



ENVIROFLEX™ - Content

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ENVIROFLEX™ - Introduction

The new SUHNER ENVIROFLEX environmentally friendly cable family now enables users to quickly switch from fluorine-containing cables to halogen-free alternatives.

Features and benefits

- Cost effective
- supplier availability - first source - Champlain Cable (US manufacturer), where the cable family is UL style 3651 approved. As a second source also UL approved in Herisau, Switzerland
- completely free of halogen
- flame retardant
- easy to dispose of
- dimension identical to PTFE bearing RG cable types
- the same standard RF connectors can be still used

The materials used in the cable design - both for the dielectric and for the jacket do not include any fluorine-consisting plastics. On the other hand, the dimensions of the individual cable types are entirely compatible with the international de-facto RG standards, as well as the excellently established SUHNER® cable type K 02252 D, which corresponds to RG 316/U but is equipped with a double braid.

This means that standard connectors can be used without any restrictions whatever in conjunction with the new ENVIROFLEX cable family.

HUBER+SUHNER's command of various key technologies once again has proven to be an invaluable advantage in designing this new product family. The PE is foamed just to the point where a dielectric constant of 2.0 is obtained to ensure dimensional compatibility with the RG types. Radiation crosslinking allows the maximum application temperature of the polyethylene to be increased from + 70 degrees C to + 105 degrees C. This extended range covers most applications. It allows operation in a higher power range, and connectors with soldered inner conductors can be applied. In addition, the ENVIROFLEX family uses

LSFH (Low Smoke free of Halogen) RADOX® materials with their active flame protection feature.

Visually, the new ENVIROFLEX cable family is differentiated from RG types by their black jacket and blue longitudinal marking. (EF 316 D, EF 142, EF 400 and EF 393). The small EF 178, EF 179 and 316 comes in full deep blue colour.

ENVIROFLEX™ - Type 178

General data

<i>Please note: All values are nominal except otherwise stated!</i>			EF 178	RG 178 B/U	(MIL-C-17/93)	
Item			23010656	22510043	-	
Data sheet			01.03.1890	01.03.0083	-	
Design	Inner conductor	Material	StCuAg	StCuAg	StCuAg	
		Design	Strand (7x)	Strand (7x)	Strand (7x)	
		Diameter	(mm)	0.30	0.30	0.305
	Dielectric	Material	SPEX	PTFE	PTFE	
		Diameter	(mm)	0.82	0.83	0.83
	Outer conductor a)	Material	CuAg	CuAg	CuAg	
		Design	Braid	Braid	Braid	
		Coverage	(%)	96	96	95.2
	Jacket	Material	RADOX 125	FEP	FEP	
		Diameter	(mm)	1.84	1.80	1.80
Electrical data	Operating frequency	(GHz)	≤ 3.0	≤ 5.0	≤ 3.0	
	Attenuation	(dB/m)	See page 4	-	See page 4	
	Impedance	(Ω)	50 ± 2	50 ± 2	50 ± 2	
	Capacitance	(pF/m)	95.0	97.2	104.0	
	Signal propagation	(%)	70.5	68.6	69.5	
	Signal delay	(ns/m)	4.75	4.86	not specified	
	Phase variation vs temperature	(ppm)	-2500/-40°C	-	not specified	
	Phase variation vs temperature	(ppm)	-7400/100°C	-	not specified	
	Insulation resistance	MΩm	≥ 10 ⁸	≥ 10 ⁸	not specified	
	Test voltage	(kV _{rms})	2.00	2.00	2.00	
	Operating voltage	(kV _{rms})	1.50	1.50	0.75	
	DC resistance	Inner Cond.	(Ω/km)	740	745	802
		Outer Cond.	(Ω/km)	53.0	53.0	not specified
Screening effectiveness	(dB)	> 40	-	not specified		
General data	Operating temperature range	(°C)	-40 ... +105	-65 ... +165	-55 ... +200	
	Flame test	UL 1581	§1100	§1100	applicable	
	Free of halogens?		yes	no	not specified	
	Weight	(kg/100m)	0.65	0.78	1.82	
	Bending radius	bend. once	(mm)	5	-	not specified
		repeated	(mm)	20	-	not specified
	Cable group	crimp		U1	U1	not specified
		clamp		U1	U1	not specified

ENVIROFLEX™ - Type 178

Attenuation table

		EF 178	RG 178 B/U	(MIL-C-17/93)
Item		23010656	22510043	-
Data sheet		01.03.1781	01.03.0083	-
Attenuation (vs frequency)	<i>(GHz)</i>	<i>(dB/m)</i>	<i>(dB/m)</i>	<i>(dB/m)</i>
Nominal values at +25° C ambient temperature	0.10	0.47	0.46	0.43
	0.15	0.58	0.58	
	0.20	0.67	0.67	
	0.30	0.84	0.83	
	0.40	0.98	0.97	0.64
	0.45	1.04	1.04	
	0.50	1.10	1.10	
	0.60	1.22	1.22	
	0.70	1.33	1.33	
	0.80	1.43	1.43	
	0.85	1.48	1.48	
	0.90	1.53	1.53	
	0.95	1.57	1.58	
	1.00	1.62	1.62	
	1.10	1.71		
	1.20	1.79		
	1.30	1.88		
	1.40	1.96		
	1.50	2.04		
	1.60	2.12		
	1.70	2.19		
	1.80	2.26		
	1.90	2.34		
	2.00	2.41		
	3.00	3.06		3.08
C.W. Power (vs frequency)	<i>(GHz)</i>	<i>(W)</i>	<i>(W)</i>	<i>(W)</i>
Nom. values at +40° C ambient temperature, sea level, no solar load	1.00	52	80	80

ENVIROFLEX™ - Type 179 (75Ω)

