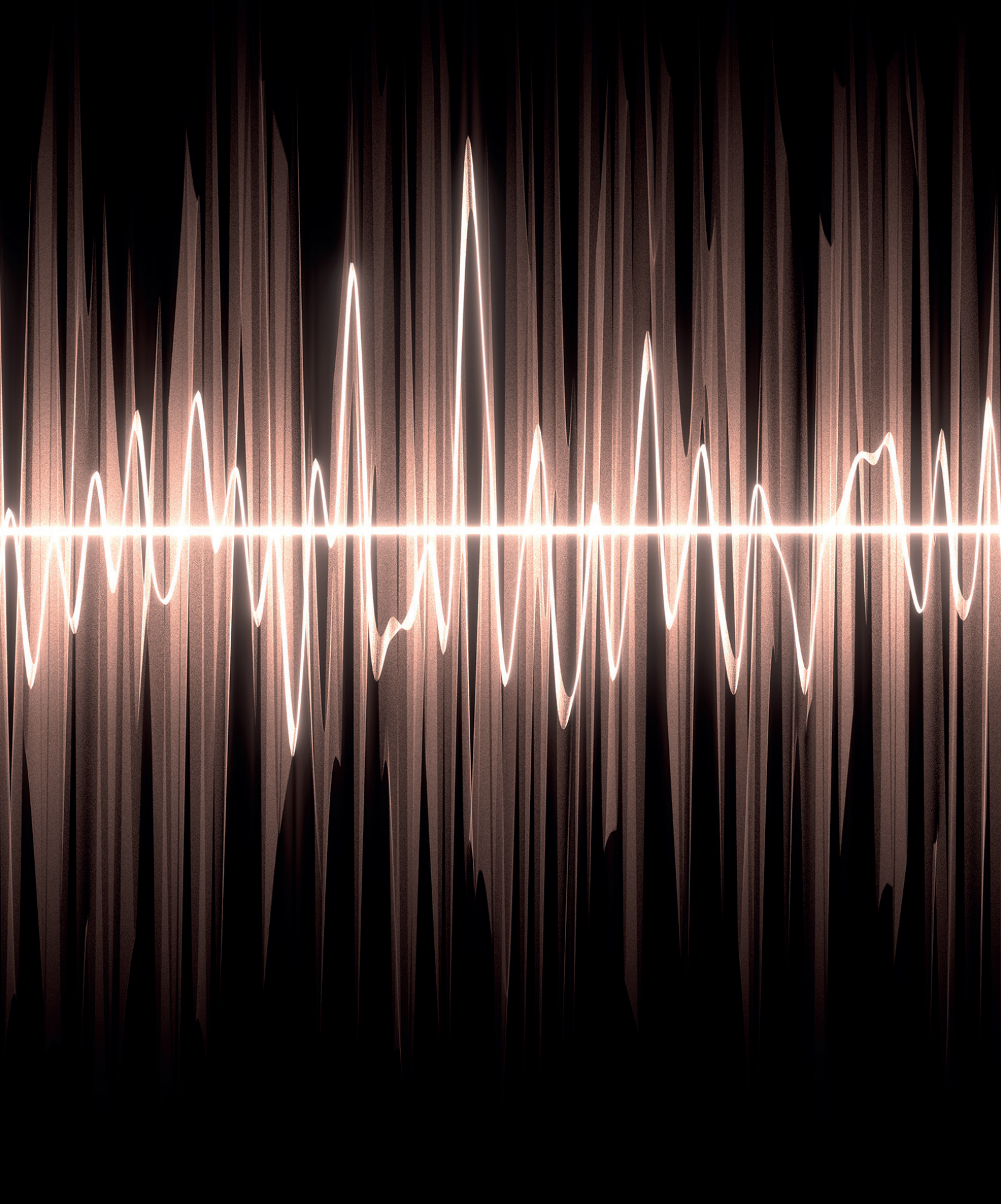


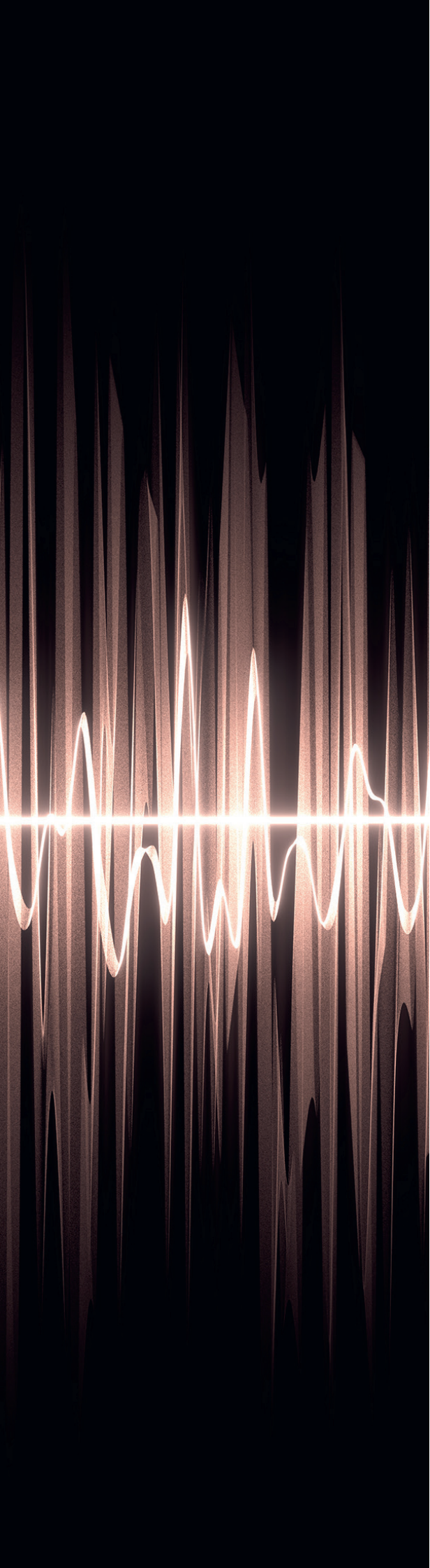
Microwave cable assemblies

Edition 2022



**Create reliability and
high performance**





Your partner for system solutions

HUBER+SUHNER makes a significant contribution to simplifying processes by supplying cables assembled with connector according to customer requirements. The assemblies are manufactured using high-quality cables and connectors, carefully tested according to the relevant standards and delivered with a certificate upon request.

