25         | yes               |
| 85072830                          | SF126EA/Nm/Nm/1500mm      | 1500   | 18.0      | 2.03                            | 1.25         | yes               |

# SUCOFLEX® 126

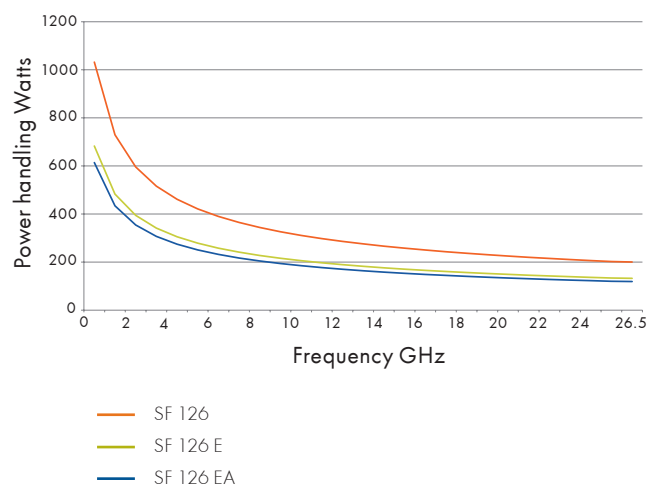
## Attenuation

(nominal values at +25 °C ambient temperature)



## Power handling

(maximum values at +25 °C ambient temperature and sea level)

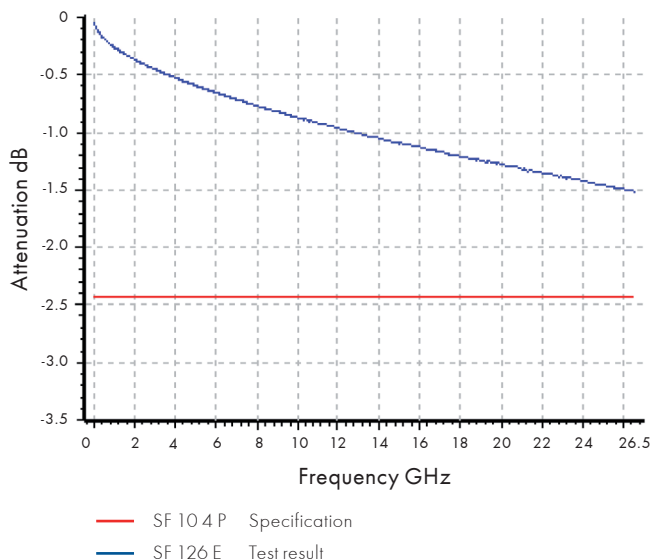


## Example

Test report SUCOFLEX126/PC35m/PC35m/1000mm

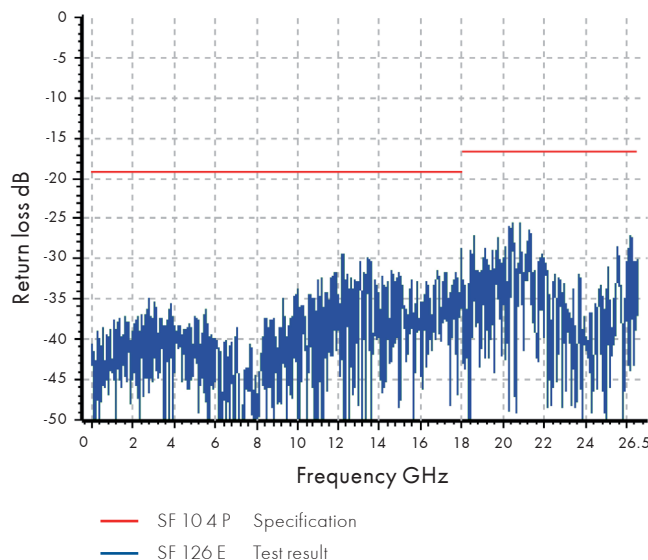
## Attenuation

(nominal values at +25 °C ambient temperature)



## Return loss

(maximum values at +25 °C ambient temperature and sea level)



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