General data

<i>Please note: All values are nominal except otherwise stated!</i>			EF 179	RG 179 B/U	(MIL-C-17/94)	
Item			23019104	22510044	-	
Data sheet			01.03.1895	01.03.0543	-	
Design	Inner conductor	Material	StCuAg	StCuAg	StCuAg	
		Design	Strand (7x)	Strand (7x)	Strand (7x)	
		Diameter	(mm)	0.30	0.30	0.305
	Dielectric	Material	SPEX	PTFE	PTFE	
		Diameter	(mm)	1.55	1.55	1.60
	Outer conductor a)	Material	CuAg	CuAg	CuAg	
		Design	Braid	Braid	Braid	
		Coverage	(%)	94	94	94
	Jacket	Material	RADOX 125	FEP	FEP	
		Diameter	(mm)	2.54	2.54	2.54
Electrical data	Operating frequency	(GHz)	≤ 1.0	≤ 1.0	≤ 1.0	
	Attenuation	(dB/m)	See page 6	-	See page 6	
	Impedance	(Ω)	75 ± 3	75 ± 3	75 ± 3	
	Capacitance	(pF/m)	63.5	64.5	-	
	Signal propagation	(%)	69.6	69	69.5	
	Signal delay	(ns/m)	4.75	4.86	not specified	
	Insulation resistance	MΩm	≥ 10 ⁸	≥ 10 ⁸	not specified	
	Test voltage	(kV _{rms})	2.00	2.00	2.00	
	Operating voltage	(kV _{rms})	1	1	0.90	
	DC resistance	Inner Cond. (Ω/km)	750	750	802	
	Outer Cond. (Ω/km)	35.0	35.0	not specified		
Screening effectiveness	(dB)	-	-	not specified		
General data	Operating temperature range	(°C)	-40 ... +105	-65 ... +165	-55 ... +200	
	Flame test	UL 1581	§1100	§1100	applicable	
	Free of halogene?		yes	no	not specified	
	Weight	(kg/100m)	1.1	-	1.82	
	Bending radius	bend. once (mm)	5	-	not specified	
		repeated (mm)	25	-	not specified	
	Cable group	crimp	U5	U5	not specified	
	clamp	U5	U5	not specified		

ENVIROFLEX™ - Type 179 (75Ω)

Attenuation table

		EF 179	RG 179 B/U	(MIL-C-17/94)
Item		23019104	22510044	-
Data sheet		01.03.1895	01.03.0543	-
Attenuation (vs frequency)	<i>(GHz)</i>	<i>(dB/m)</i>	<i>(dB/m)</i>	<i>(dB/m)</i>
Nominal values at +25° C ambient temperature	0.10	0.25	0.25	
	0.15	0.31	0.31	
	0.20	0.36	0.37	
	0.30	0.45	0.45	
	0.40	0.53	0.53	0.69
	0.45	0.56	0.56	
	0.50	0.60	0.60	
	0.60	0.66	0.66	
	0.70	0.72	0.72	
	0.80	0.78	0.77	
	0.85	0.80	0.80	
	0.90	0.83	0.83	
	0.95	0.86	0.85	
	1.00	0.88	0.88	
C.W. Power (vs frequency)	<i>(GHz)</i>	<i>(W)</i>	<i>(W)</i>	<i>(W)</i>
Nom. values at +40° C ambient temperature, sea level, no solar load	1.00	44	80	80

ENVIROFLEX™ - Type 316

General data

<i>Please note: All values are nominal except otherwise stated!</i>			EF 316	RG 316 /U	(MIL-C-17/113)	
Item			23009565	22510079	-	
Data sheet			01.03.1885	01.03.0082	-	
Design	Inner conductor	Material	StCuAg	StCuAg	StCuAg	
		Design	Strand (7x)	Strand (7x)	Strand (7x)	
		Diameter	(mm)	0.54	0.54	0.51
	Dielectric	Material	SPEX	PTFE	PTFE	
		Diameter	(mm)	1.55	1.55	1.52
	Outer conductor a)	Material	CuAg	CuAg	CuAg	
		Design	Braid	Braid	Braid	
		Coverage	(%)	96	96	95.2
		Diameter	(mm)	1.97	2.00	2.05
	Jacket	Material	RADOX 125	FEP	FEP	
	Diameter	(mm)	2.50	2.50	2.49	
Electrical data	Operating frequency	(GHz)	≤ 3.0	≤ 1.0	≤ 3.0	
	Attenuation	(dB/m)	See page 8	See page 8	See page 8	
	Impedance	(Ω)	50 ± 2	50 ± 2	50 ± 2	
	Capacitance	(pF/m)	95.0	97.2	104.99	
	Signal propagation	(%)	70.2	68.6	69.5	
	Signal delay	(ns/m)	4.75	4.86	not specified	
	Insulation resistance	MΩm	≥ 10 ⁸	≥ 10 ⁸	not specified	
	Test voltage	(kV _{rms})	2.00	1.70	2.00	
	Operating voltage	(kV _{rms})	1.50	0.85	0.90	
	DC resistance	Inner Cond. (Ω/km)	234.0	235.0	275.9	
	Outer Cond. (Ω/km)	17.0	17.0	not specified		
Screening effectiveness	(dB)	-	-	not specified		
General data	Operating temperature range	(°C)	-40 ... +105	-65 ... +165	-55 ... +200	
	Flame test	UL 1581	§1100	§1100	applicable	
	Free of halogene?		yes	no	not specified	
	Weight	(kg/100m)	1.35	-	1.82	
	Bending radius	bend. once (mm)	5	15	not specified	
		repeated (mm)	30	30	not specified	
	Cable group	crimp	U2	U2	not specified	
	clamp	U2	U2	not specified		

ENVIROFLEX™ - Type 316

Attenuation table

		EF 316	RG 316 /U	(MIL-C-17/113)
Item		23009565	22510079	-
Data sheet		01.03.1885	01.03.0082	-
Attenuation (vs frequency)	<i>(GHz)</i>	<i>(dB/m)</i>	<i>(dB/m)</i>	<i>(dB/m)</i>
Nominal values at +25° C ambient temperature	0.10	0.26	0.26	0.36
	0.15	0.32	0.32	
	0.20	0.38	0.38	
	0.30	0.47	0.47	
	0.40	0.55	0.55	0.69
	0.45	0.58	0.59	
	0.50	0.62	0.62	
	0.60	0.69	0.69	
	0.70	0.75	0.75	
	0.80	0.81	0.81	
	0.85	0.83	0.83	
	0.90	0.86	0.86	
	0.95	0.89	0.89	
	1.00	0.92	0.91	
	1.10	0.97		
	1.20	1.02		
	1.30	1.06		
	1.40	1.11		
	1.50	1.16		
	1.60	1.20		
	1.70	1.25		
	1.80	1.29		
	1.90	1.33		
	2.00	1.37		
	3.00	1.75		
C.W. Power (vs frequency)	<i>(GHz)</i>	<i>(W)</i>	<i>(W)</i>	<i>(W)</i>
Nom. values at +40° C ambient temperature, sea level, no solar load	0.10	285	490	420
	0.50	127	214	190
	1.00	90	149	132
	3.00	52	86	78