SUCOFLEX® 102

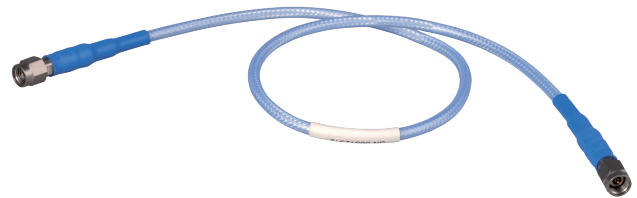
The high performance microwave cable assembly working up to 46 GHz

Product description

SUCOFLEX 102 are ideal for applications up to 46 GHz or wherever the weight or the diameter are the critical factors to be taken into account. The connectors mainly used here are PC2.4 and SK, for «low frequency» applications also SMA, N and TNC. Typical applications include test laboratories and aircraft manufacture. The available ruggedisations are matched to the particular applications.

Product features

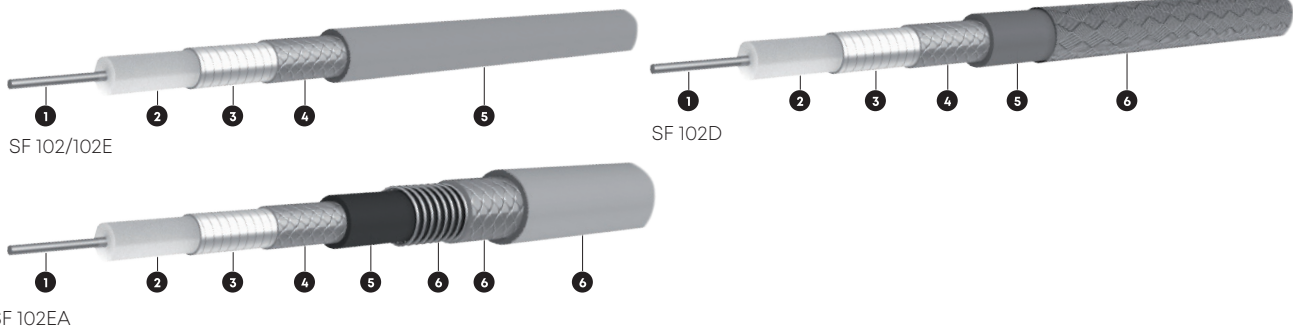
- Impedance 50 Ω
- Applicable up to 46 GHz
- High stability and low loss
- Wide range of connectors
- LSFH jacket and further ruggedisations on request



Recommended connectors

SF102	SMA, N, TNC, PC3.5, SK, PC2.4
	Other connectors available on request




Construction



Cable	Inner conductor ①	Dielectric ②	Outer conductor ③ ④	Jacket ⑤	Ruggedisation ⑥	Outer diameter mm
SUCOFLEX_102	CuAg wire	LD-PTFE	CuAg tape/braid	FEP, blue	no	4.0
SUCOFLEX_102_E	CuAg wire	LD-PTFE	CuAg tape/braid	PUR, blue	no	4.0
SUCOFLEX_102_D	CuAg wire	LD-PTFE	CuAg tape/braid	FEP	aramid yarn braid, blue	4.6
SUCOFLEX_102_EA	CuAg wire	LD-PTFE	CuAg tape/braid	PUR	stainless steel/ PUR, blue	7.7

