

Overview SUCOFLEX® 400

The low loss benchmark

Product description

The SUCOFLEX 400 microwave assembly family has been specifically developed for high performance defense, medical, test and measurement technology applications, and anywhere the best insertion loss, high phase stability versus temperature, excellent return loss are of the utmost importance.

Today's advanced radio frequency systems enable critical applications in defense, medical and test and measurement, and must comply with the highest demands. So it is essential that the interconnection components rely on the highest standards as well. The SUCOFLEX 400 family meets these challenges and gives you the opportunity to design with the highest performance microwave cable in its class.



Product features for space applications

- Best insertion loss on the market
- High phase stability versus temperature
- Excellent voltage standing wave ratio (VSWR)
- Can be provided with various ruggedisations to protect the assembly against different environmental influences
- Available as assembly only

Recommended connectors

SF404	SMA, BMA, N, TNCA, PC3.5
SF406	SMA, N, TNCA
	Other connectors available on request

Technical data

HUBER+SUHNER cable type	Operating frequency	Temperature range	Outer diameter	Nominal attenuation 18 GHz, 25 °C	Bending radii		Weight	More information see page
	GHz	°C	mm	dB/m	static mm	repeated mm	g/m	
SUCOFLEX_404	26.5	-55 to +125	5.5	0.99	25	35	72	67
SUCOFLEX_404_D	26.5	-55 to +125	6.1	0.99	30	40	82	67
SUCOFLEX_404_A	26.5	-40 to +85	10.3	0.99	30	50	162	67
SUCOFLEX_406	18	-55 to +125	8.3	0.60	30	60	145	70
SUCOFLEX_406_D	18	-55 to +125	8.8	0.60	40	80	155	70
SUCOFLEX_406_A	18	-40 to +85	13.20	0.60	50	90	203	70

SUCOFLEX® 404

The low loss benchmark up to 26.5 GHz

Product description

SUCOFLEX 404 is ideal for applications up to 26.5 GHz or wherever the loss over frequency is a critical factor. With the existing connectors PC3.5, SMA, N and TNCA we cover various applications and sectors of industry.

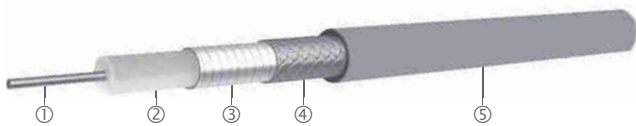
Product features

- Impedance 50 Ω
- Applicable up to 26.5 GHz
- Best insertion loss on the market
- High phase stability versus temperature
- Excellent voltage standing wave ratio (VSWR)

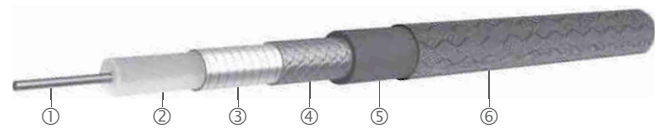


High performance

Construction



SF 404



SF 404_D



SF 404_A

Recommended connectors

SF404	SMA, TNCA, N, PC3.5
	Other connectors available on request

Cable	Inner conductor ①	Dielectric ②	Outer conductor ③ ④	Jacket ⑤	Ruggedisation ⑥	Outer diameter mm
SUCOFLEX_404	CuAg wire	ULD-PTFE	CuAg tape/braid	FEP, brown	no	5.5
SUCOFLEX_404_D	CuAg wire	ULD-PTFE	CuAg tape/braid	FEP	aramid yarn braid, black	6.1
SUCOFLEX_404_A	CuAg wire	ULD-PTFE	CuAg tape/braid	FEP	stainless steel/PUR, black	10.3




Other SUCOFLEX 404 cables available on request.