ENVIROFLEX™ - Type 316D

General data

<i>Please note: All values are nominal except otherwise stated!</i>		EF 316 D	K 02252 D ^{a)}	(MIL-C-17/113)	
Item		22512181	22510218	-	
Data sheet		01.03.1781	01.03.0358	-	
Design	Inner conductor	Material	StCuAg	StCuAg	StCuAg
		Design	Strand (7x)	Strand (7x)	Strand (7x)
		Diameter (mm)	0.54	0.54	0.51
	Dielectric	Material	SPEX	PTFE	PTFE
		Diameter (mm)	1.55	1.55	1.52
	Outer conductor ^{a)}	Material	CuAg	CuAg	CuAg
		Design	Braid	Braid	Braid
		Coverage (%)	96	96	95.2
		Diameter (mm)	1.97	2.00	2.05
	Outer conductor ^{b)}	Material	CuAg	CuAg	not specified
		Design	Braid	Braid	not specified
		Coverage (%)	91	91	not specified
		Diameter (mm)	2.45	2.50	not specified
	Jacket	Material	RADOX 125	FEP	FEP
Diameter (mm)		3.10	3.00	2.49	
Electrical data	Operating frequency (GHz)	≤ 5.0	≤ 5.0	≤ 3.0	
	Attenuation (dB/m)	See page 10	See page 10	See page 10	
	Impedance (Ω)	50 ± 2	50 ± 2	50 ± 2	
	Capacitance (pF/m)	95.0	97.2	104.99	
	Signal propagation (%)	70.2	68.6	69.5	
	Signal delay (ns/m)	4.75	4.86	not specified	
	Phase variation vs min/max temp. (ppm)	+4400/-5000	+1700/-5800	not specified	
	Insulation resistance MΩm	≥ 10 ⁸	≥ 10 ⁸	not specified	
	Test voltage (kV _{rms})	3.00	1.70	2.00	
	Operating voltage (kV _{rms})	1.50	0.85	0.90	
DC resistance	Inner Cond. (Ω/km)	234.0	235.0	275.9	
	Outer Cond. (Ω/km)	17.0	14.4	not specified	
Screening effectiveness (dB)	> 70	-	not specified		
General data	Operating temperature range (°C)	-40 ... +105	-65 ... +165	-55 ... +200	
	Flame test	IEC	332-1, 332-2	332-1	applicable
		UL 1581	§1100	§1100	-
	Free of halogene?	yes	no	not specified	
	Weight (kg/100m)	2.00	2.40	1.82	
	Bending radius	bend. once (mm)	5	5	not specified
		repeated (mm)	30	-	not specified
Cable group	crimp	U4	U4	not specified	
	clamp	U4	U4	not specified	

ENVIROFLEX™ - Type 316D

Attenuation table

		EF 316 D	K 02252 D ^{a)}	(MIL-C-17/113)
Item		22512181	22510218	-
Data sheet		01.03.1781	01.03.0358	-
Attenuation (vs frequency)	<i>(GHz)</i>	<i>(dB/m)</i>	<i>(dB/m)</i>	<i>(dB/m)</i>
Nominal values at +25° C ambient temperature	0.10	0.26	0.26	0.36
	0.15	0.32	0.32	
	0.20	0.38	0.37	
	0.30	0.47	0.46	
	0.40	0.55	0.54	0.69
	0.45	0.59	0.58	
	0.50	0.62	0.61	
	0.60	0.69	0.68	
	0.70	0.75	0.74	
	0.80	0.81	0.80	
	0.85	0.84	0.82	
	0.90	0.86	0.85	
	0.95	0.89	0.88	
	1.00	0.91	0.90	
	1.10	0.97	0.95	
	1.20	1.02	1.00	
	1.30	1.07	1.05	
	1.40	1.11	1.09	
	1.50	1.16	1.14	
	1.60	1.20	1.18	
	1.70	1.25	1.22	
	1.80	1.29	1.26	
	1.90	1.33	1.30	
	2.00	1.38	1.34	
	3.00	1.76	1.71	1.90
	4.00	2.10	2.04	
	5.00	2.42	2.34	
C.W. Power (vs frequency)	<i>(GHz)</i>	<i>(W)</i>	<i>(W)</i>	<i>(W)</i>
Nom. values at +40° C ambient temperature, sea level, no solar load	0.10	300	490	420
	0.50	135	214	190
	1.00	96	149	132
	3.00	55		78
	5.00	43	65	