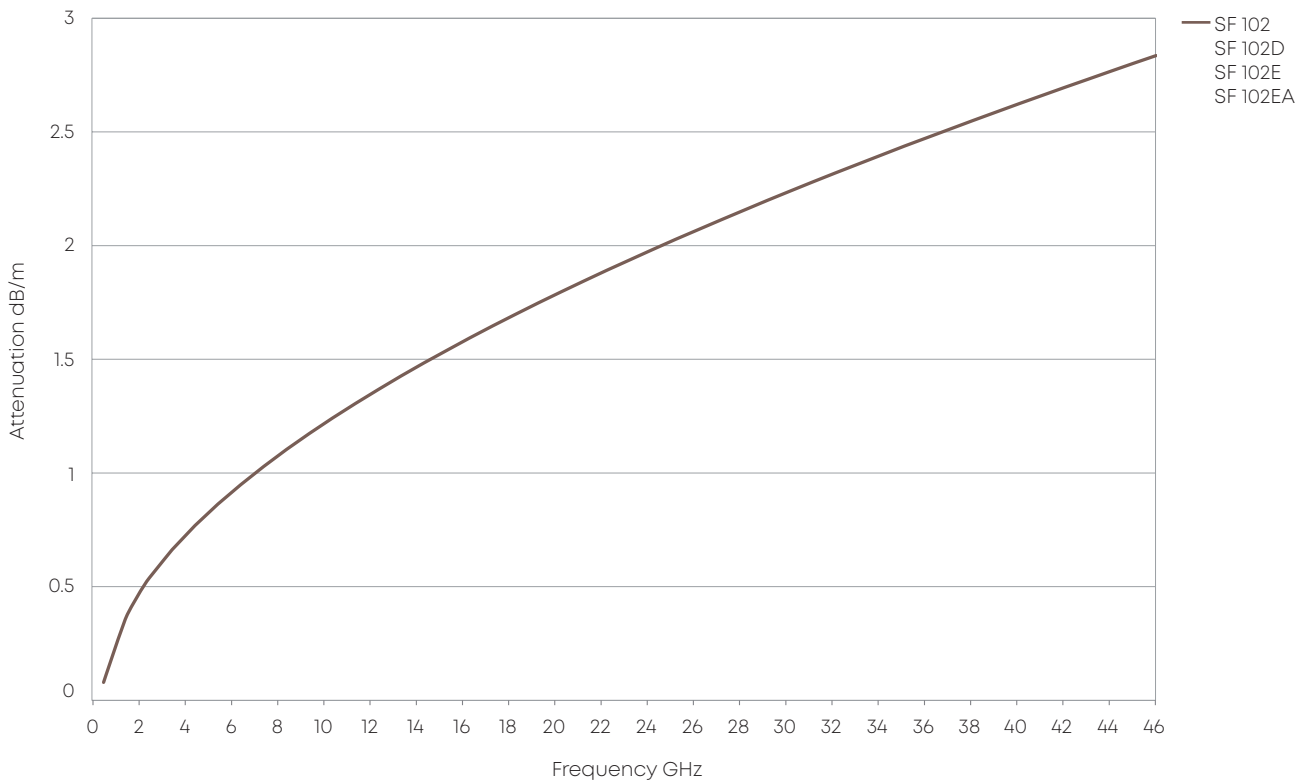
SUCOFLEX® 102

Assembly types

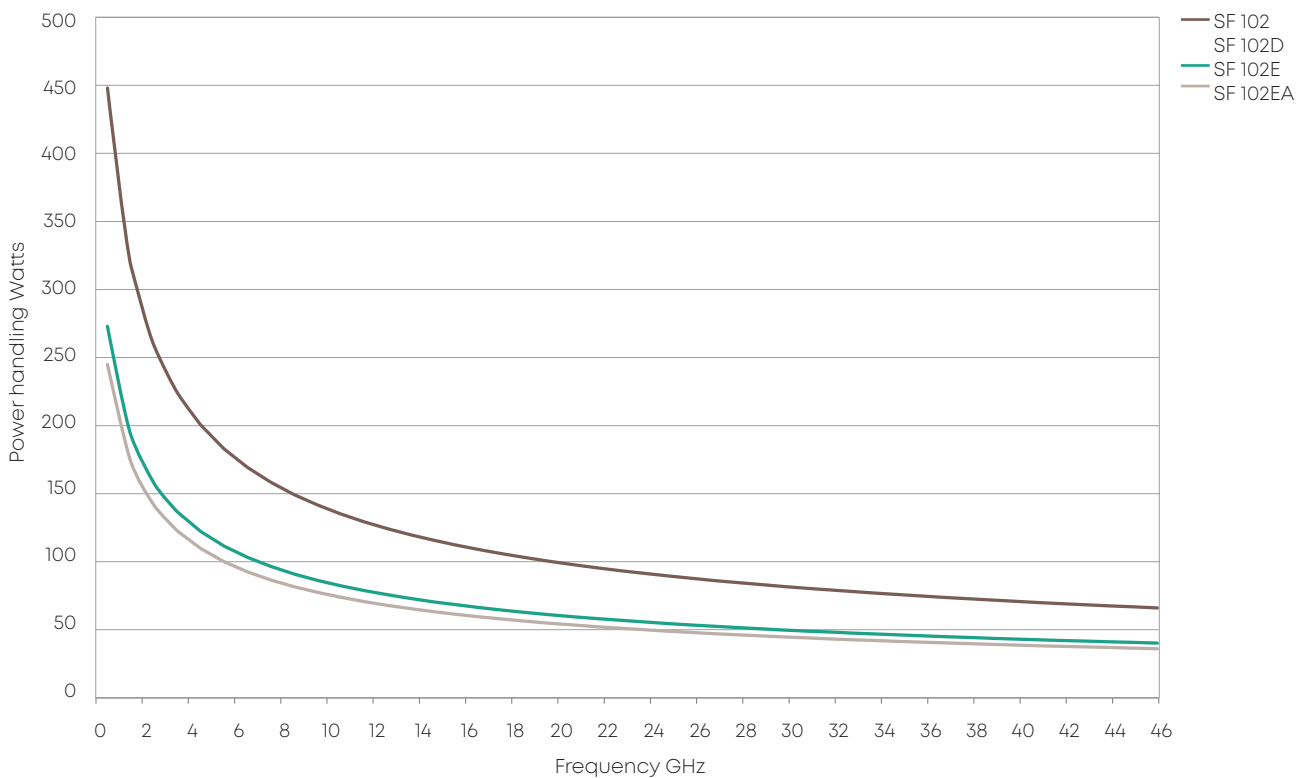
		SUCOFLEX 102	SUCOFLEX 102E	SUCOFLEX 102D	SUCOFLEX 102EA
Construction					
Max. operating frequency	GHz	46	46	46	46
Application		static	static	static	static
Velocity of propagation	%	77	77	77	77
Weight	g/m	40	37	45	120
Min. bending radius static	mm	12	12	15	20
Min. bending radius repeated	mm	20	20	30	40
Temperature range	°C	-55 to +125	-40 to +85	-55 to +125	-40 to +85
Crush resistance	kN/m	8	8	8	80
Tensile load	N	150	150	150	400
Inner conductor		solid wire	solid wire	solid wire	solid wire
Dielectric		LD-PTFE	LD-PTFE	LD-PTFE	LD-PTFE
Outer conductor		tape/braid	tape/braid	tape/braid	tape/braid
Jacket		FEP	PUR	FEP	PUR
Ruggedisation		no	no	aramid yarn braid	stainless steel/PUR
Outer diameter	mm	4.0	4.0	4.6	7.7
Screening effectiveness (up to 18 GHz)	dB	> 90	> 90	> 90	> 90
Phase stability vs. flexure (360°, diameter 55 mm)	°el/GHz	< 1.2	< 1.2	< 1.2	< 1.2
Phase stability vs. temperature (-40 to +85 °C)	ppm	< 1500	< 1500	< 1500	< 1500
Assembly phase matching tolerances	°el/GHz	± 0.5	± 0.5	± 0.5	± 0.5
Cable attenuation at 25 °C	dB/m	see graph	see graph	see graph	see graph
Insertion loss stability vs. bending	dB	± 0.2	± 0.2	± 0.2	± 0.2
Insertion loss stability vs. temperature	%/°C	< 0.2	< 0.2	< 0.2	< 0.2
Insertion loss stability vs. shaking	dB	± 0.1	± 0.1	± 0.1	± 0.1
Power handling	watt	see graph	see graph	see graph	see graph

