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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.



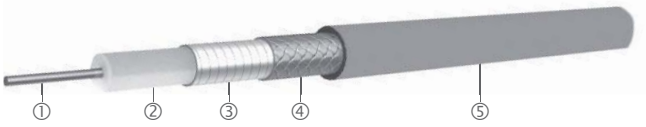
Product features

- 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

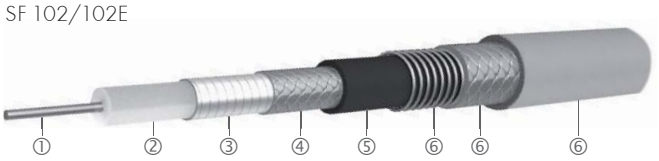
Construction



SF 102/102E



SF 102D



SF 102EA

Cable	Inner conductor ①	Dielectric ②	Outer conductor ③④	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

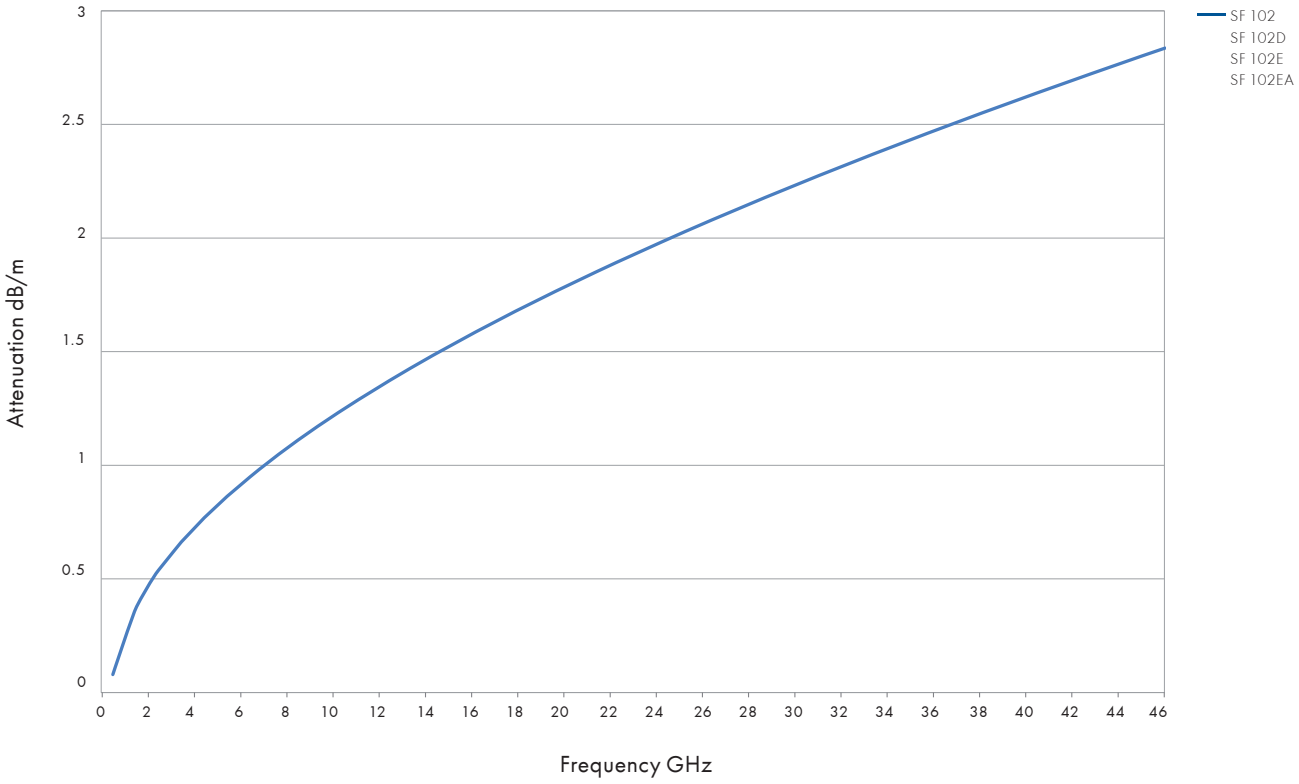
Assembly types

		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

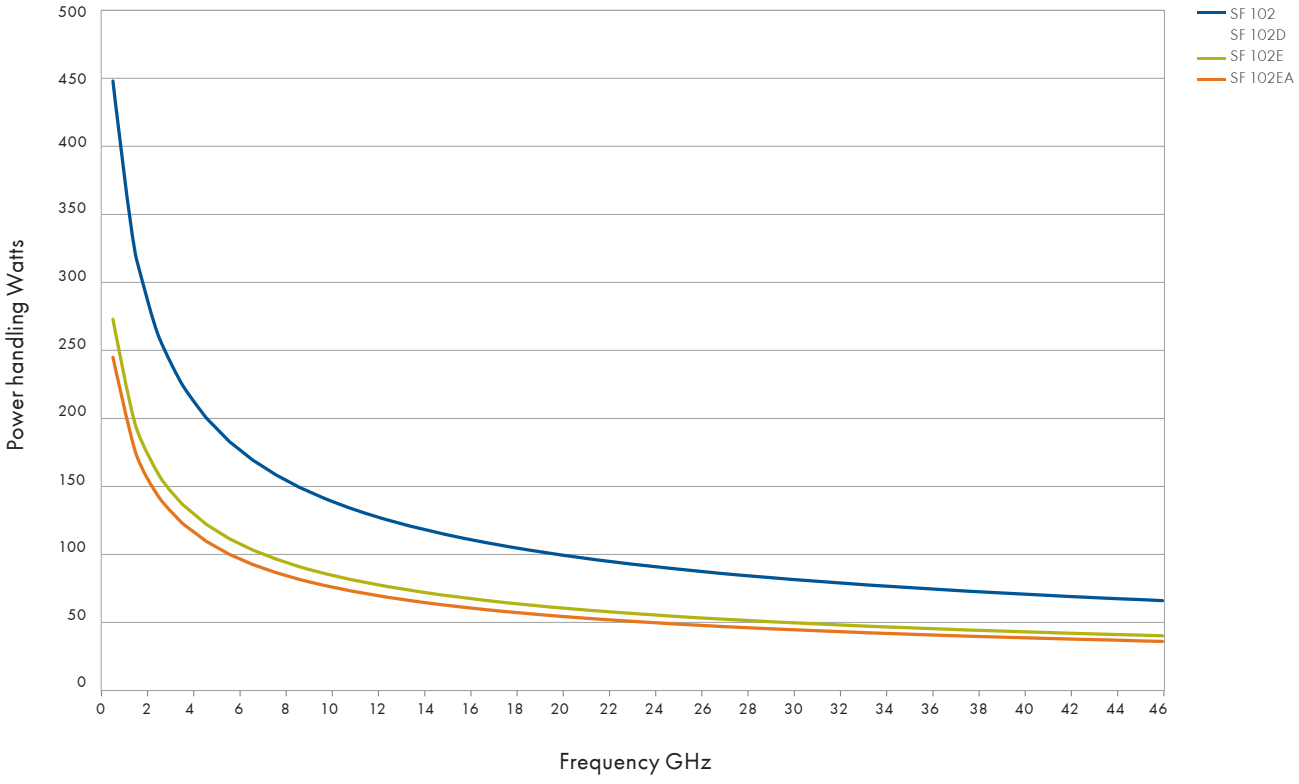
Abbreviations see page 188

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	VSWR per connector	Remarks
						GHz		
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 bulkhead 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 bulkhead 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 bulkhead 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 bulkhead 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_102_EA (armoured)						
85026755	SF102EA/SKm/SKm/500 mm	500	40	1.76	1.44	yes
85026756	SF102EA/SKm/SKm/1000 mm	1000	40	3.21	1.44	yes

Abbreviations see page 188

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