ENVIROFLEX™ - Type 142

General data

<i>Please note: All values are nominal except otherwise stated!</i>			EF 142	RG 142 B/U ^{a)}	MIL-C-17/60	
Item			22512168	22510037	-	
Data sheet			01.03.2577	01.03.0567	-	
Design	Inner conductor	Material	CuAg	StCuAg	StCuAg	
		Design	Wire	Wire	Wire	
		Diameter (mm)	0.95	0.95	0.93	
	Dielectric	Material	SPEX	PTFE	PTFE	
		Diameter (mm)	2.95	2.95	2.94	
	Outer conductor ^{a)}	Material	CuAg	CuAg	CuAg	
		Design	Braid	Braid	Braid	
		Coverage (%)	97	97	94.8	
	Outer conductor ^{b)}	Material	CuAg	CuAg	CuAg	
		Design	Braid	Braid	Braid	
		Coverage (%)	95	94	93.1	
	Jacket	Material	RADOX 125	FEP	FEP	
		Diameter (mm)	4.95	4.95	4.95	
	Electrical data	Operating frequency	(GHz)	≤ 5.0	≤ 5.0	≤ 12.4
Attenuation		(dB/m)	See page 12	See page 12	See page 12	
Impedance		(Ω)	50 ± 2	50 ± 2	50 ± 2	
Capacitance		(pF/m)	95.0	95.0	96.13	
Signal propagation		(%)	70.2	70.2	69.5	
Signal delay		(ns/m)	4.75	4.75	not specified	
Phase variation vs min/max temp.		(ppm)	+3000/-6000	-950/-4900	not specified	
Insulation resistance		MΩm	≥ 10 ⁸	≥ 10 ⁸	not specified	
Test voltage		(kV _{rms})	5.0	5.0	5.0	
Operating voltage		(kV _{rms})	2.5	2.5	1.4	
DC resistance		Inner Cond.	(Ω/km)	24.9	24.9	63.98
	Outer Cond.	(Ω/km)	10.0	10.0	not specified	
Screening effectiveness	(dB)	> 75	-	not specified		
General data	Operating temperature range	(°C)	-40 ... +105	-65 ... +165	-55 ... +200	
	Flame test	IEC	332-1, 332-2	332-1	applicable	
		UL 1581	§1100	§1100	-	
	Free of halogene?		yes	no	not specified	
	Weight	(kg/100m)	5.30	6.40	6.40	
	Bending radius	bend. once	(mm)	30	-	not specified
		repeated	(mm)	50	-	not specified
	Cable group	crimp		U9	U9	not specified
clamp			U10	U10	not specified	

ENVIROFLEX™ - Type 142

Attenuation table

		EF 142	RG 142 B/U ^{a)}	MIL-C-17/60
Item		22512168	22510037	-
Data sheet		01.03.2577	01.03.0567	-
Attenuation (vs frequency)	<i>(GHz)</i>	<i>(dB/m)</i>	<i>(dB/m)</i>	<i>(dB/m)</i>
Nominal values at +25° C ambient temperature	0.10	0.14	0.15	0.18
	0.15	0.18	0.19	
	0.20	0.21	0.22	
	0.30	0.26	0.27	
	0.40	0.30	0.31	0.38
	0.45	0.33	0.34	
	0.50	0.35	0.36	
	0.60	0.39	0.39	
	0.70	0.42	0.43	
	0.80	0.46	0.46	
	0.85	0.47	0.48	
	0.90	0.49	0.49	
	0.95	0.51	0.51	
	1.00	0.52	0.53	0.62
	1.10	0.55	0.55	
	1.20	0.58	0.58	
	1.30	0.61	0.61	
	1.40	0.64	0.64	
	1.50	0.67	0.66	
	1.60	0.70	0.69	
	1.70	0.73	0.71	
	1.80	0.75	0.74	
	1.90	0.78	0.76	
	2.00	0.80	0.79	
	3.00	1.05	1.00	1.15
	4.00	1.27	1.20	
	5.00	1.47	1.38	
C.W. Power (vs frequency)	<i>(GHz)</i>	<i>(W)</i>	<i>(W)</i>	<i>(W)</i>
Nom. values at +40° C ambient temperature, sea level, no solar load	0.10	696	1387	2400
	0.40	347		1100
	0.50	311	596	
	1.00	220	407	650
	3.00	127		330
	5.00	98	175	

ENVIROFLEX™ - Type 400

General data

<i>Please note: All values are nominal except otherwise stated!</i>			EF 400	RG 400 /U ^{a)}	MIL-C-17/128	
Item			22512280	22510080	-	
Data sheet			01.03.1783	01.03.0120	-	
Design	Inner conductor	Material	CuAg	CuAg	CuAg	
		Design	Strand (19x)	Strand (19x)	Strand (19x)	
		Diameter (mm)	1.00	1.00	0.98	
	Dielectric	Material	SPEX	PTFE	PTFE	
		Diameter (mm)	3.00	2.95	2.95	
	Outer conductor ^{a)}	Material	CuAg	CuAg	CuAg	
		Design	Braid	Braid	Braid	
		Coverage (%)	97	97	94.8	
	Outer conductor ^{b)}	Material	CuAg	CuAg	CuAg	
		Design	Braid	Braid	Braid	
		Coverage (%)	94	94	93.6	
	Jacket	Material	RADOX 125	FEP	FEP	
		Diameter (mm)	4.95	4.95	4.95	
	Electrical data	Operating frequency	(GHz)	≤ 5.0	≤ 5.0	≤ 12.4
Attenuation		(dB/m)	See page 14	See page 14	See page 14	
Impedance		(Ω)	50 ± 2	50 ± 2	50 ± 2	
Capacitance		(pF/m)	95.0	95.0	104	
Signal propagation		(%)	70.2	70.2	69.5	
Signal delay		(ns/m)	4.75	4.75	not specified	
Phase variation vs min/max temp.		(ppm)	+1300/-8300	+850/-6800	not specified	
Insulation resistance		MΩm	≥ 10 ⁸	≥ 10 ⁸	not specified	
Test voltage		(kV _{ms})	5.0	3.4	3.0	
Operating voltage		(kV _{ms})	2.5	1.7	1.4	
DC resistance		Inner Cond.	(Ω/km)	29.5	30	29.9
	Outer Cond.	(Ω/km)	8.0	8.0	not specified	
Screening effectiveness	(dB)	> 70	-	not specified		
General data	Operating temperature range	(°C)	-40 ... +105	-65 ... +165	-55 ... +200	
	Flame test	IEC	332-1, 332-2	332-1	applicable	
		UL 1581	§1100	§1100	-	
	Free of halogene?		yes	no	not specified	
	Weight	(kg/100m)	5.20	6.40	7.44	
	Bending radius	bend. once	(mm)	10	-	not specified
		repeated	(mm)	40	-	not specified
	Cable group	crimp		U11	U11	not specified
clamp			U10	U10	not specified	