SUCOFLEX® 102

Attenuation (nominal values at +25 °C ambient temperature)



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



SUCOFLEX® 102

Available connectors

Connector	Series, pattern	HUBER+SUHNER connector type	SF102 SF102E	SF102EA	SF102D	Operating frequency GHz	VSWR per connector	Remarks
SK	straight cable plug	11_SK-252	•		•	40	1.20	
	straight cable plug	11_SK-253	•			40	1.20	QL nut
	straight cable plug	11_SK-258		•		40	1.20	
	straight cable plug	11_SK-262		•		40	1.20	QL nut
	right angle cable plug	16_SK-252	•		•	40	1.20	
	right angle cable plug	16_SK-255		•		40	1.20	
	straight cable jack	21_SK-252	•		•	40	1.20	
	straight cable jack	21_SK-257		•		40	1.20	
	straight panel bulk-head cable jack	24_SK-251	•		•	40	1.20	ML 35
N	straight cable plug	11_N-206	•		•	18	1.12	
PC 2.4	straight cable plug	11_PC2.4-201	•		•	46	1.20	
	straight cable plug	11_PC2.4-210		•		46	1.20	
	straight cable jack	21_PC2.4-201	•		•	46	1.20	
	straight cable jack	21_PC2.4-210		•		46	1.20	
	straight panel bulk-head cable jack	24_PC2.4-201	•		•	46	1.20	ML 38
PC 3.5	straight cable plug	11_PC3.5-203	•		•	26.5	1.16	
	straight cable jack	21_PC3.5-203	•		•	26.5	1.16	
SMA	straight cable plug	11_SMA-218	•		•	18 26.5	1.12 1.20	
	straight cable plug	11_SMA-262		•		18 26.5	1.12 1.20	
	right angle cable plug	16_SMA-254	•		•	18	1.12	
	straight cable jack	21_SMA-204	•		•	18 26.5	1.12 1.20	
	straight panel bulk-head cable jack	24_SMA-210	•		•	18 26.5	1.12 1.20	ML 20
TNC	straight cable plug	11_TNC-222	•		•	18	1.12	
	straight panel bulk-head cable jack	24_TNC-222	•		•	18	1.12	ML 4

Stock assemblies

Item no.	Type	Length	Frequency	Max. insertion loss at 25 °C	Max. VSWR	RoHS compliant
		mm	GHz	dB		
SUCOFLEX_102						
84017146	SF102/SKm/SKm/500 mm	500	40	1.76	1.44	yes
84017149	SF102/SKm/SKm/1000 mm	1000	40	3.21	1.44	yes

SUCOFLEX® 103

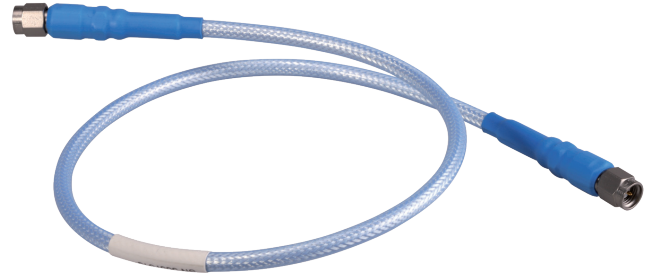
The high performance microwave cable assembly working up to 33 GHz

Product description

SUCOFLEX 103 is the ideal solution for systems in which the attenuation to weight ratio is very important. Different ruggedisations and a large number of the common connector types complete this range.

Product features

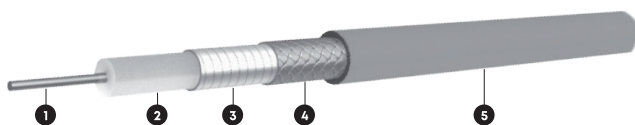
- Impedance 50 Ω
- Applicable up to 33 GHz
- High stability and low loss
- Wide range of connectors
- LSFH jacket and further ruggedisations on request



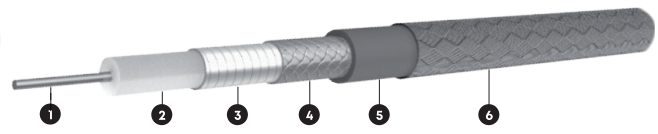
Recommended connectors

SF103	SMA, BMA, QMA, BNC, N, TNC, PC7, PC3.5
	Other connectors available on request

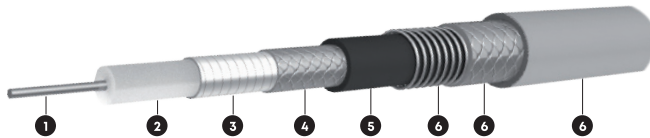
Construction



SF 103/103E



SF 103D






SF 103EA

Cable	Inner conductor ①	Dielectric ②	Outer conductor ③ ④	Jacket ⑤	Ruggedisation ⑥	Outer diameter
						mm
SUCOFLEX_103	CuAg wire	LD-PTFE	CuAg tape/braid	FEP, blue	no	4.6
SUCOFLEX_103_E	CuAg wire	LD-PTFE	CuAg tape/braid	PUR, blue	no	4.6
SUCOFLEX_103_D	CuAg wire	LD-PTFE	CuAg tape/braid	FEP	aramid yarn braid, blue	5.1
SUCOFLEX_103_EA	CuAg wire	LD-PTFE	CuAg tape/braid	PUR	stainless steel/ PUR, blue	10.3