Available connectors

Connector	Series, pattern	HUBER+SUHNER connector type	SF404	SF404D	SF404A	Operating frequency GHz	VSWR per connector	Remarks
N	straight cable plug	11_N-431	•	•	•	18	1.12	
PC 3.5	straight cable plug	11_PC35-407	•	•	•	18 26.5	1.11 1.14	
	straight cable plug	11_PC35-410	•	•	•	18 26.5	1.11 1.14	QL
	straight cable jack	21_PC35-407	•	•	•	18 26.5	1.11 1.14	
SMA	straight cable plug	11_SMA-401	•	•	•	18	1.15	
TNCA	straight cable plug	11_TNCA-401	•	•	•	18	1.16	

SUCOFLEX® 404

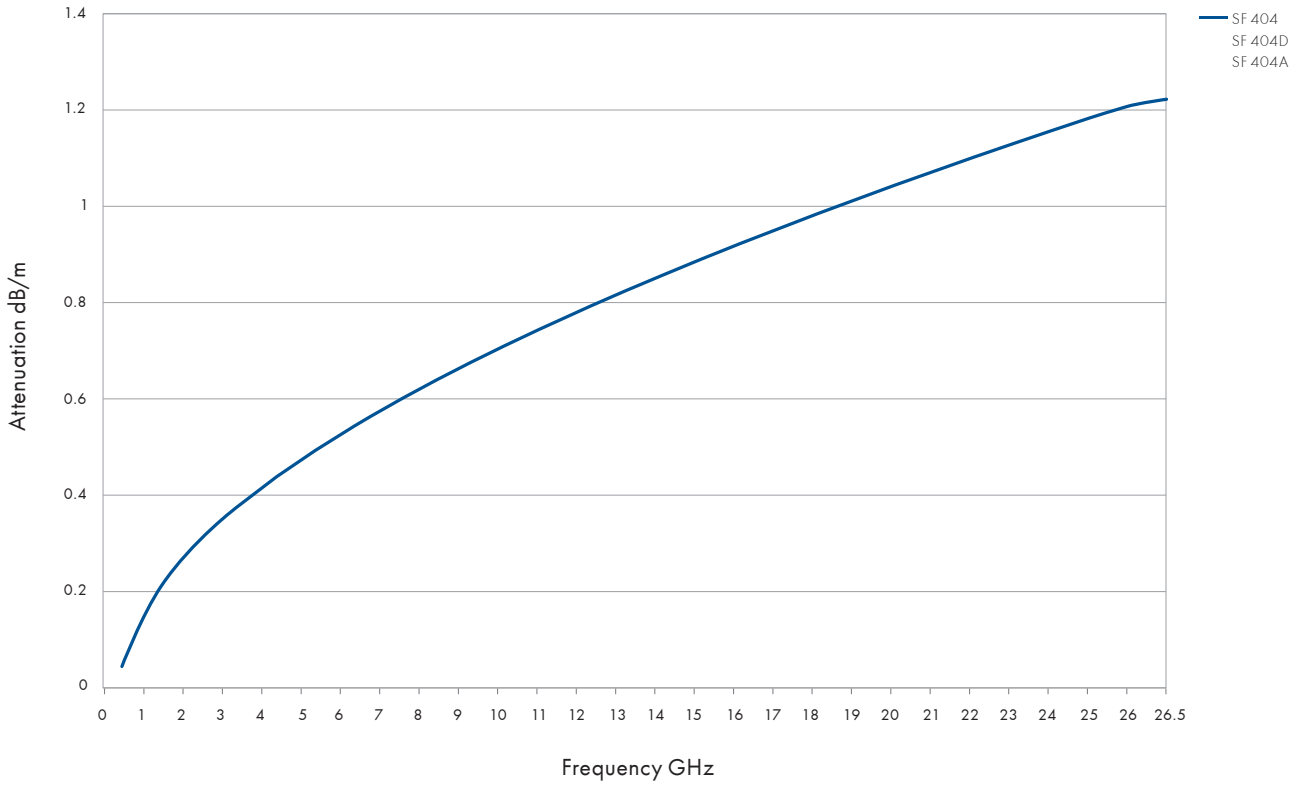
Assembly types

		SUCOFLEX 404	SUCOFLEX 404D	SUCOFLEX 404A
Construction				
Max. operating frequency	GHz	26.5	26.5	26.5
Application		static	static	static
Velocity of propagation	%	89	89	89
Weight	g/m	72	82	162
Min. bending radius static	mm	25	30	30
Min. bending radius repeated	mm	35	40	50
Temperature range	°C	-55 to +125	-55 to +125	-40 to +85
Crush resistance	kN/m	2	5	80
Tensile load	N	115	115	500
Inner conductor		solid wire	solid wire	solid wire
Dielectric		ULD-PTFE	ULD-PTFE	ULD-PTFE
Outer conductor		tape/braid	tape/braid	tape/braid
Jacket		FEP	FEP	FEP
Ruggedisation		no	aramid yarn braid	stainless steel/PUR
Outer diameter	mm	5.5	6.1	10.3
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	< 500	< 500	< 500
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	± 0.1	± 0.1	± 0.1
Insertion loss stability vs. temperature	%/°C	< 0.26	< 0.26	< 0.26
Insertion loss stability vs. shaking	dB	± 0.2	± 0.2	± 0.2
Power handling	watt	see graph	see graph	see graph