ENVIROFLEX™ - Type 400

Attenuation table

		EF 400	RG 400 /U ^{a)}	MIL-C-17/128
Item		22512280	22510080	-
Data sheet		01.03.1783	01.03.0120	-
Attenuation (vs frequency)	<i>(GHz)</i>	<i>(dB/m)</i>	<i>(dB/m)</i>	<i>(dB/m)</i>
Nominal values at +25° C ambient temperature	0.10	0.15	0.15	0.15
	0.15	0.19	0.19	
	0.20	0.22	0.22	
	0.30	0.28	0.28	
	0.40	0.33	0.33	0.35
	0.45	0.35	0.35	
	0.50	0.37	0.37	
	0.60	0.41	0.41	
	0.70	0.45	0.45	
	0.80	0.49	0.48	
	0.85	0.50	0.50	
	0.90	0.52	0.51	
	0.95	0.54	0.53	
	1.00	0.55	0.55	0.56
	1.10	0.59	0.58	
	1.20	0.62	0.61	
	1.30	0.65	0.64	
	1.40	0.68	0.66	
	1.50	0.70	0.69	
	1.60	0.73	0.72	
	1.70	0.76	0.75	
	1.80	0.79	0.77	
	1.90	0.81	0.80	
	2.00	0.84	0.82	
	3.00	1.08	1.05	1.24
	4.00	1.29	1.26	
	5.00	1.50	1.45	
C.W. Power (vs frequency)	<i>(GHz)</i>	<i>(W)</i>	<i>(W)</i>	<i>(W)</i>
Nom. values at +40° C ambient temperature, sea level, no solar load	0.10	696	1211	2300
	0.40	347		
	0.50	311	527	920
	1.00	220	365	610
	3.00	127		
	5.00	98	150	230

ENVIROFLEX™ - Type 393

General data

<i>Please note: All values are nominal except otherwise stated!</i>			EF 393	RG 393 /U ^{a)}	MIL-C-17/127
Item			22512282	22511430	-
Data sheet			01.03.1782	01.03.0663	-
Design	Inner conductor	Material	CuAg	CuAg	CuAg
		Design	Strand (7x)	Strand (7x)	Strand (7x)
		Diameter (mm)	2.46	2.46	2.39
	Dielectric	Material	SPEX	PTFE	PTFE
		Diameter (mm)	7.33	7.25	7.24
		Outer conductor a)	Material	CuAg	CuAg
		Design	Braid	Braid	Braid
		Coverage (%)	92	92	95.7
		Diameter (mm)	8.00	8.00	not specified
	Outer conductor b)	Material	CuAg	CuAg	CuAg
		Design	Braid	Braid	Braid
		Coverage (%)	94	94	98.0
	Jacket	Diameter (mm)	8.75	8.75	9.14
		Material	RADOX 125	FEP	FEP
Diameter (mm)		10.05	9.90	9.91 ± 0.25	
Electrical data	Operating frequency (GHz)		≤ 5.0	≤ 5.0	≤ 11.0
	Attenuation (dB/m)		See page 16	See page 16	See page 16
	Impedance (Ω)		50 ± 2	50 ± 2	50 ± 2
	Capacitance (pF/m)		95.0	95.9	104
	Signal propagation (%)		70.2	69.6	69.5
	Signal delay (ns/m)		4.75	4.79	not specified
	Phase variation vs min/max temp. + 70° (ppm)		+1000/+300 -2500	+1500/-3600 -	not specified
	Insulation resistance MΩm		≥ 10 ⁸	≥ 10 ⁸	not specified
	Test voltage (kV _{rms})		10.0	8.2	7.5
	Operating voltage (kV _{rms})		5.0	4.1	1.88
	DC resistance	Inner Cond. (Ω/km)	5.0	-	4.99
Outer Cond. (Ω/km)		5.1	-	not specified	
Screening effectiveness (dB)		56	-	not specified	
General data	Operating temperature range (°C)		-40 ... +105	-65 ... +165	-55 ... +200
	Flame test	IEC	332-1, 332-2	332-1	applicable
		UL 1581	§1080 VW-1	§1080 VW-1	-
	Free of halogene?		yes	no	not specified
	Weight (kg/100m)		17.6	22.6	26.04
	Bending radius	bend. once (mm)	20	60	not specified
repeated (mm)		100	100	not specified	

ENVIROFLEX™ - Type 393

Attenuation table

		EF 393	RG 393 /U ^{a)}	MIL-C-17/127
Item		22512282	22511430	-
Data sheet		01.03.1782	01.03.0663	-
Attenuation (vs frequency)	<i>(GHz)</i>	<i>(dB/m)</i>	<i>(dB/m)</i>	<i>(dB/m)</i>
Nominal values at +25° C ambient temperature	0.10	0.07	0.07	
	0.15	0.09	0.09	
	0.20	0.10	0.10	
	0.30	0.13	0.13	
	0.40	0.15	0.16	0.16
	0.45	0.17	0.18	
	0.50	0.18	0.19	
	0.60	0.20	0.21	
	0.70	0.22	0.24	
	0.80	0.23	0.26	
	0.85	0.24	0.27	
	0.90	0.25	0.28	
	0.95	0.26	0.29	
	1.00	0.27	0.30	
	1.10	0.29	0.33	
	1.20	0.30	0.35	
	1.30	0.32	0.37	
	1.40	0.33	0.39	
	1.50	0.35	0.41	
	1.60	0.36	0.43	
	1.70	0.38	0.45	
	1.80	0.39	0.47	
	1.90	0.41	0.49	
	2.00	0.42	0.51	
	3.00	0.56	0.69	0.59
	4.00	0.68	0.87	
	5.00	0.80	1.04	
C.W. Power (vs frequency)	<i>(GHz)</i>	<i>(W)</i>	<i>(W)</i>	<i>(W)</i>
Nom. values at +40° C ambient temperature, sea level, no solar load	0.05	2177	8117	9000
	0.10	1540	5577	4000
	0.40	770		
	0.50	688	2229	620
	1.00	487	1461	280
	3.00	282		
	5.00	218	499	45

Important Remarks

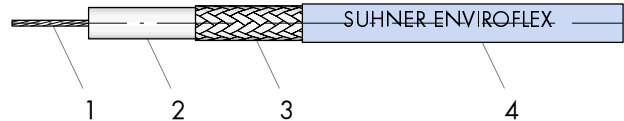
For any general questions please refer to the Frequently Asked Questions List (FAQ).