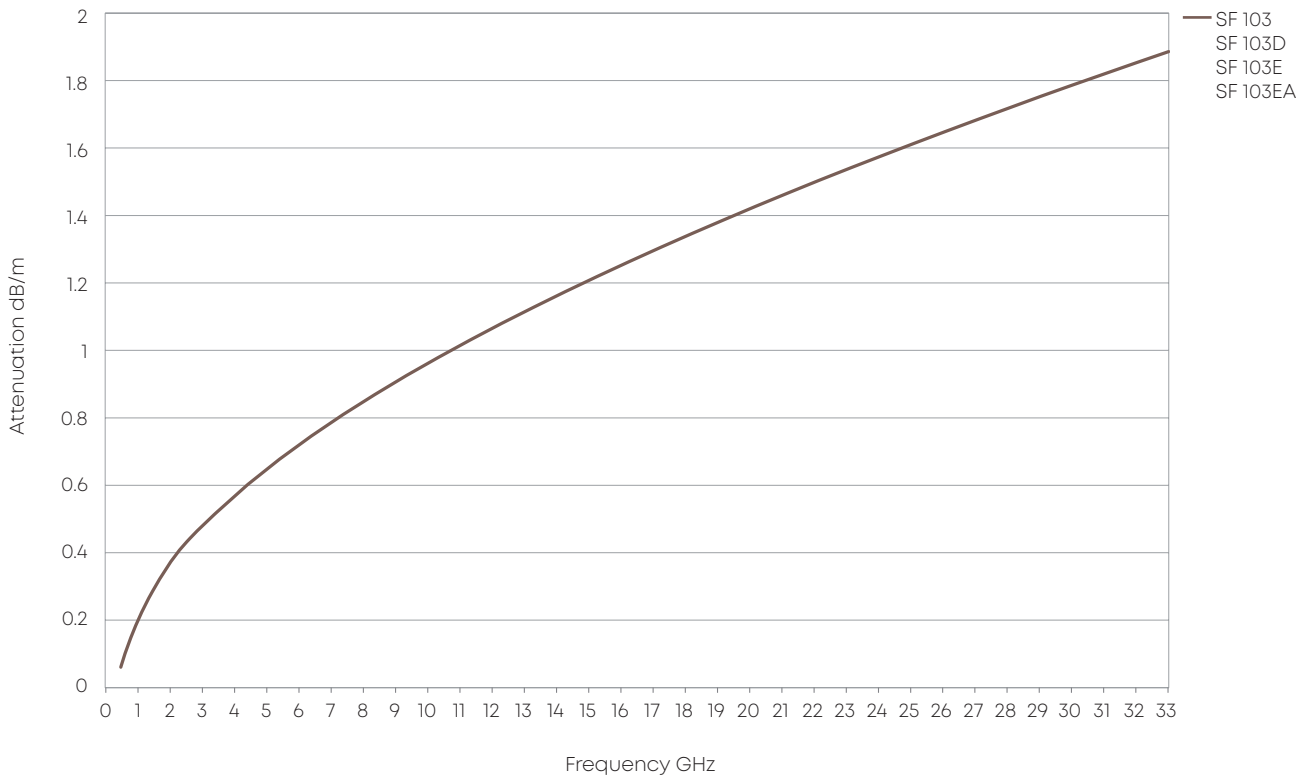
SUCOFLEX® 103

Assembly types

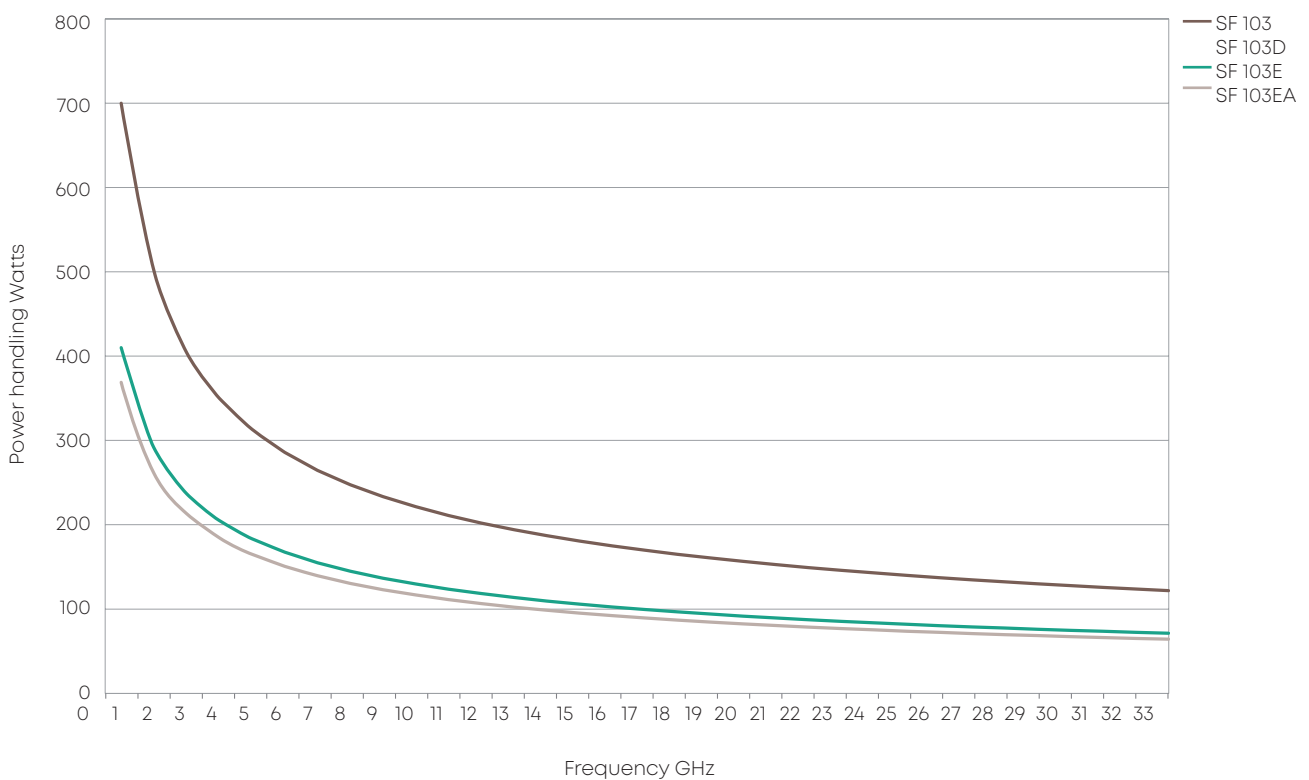
		SUCOFLEX 103	SUCOFLEX 103E	SUCOFLEX 103D	SUCOFLEX 103EA
Construction					
Max. operating frequency	GHz	33	33	33	33
Application		static	static	static	static
Velocity of propagation	%	77	77	77	77
Weight	g/m	53	52	63	142
Min. bending radius static	mm	13	13	20	30
Min. bending radius repeated	mm	22	22	30	50
Temperature range	°C	-55 to +125	-40 to +85	-55 to +125	-40 to +85
Crush resistance	kN/m	8	8	8	80
Tensile load	N	200	200	200	400
Inner conductor		solid wire	solid wire	solid wire	solid wire
Dielectric		LD-PTFE	LD-PTFE	LD-PTFE	LD-PTFE
Outer conductor		tape/braid	tape/braid	tape/braid	tape/braid
Jacket		FEP	PUR	FEP	PUR
Ruggedisation		no	no	aramid yarn braid	stainless steel/PUR
Outer diameter	mm	4.6	4.6	5.1	10.3
Screening effectiveness (up to 18 GHz)	dB	> 90	> 90	> 90	> 90
Phase stability vs. flexure (360°, diameter 55 mm)	°el/GHz	< 1.4	< 1.4	< 1.4	< 1.4
Phase stability vs. temperature (-40 to +85 °C)	ppm	< 1500	< 1500	< 1500	< 1500
Assembly phase matching tolerances	°el/GHz	± 0.5	± 0.5	± 0.5	± 0.5
Cable attenuation at 25 °C	dB/m	see graph	see graph	see graph	see graph
Insertion loss stability vs. bending	dB	± 0.2	± 0.2	± 0.2	± 0.2
Insertion loss stability vs. temperature	%/°C	< 0.2	< 0.2	< 0.2	< 0.2
Insertion loss stability vs. shaking	dB	± 0.1	± 0.1	± 0.1	± 0.1
Power handling	watt	see graph	see graph	see graph	see graph

SUCOFLEX® 103

Attenuation (nominal values at +25 °C ambient temperature)



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