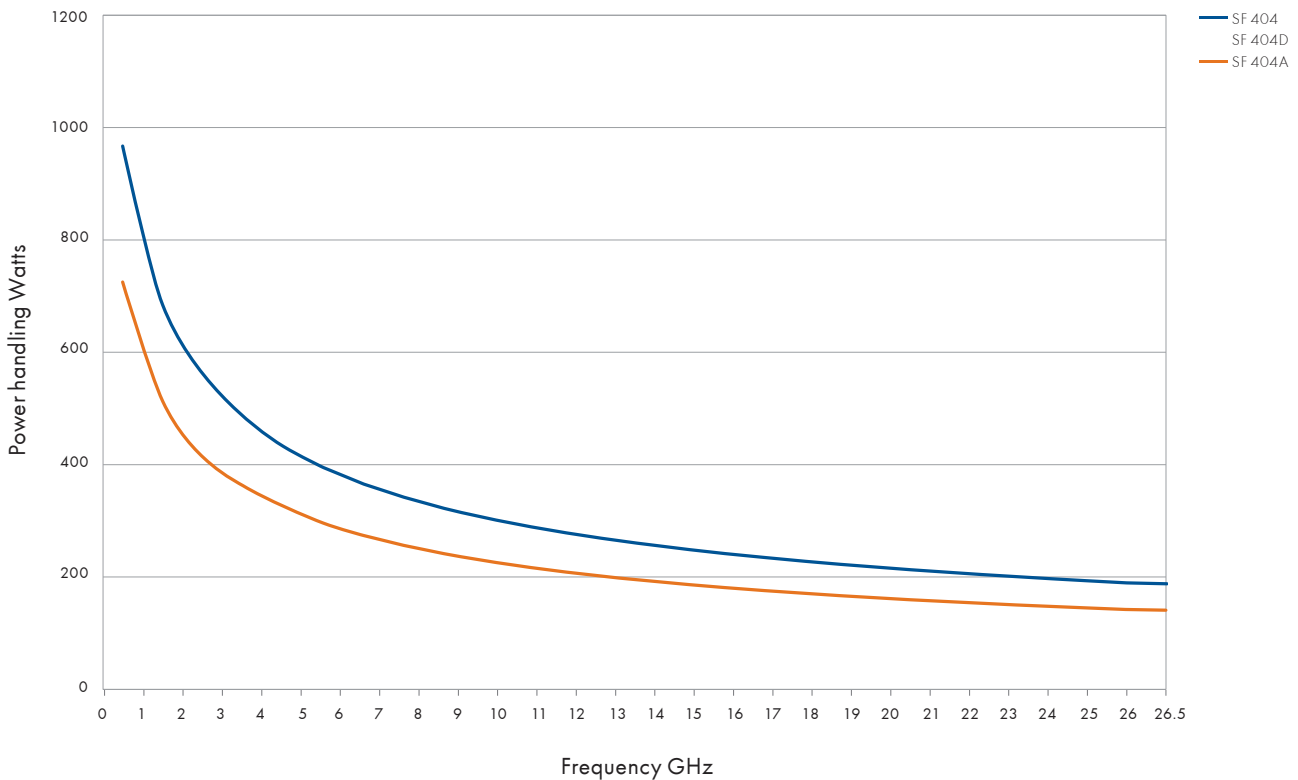
SUCOFLEX® 404

High performance

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



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



SUCOFLEX® 406

The low loss benchmark up to 18 GHz

Product description

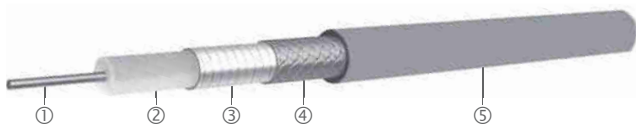
SUCOFLEX 406 is used in applications up to 18 GHz where special consideration must be given to low attenuation or high power handling capacity.

Product features

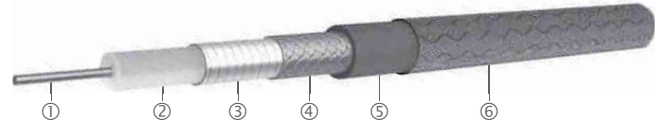
- Impedance 50 Ω
- Applicable up to 18 GHz
- Best insertion loss on the market
- High phase stability versus temperature
- Excellent voltage standing wave ratio (VSWR)



Construction



SF 406



SF 406_D



SF 406_A

Recommended connectors

SF406	SMA, TNCA, N,
	Other connectors available on request

Cable	Inner conductor ①	Dielectric ②	Outer conductor ③ ④	Jacket ⑤	Ruggedisation ⑥	Outer diameter mm
SUCOFLEX_406	CuAg wire	ULD-PTFE	CuAg tape/braid	FEP, brown	no	8.3
SUCOFLEX_406_D	CuAg wire	ULD-PTFE	CuAg tape/braid	FEP	aramid yarn braid, black	8.8
SUCOFLEX_406_A	CuAg wire	ULD-PTFE	CuAg tape/braid	FEP	stainless steel/ PUR, black	13.2




Other SUCOFLEX 406 cables available on request.

Available connectors

Connector	Series, pattern	HUBER+SUHNER connector type	SF406	SF406D	SF406A	Operating frequency GHz	VSWR per connector
N	straight cable plug	11_N-632	•	•	•	18	1.12
SMA	straight cable plug	11_SMA-659	•	•	•	18	1.12
TNCA	straight cable plug	11_TNCA-602	•	•	•	18	1.16