- a) Cable type manufactured at HUBER+SUHNER AG, Switzerland according to appropriate MIL specification as listed on top of table.
- b) All values are nominal values except otherwise stated.

ENVIROFLEX™ - Type 178

Item: 23010656

Cable design



1	Inner conductor	Stranded silver-plated copper-clad steel	7x 0.102 mm	.....	∅ 0.305 mm
2	Dielectric	Cellular polyethylene, cross-linked (SPEX)		.....	∅ 0.833 mm
3	Outer conductor	Silver-plated copper braid	95% coverage	.....	∅ 1.33 mm
4	Jacket	RADOX® 125, cross-linked	bl (RAL 5012)	.....	∅ 1.80 mm
	Print on jacket	SUHNER ENVIROFLEX 178 (UL File no) AWM (Batch no.)			

Electrical data

Typ. operating frequency	.....	(GHz)	≤ 3
Impedance	.....	(Ω)	50 ± 2
Capacitance	.....	(pF/m)	96.8
Relative signal propagation	.....	(%)	70.0
Signal delay	.....	(ns/m)	4.75
Phase stability	vs temperature	(ppm)	-
	vs bending	(°/GHz)	-
Insulation resistance	.....	(MΩ·m)	> 10 ⁸
Test voltage	.....	50 Hz / 1 min.	(kV _{rms}) 2.0
Max. operating voltage	at sea level	(kV _{rms})	1.0
	UL Style 3651 voltage rating	(V _{rms})	2500
Typ. DC resistance	inner conductor	(Ω/km)	≤ 742
	outer conductor	(Ω/km)	≤ 53
Typ. screening effectiveness	.....	0.1 ... 300 MHz	(dB) ≥ 40

General data

Cable specification	.....	cable dimensions in accordance with	.....	UL Style 3651
Temperature range	operating	(°C)	-40...+105	
	UL Style 3651 temperature rating	(°C)	+105	
Flame propagation	.....	IEC 332-2	.....	n/a
		UL 1581, §1100	.....	passed
Halogen content	.....	IEC 754	.....	passed
Abrasion (Chafing)	.....	MIL-T-81490, §4.7.19	(Oscillations)	n/a
Typ. Weight	.....	(kg/100m)	0.65	
Min. bending radius	for bending once	(mm)	5	
	for repeated bendings	(mm)	20	

Suitable connectors

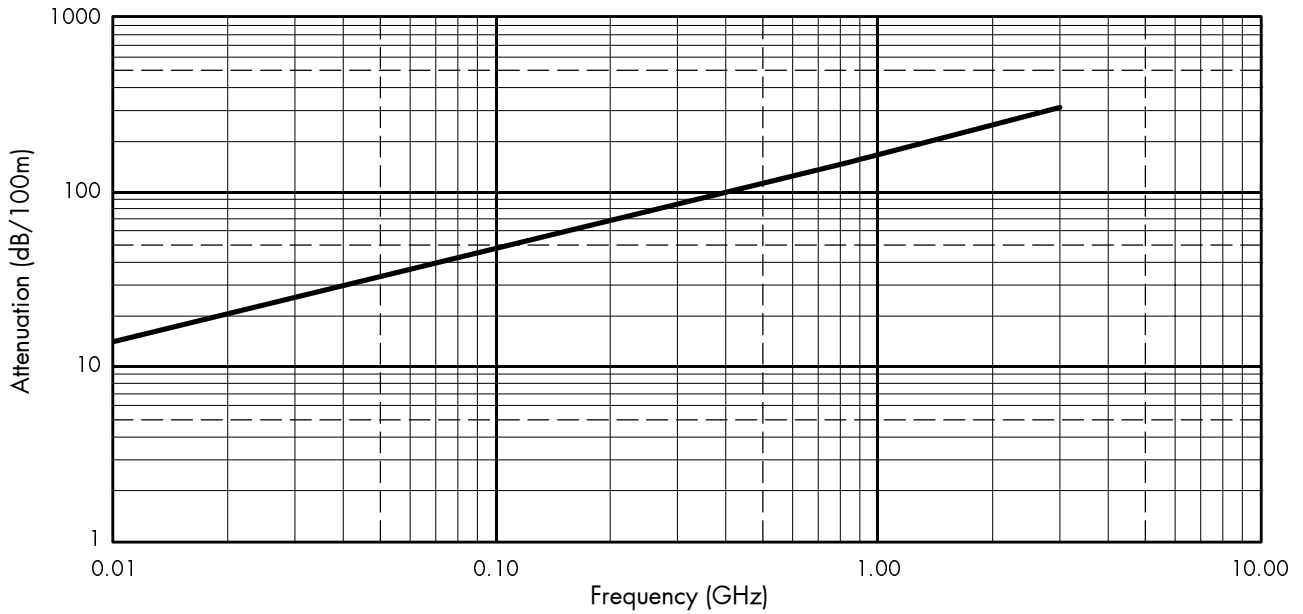
Cable group U1

For details refer to the "SUHNER® coaxial connector catalogue" or contact your nearest HUBER+SUHNER representative