SUCOFLEX® 103

Available connectors

Connector		HUBER+SUHNER connector type	SF103 SF103E	SF103EA	SF103D	Operating frequency GHz	VSWR per connector	Remarks
BNC	straight cable plug	11_BNC-373	•		•	4	1.14	
N	straight cable plug	11_N-371	•	•	•	18	1.12	
	right angle cable plug	16_N-372	•		•	18	1.12	swept
	straight panel bulk-head cable jack	24_N-352	•	•	•	18	1.12	ML 12
PC 3.5	straight cable plug	11_PC3.5-31	•	•	•	26.5	1.16	
	straight cable jack	21_PC3.5-31	•	•	•	26.5	1.16	
PC 7	straight cable plug	11_PC7-31	•		•	18	1.10	
SMA	straight cable plug	11_SMA-367	•	•		18	1.12	QL nut
	straight cable plug	11_SMA-371	•	•	•	18	1.12	
	right angle cable plug	16_SMA-371	•	•	•	18	1.12	
	straight cable jack	21_SMA-371	•	•	•	18	1.12	
	straight panel bulk-head cable jack	24_SMA-371	•	•	•	18	1.12	ML 35
TNC	straight cable plug	11_TNC-353	•	•	•	18	1.12	
	straight panel bulk-head cable jack	24_TNC-353	•	•	•	18	1.12	ML 4

SUCOFLEX® 104

The high performance microwave cable assembly working up to 26.5 GHz

Product description

SUCOFLEX 104 cables that can be universally assembled with the widest range of connector types, are available with most ruggedisations.

Product features

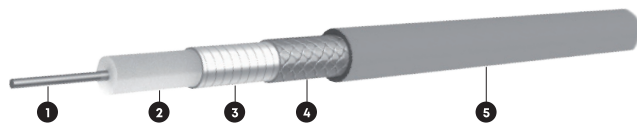
- Impedance 50 Ω
- Applicable up to 26.5 GHz
- High stability and low loss
- Wide range of connectors
- VNA-specific connectors
- Quick lock nuts
- LSFH jacket and further ruggedisations on request



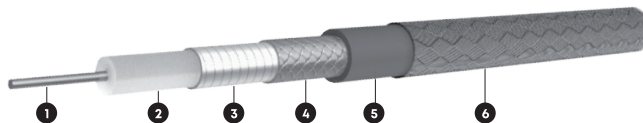
Recommended connectors

SF104	SMA, BMA, QMA, BNC, TNC, N, QN, 7/16, PC3.5
	Other connectors available on request