SUCOFLEX® 406

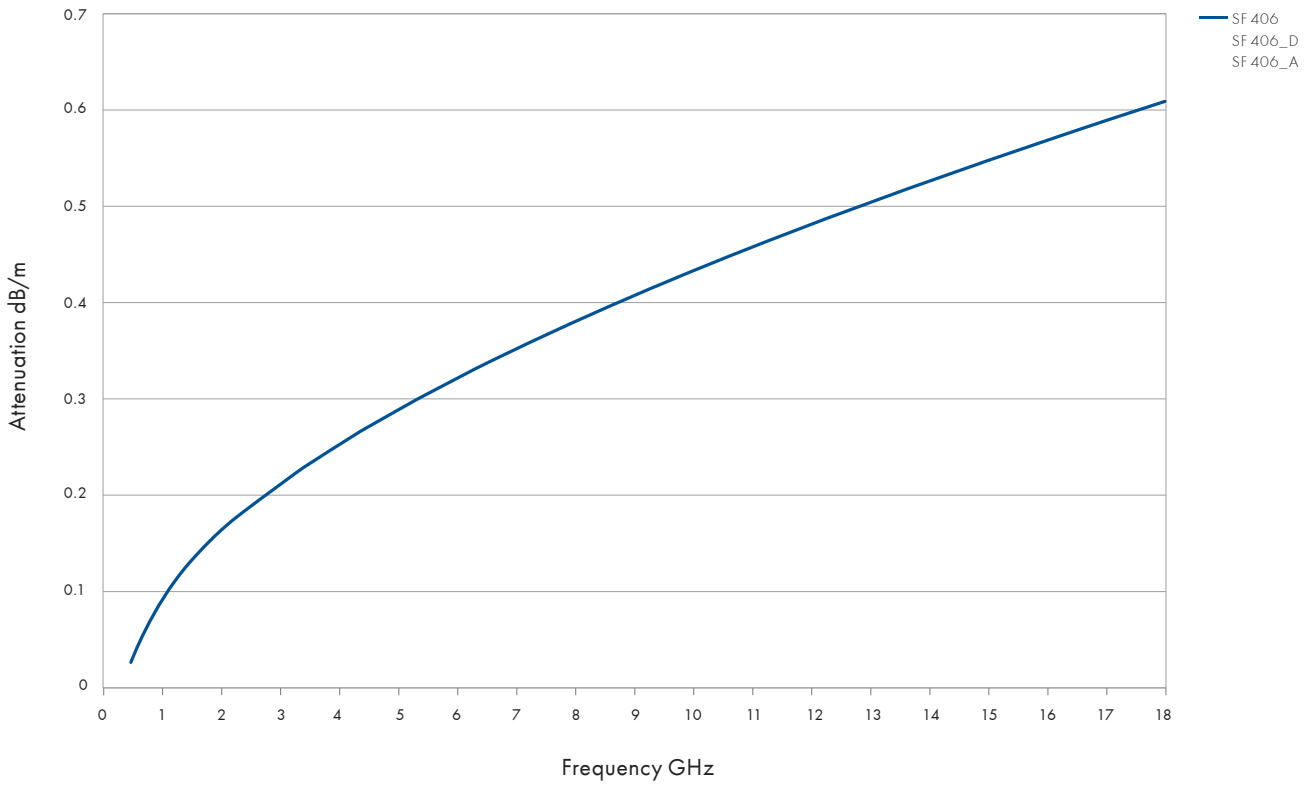
Assembly types

		SUCOFLEX 406	SUCOFLEX 406D	SUCOFLEX 406A
Construction				
Max. operating frequency	GHz	18	18	18
Application		static	static	static
Velocity of propagation	%	89	89	89
Weight	g/m	145	155	203
Min. bending radius static	mm	30	40	50
Min. bending radius repeated	mm	60	80	90
Temperature range	°C	-55 to +125	-55 to +125	-40 to +85
Crush resistance	kN/m	6	7.5	80
Tensile load	N	175	175	500
Inner conductor		solid wire	solid wire	solid wire
Dielectric		ULD-PTFE	ULD-PTFE	ULD-PTFE
Outer conductor		tape/braid	tape/braid	tape/braid
Jacket		FEP	FEP	FEP
Ruggedisation		no	aramid yarn braid	stainless steel/PUR
Outer diameter	mm	8.3	8.8	13.2
Screening effectiveness (up to 18 GHz)	dB	> 90	> 90	> 90
Phase stability vs. flexure (360°, diameter 85 mm)	°el/GHz	< 2.5	< 2.5	< 2.5
Phase stability vs. temperature (-40 to +85 °C)	ppm	< 500	< 500	< 500
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	± 0.1	± 0.1	± 0.1
Insertion loss stability vs. temperature	%/°C	< 0.26	< 0.26	< 0.26
Insertion loss stability vs. shaking	dB	± 0.1	± 0.1	± 0.1
Power handling	watt	see graph	see graph	see graph

High performance

SUCOFLEX[®] 406

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



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