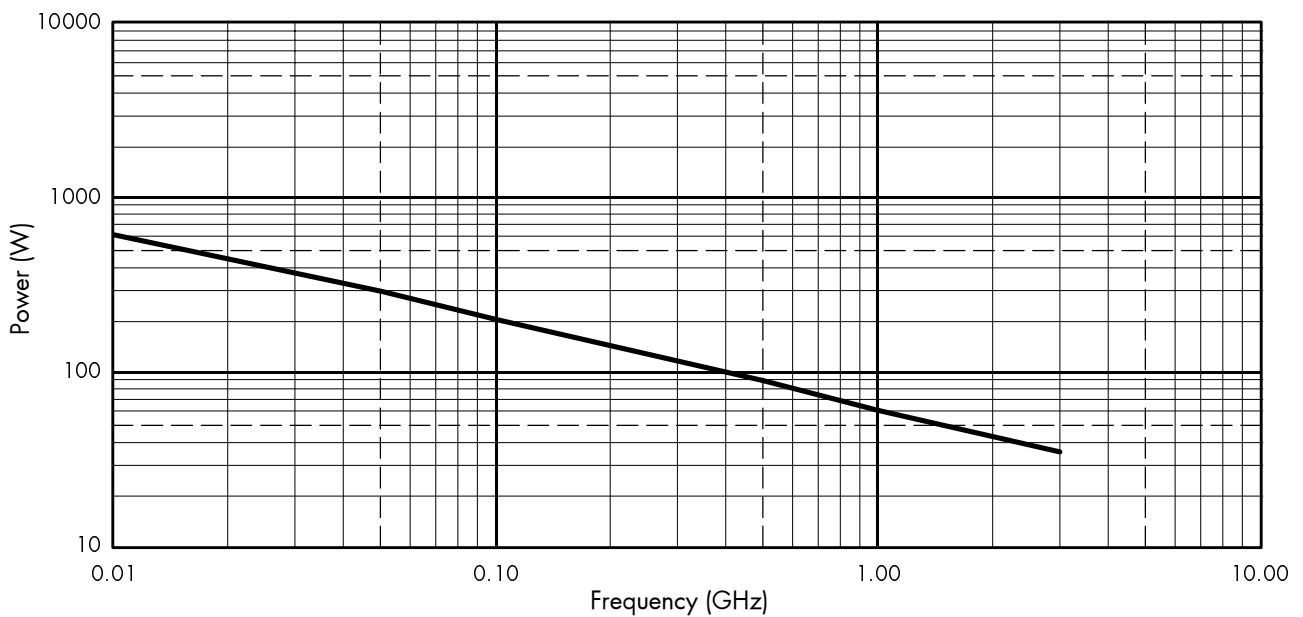
ENVIROFLEX™ - Type 178

Cable attenuation

Nominal values @ +25 °C ambient temperature



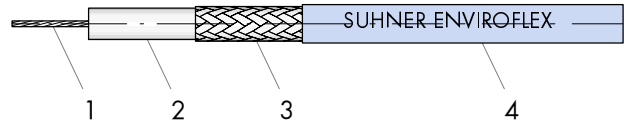
Maximum values @ +40 °C ambient temperature and sea level, no solar load



ENVIROFLEX™ - Type 179 (75Ω)

Item: 23019104

Cable design



1	Inner conductor	Stranded silver-plated copper-clad steel	7x 0.102 mm	.....	∅ 0.305 mm
2	Dielectric	Cellular polyethylene, cross-linked (SPEX)		.....	∅ 1.55 mm
3	Outer conductor	Silver-plated copper braid	93% coverage	.....	∅ 2.10 mm
4	Jacket	RADOX® 125, cross-linked	bl (RAL 5012)	.....	∅ 2.54 mm
	Print on jacket	SUHNER ENVIROFLEX 179 (UL File no) AWM (Batch no.)			

Electrical data

Typ. operating frequency	.....	(GHz)	≤ 1
Impedance	.....	(Ω)	75 ± 3
Capacitance	.....	(pF/m)	62
Relative signal propagation	.....	(%)	70.2
Signal delay	.....	(ns/m)	4.80
Phase stability	vs temperature	(ppm)	-
	vs bending	(°/GHz)	-
Insulation resistance	.....	(MΩ·m)	> 10 ⁸
Test voltage	..... 50 Hz / 1 min.	(kV _{rms})	2.0
Max. operating voltage	at sea level	(kV _{rms})	1.0
	UL Style 3651 voltage rating	(V _{rms})	1500
Typ. DC resistance	inner conductor	(Ω/km)	≤ 750
	outer conductor	(Ω/km)	≤ 35
Typ. screening effectiveness	..... 0.1 ... 300 MHz	(dB)	n/a

General data

Cable specification	..... cable dimensions in accordance with	.....	UL Style 3651
Temperature range	operating	(°C)	-40...+105
	UL Style 3651 temperature rating	(°C)	+105
Flame propagation	..... IEC 332-2	.....	n/a
	UL 1581, §1100	.....	passed
Halogen content	..... IEC 754	.....	passed
Abrasion (Chafing)	..... MIL-T-81490, §4.7.19	(Oscillations)	n/a
Typ. Weight	.....	(kg/100m)	1.11
Min. bending radius	for bending once	(mm)	10
	for repeated bendings	(mm)	25