Construction



SF 104/104E





SF 104D

Cable	Inner conductor ①	Dielectric ②	Outer conductor ③ ④	Jacket ⑤	Ruggedisation ⑥	Outer diameter
						mm
SUCOFLEX_104	CuAg wire	LD-PTFE	CuAg tape/braid	FEP, blue	no	5.5
SUCOFLEX_104_E	CuAg wire	LD-PTFE	CuAg tape/braid	PUR, blue	no	5.5
SUCOFLEX_104_D	CuAg wire	LD-PTFE	CuAg tape/braid	FEP	aramid yarn braid, blue	6.1

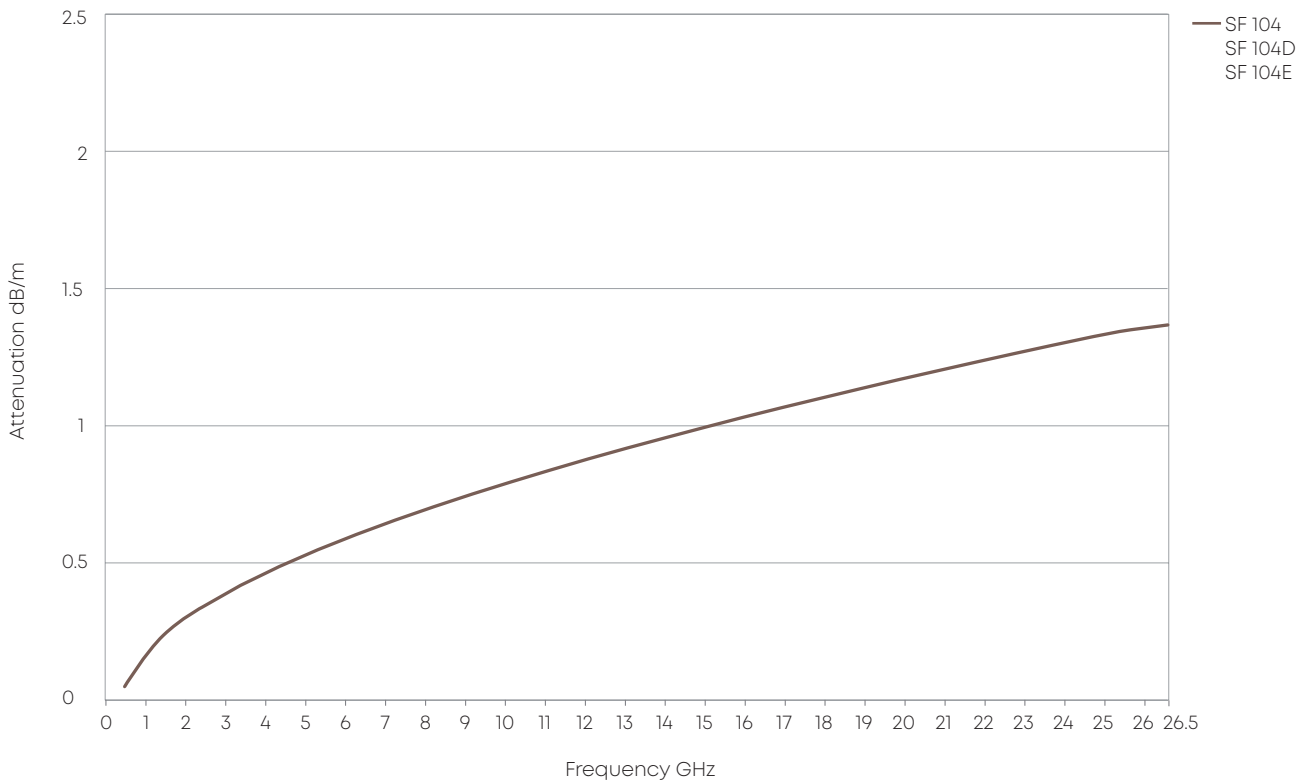
SUCOFLEX® 104

Assembly types

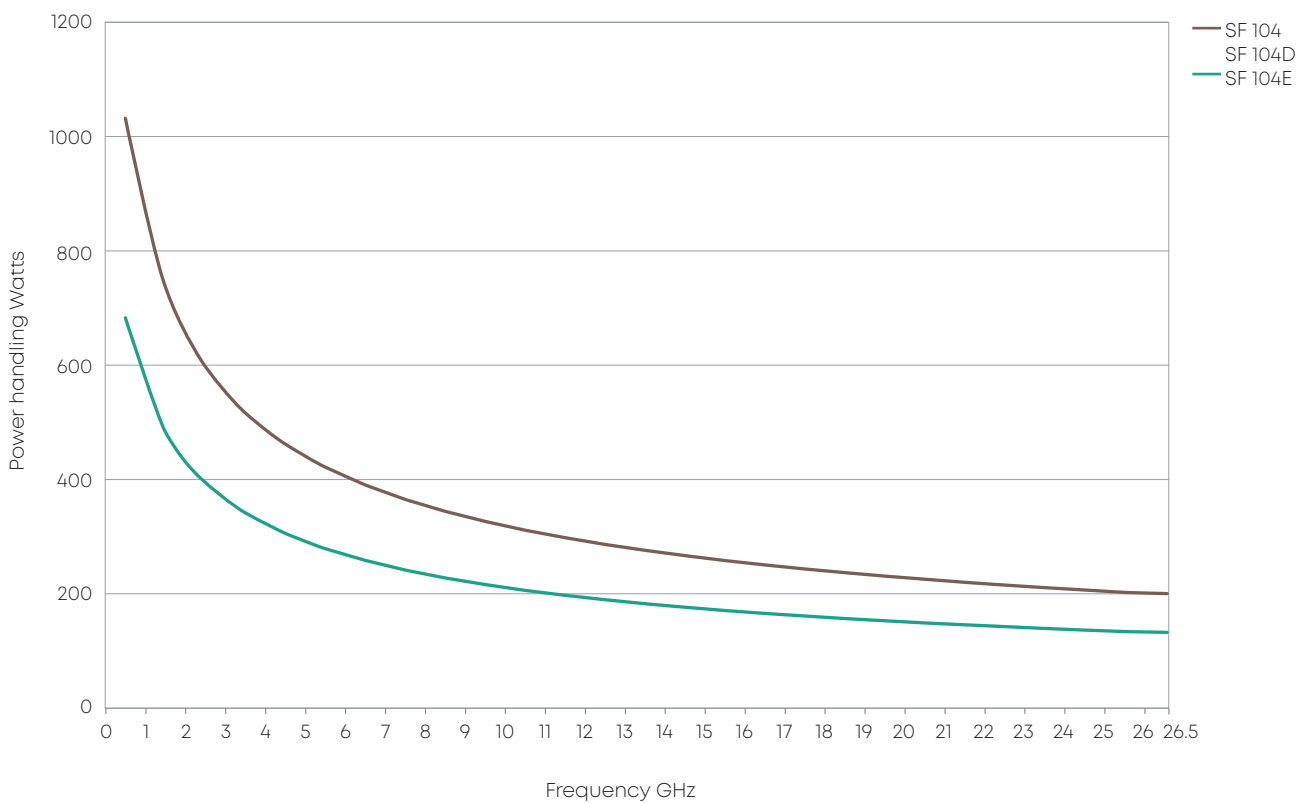
		SUCOFLEX 104	SUCOFLEX 104E	SUCOFLEX 104D
Construction				
Max. operating frequency	GHz	26.5	26.5	26.5
Application		static	static	static
Velocity of propagation	%	77	77	77
Weight	g/m	73	65	96
Min. bending radius static	mm	16	16	20
Min. bending radius repeated	mm	25	25	30
Temperature range	°C	-55 to +125	-40 to +85	-55 to +125
Crush resistance	kN/m	8	8	8
Tensile load	N	250	250	250
Inner conductor		solid wire	solid wire	solid wire
Dielectric		LD-PTFE	LD-PTFE	LD-PTFE
Outer conductor		tape/braid	tape/braid	tape/braid
Jacket		FEP	PUR	FEP
Ruggedisation		no	no	aramid yarn braid
Outer diameter	mm	5.5	5.5	6.1
Screening effectiveness (up to 18 GHz)	dB	> 90	> 90	> 90
Phase stability vs. flexure (360°, diameter 55 mm)	°el/GHz	< 1.7	< 1.7	< 1.7
Phase stability vs. temperature (-40 to +85 °C)	ppm	< 1500	< 1500	< 1500
Assembly phase matching 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. bending	dB	± 0.2	± 0.2	± 0.2
Insertion loss stability vs. temperature	%/°C	< 0.2	< 0.2	< 0.2
Insertion loss stability vs. shaking	dB	± 0.1	± 0.1	± 0.1
Power handling	watt	see graph	see graph	see graph

SUCOFLEX® 104

Attenuation (nominal values at +25 °C ambient temperature)



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



SUCOFLEX® 104

Available connectors

Connector	Series, pattern	HUBER+SUHNER connector type	SF104 SF104E	SF104D	Operating frequency	VSWR per connector	Remarks
					GHz		
BNC	straight cable plug	11_BNC-451	•	•	4	1.14	
N	straight cable plug	11_N-47	•	•	15 18	1.12 1.16	
	straight cable plug	11_N-451	•	•	18	1.12	
	straight cable plug	11_N-454	•	•	15 18	1.12 1.16	hexagonal nut with safety holes
	straight cable plug	11_N-456	•	•	18	1.12	hexagonal nut with safety holes
	right angle cable plug	16_N-44	•	•	12.4 18	1.14 1.18	
	straight cable jack	21_N-47	•	•	11 15	1.12 1.16	
	straight cable jack	21_N-451	•	•	18	1.12	
	straight panel bulkhead cable jack	24_N-47	•	•	11 15	1.12 1.16	ML 12
	straight panel bulkhead cable jack	24_N-451	•	•	18	1.12	ML 12
	PC 3.5	straight cable plug	11_PC3.5-42	•	•	18 26.5	1.12 1.16
straight cable jack		21_PC3.5-42	•	•	18 26.5	1.12 1.16	
QMA	straight cable plug	11_QMA-W401	•		6	1.07	
SMA	straight cable plug	11_SMA-451	•	•	18	1.12	
	straight cable plug	11_SMA-456	•	•	18	1.12	hexagonal nut with safety holes
	straight cable plug	11_SMA-468	•	•	18	1.12	QL nut
	right angle cable plug	16_SMA-451	•	•	18	1.12	
	straight cable jack	21_SMA-451	•	•	18	1.12	
	straight panel bulkhead cable jack	24_SMA-451	•	•	18	1.12	ML 35
TNC	straight cable plug	11_TNC-418	•	•	12.4 18	1.14 1.18	QL nut
	straight cable plug	11_TNC-457	•	•	18	1.12	
	right angle cable plug	16_TNC-454	•	•	18	1.14	
	straight panel bulkhead cable jack	24_TNC-457	•	•	18	1.12	ML 4

SUCOFLEX® 104

Stock assemblies

Item no.	Type	Length	Frequency	Max. insertion loss at 25 °C	Max. VSWR	RoHS compliant
		mm	GHz	dB		
SUCOFLEX_104						
84016754	SF104/SMAm/SMAm/500 mm	500	18	0.82	1.25	yes
84017157	SF104/Nm/Nm/1000 mm	1000	18	1.43	1.35	yes
84016755	SF104/SMAm/SMAm/1000 mm	1000	18	1.43	1.25	yes
84017158	SF104/PC35m/PC35m/1000 mm	1000	26.5	1.77	1.35	yes
84016756	SF104/SMAm/SMAm/1500 mm	1500	18	2.03	1.25	yes
84016757	SF104/SMAm/SMAm/2000 mm	2000	18	2.64	1.25	yes