Suitable connectors

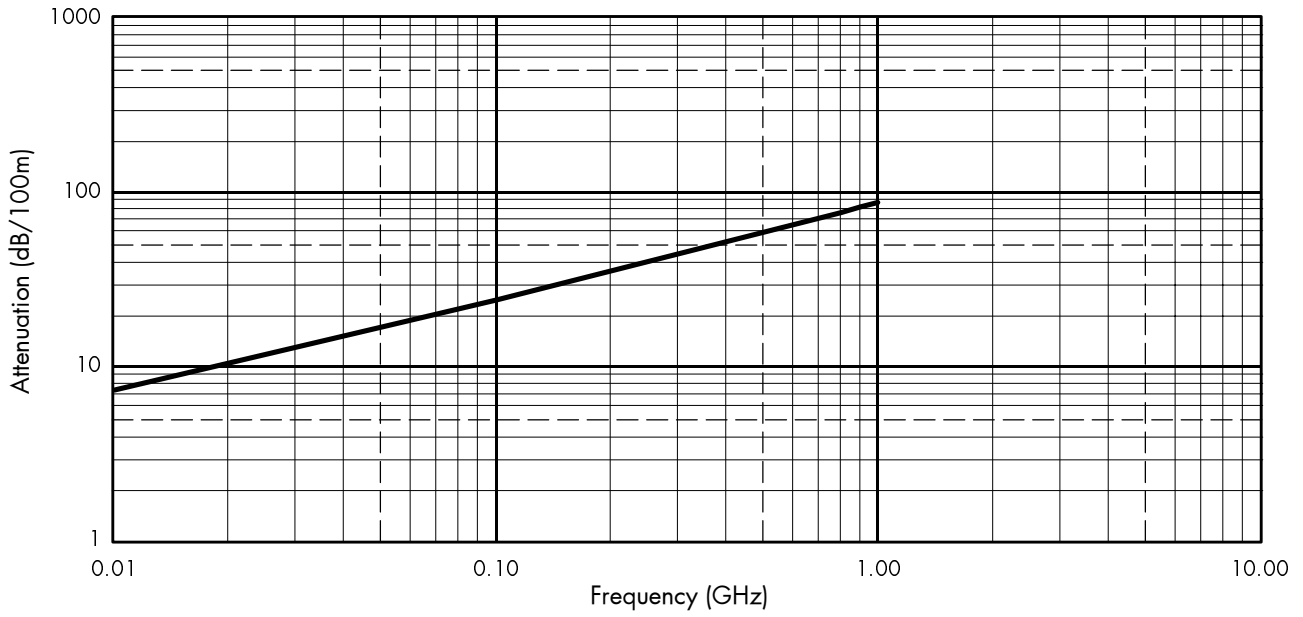
Cable group U5

For details refer to the "SUHNER® coaxial connector catalogue" or contact your nearest HUBER+SUHNER representative

ENVIROFLEX™ - Type 179 (75Ω)

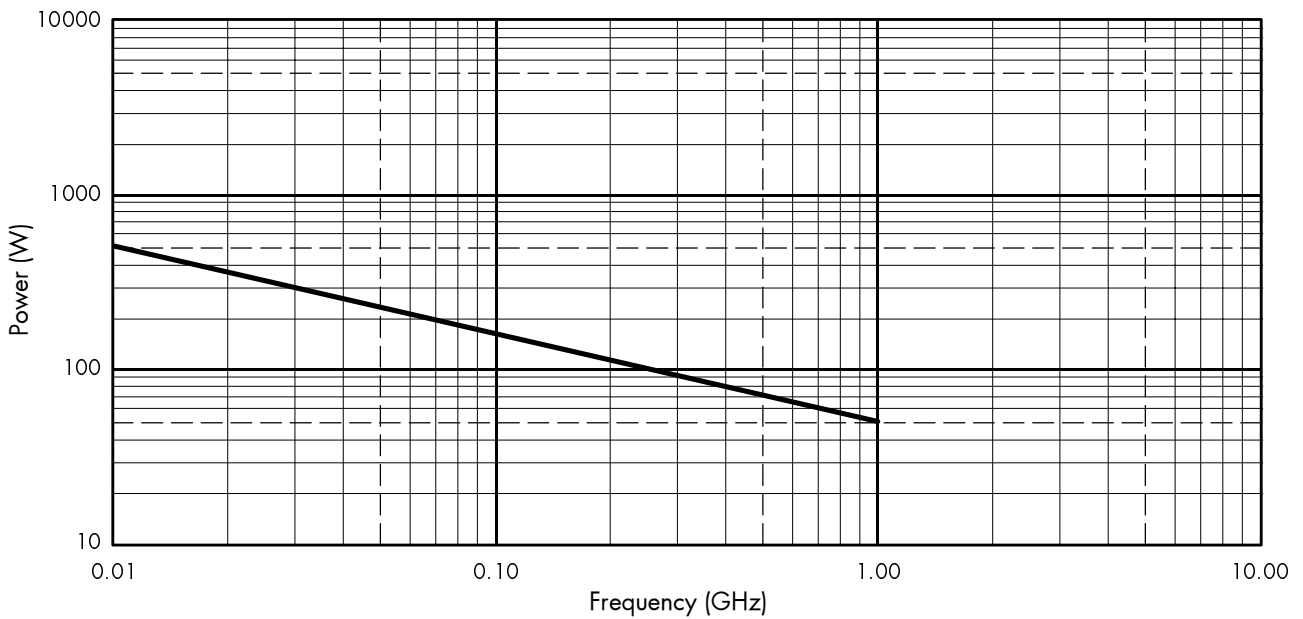
Cable attenuation

Nominal values @ +25 °C ambient temperature



C.W. power handling capability

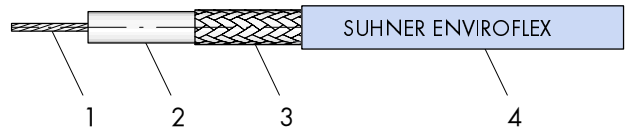
Maximum values @ +40°C ambient temperature and sea level, no solar load



ENVIROFLEX™ - Type 316

Item: 23009565

Cable design



1	Inner conductor	Stranded silver-plated copper-clad steel	7x 0.18 mm	.....	∅ 0.54 mm
2	Dielectric	Cellular polyethylene, cross-linked (SPEX)		.....	∅ 1.55 mm
3	Outer conductor	Silver-plated copper braid	97% coverage	.....	∅ 2.00 mm
4	Jacket	RADOX® 125, cross-linked	bl (RAL 5012)	.....	∅ 2.50 mm
	Print on jacket	SUHNER ENVIROFLEX 316 (UL File no) AWM (Batch no.)			

Electrical data

Typ. operating frequency		(GHz)	≤ 3
Impedance		(Ω)	50 ± 2
Capacitance		(pF/m)	95.7
Relative signal propagation		(%)	69.7
Signal delay		(ns/m)	4.72
Phase stability	vs temperature	(ppm)	-
	vs bending	(°/GHz)	-
Insulation resistance		(MΩ·m)	> 10 ⁸
Test voltage	50 Hz / 1 min.	(kV _{rms})	2.0
Max. operating voltage	at sea level	(kV _{rms})	1.5
	UL Style 3651 voltage rating	(V _{rms})	2500
Typ. DC resistance	inner conductor	(Ω/km)	≤ 234
	outer conductor	(Ω/km)	≤ 17
Typ. screening effectiveness		(dB)	-

General data

Cable specification	cable dimensions in accordance with	UL Style 3651
Temperature range	operating	(°C) -40...+105
	UL Style 3651 temperature rating	(°C) +105
Flame propagation	IEC 332-2	n/a
	UL 1581, §1100	passed
Halogen content	IEC 754	passed
Abrasion (Chafing)	MIL-T-81490, §4.7.19 . (Oscillations)	n/a
Typ. Weight		(kg/100m) 1.35
Min. bending radius	for bending once	(mm) 5
	for repeated bendings	(mm) 30

Suitable connectors

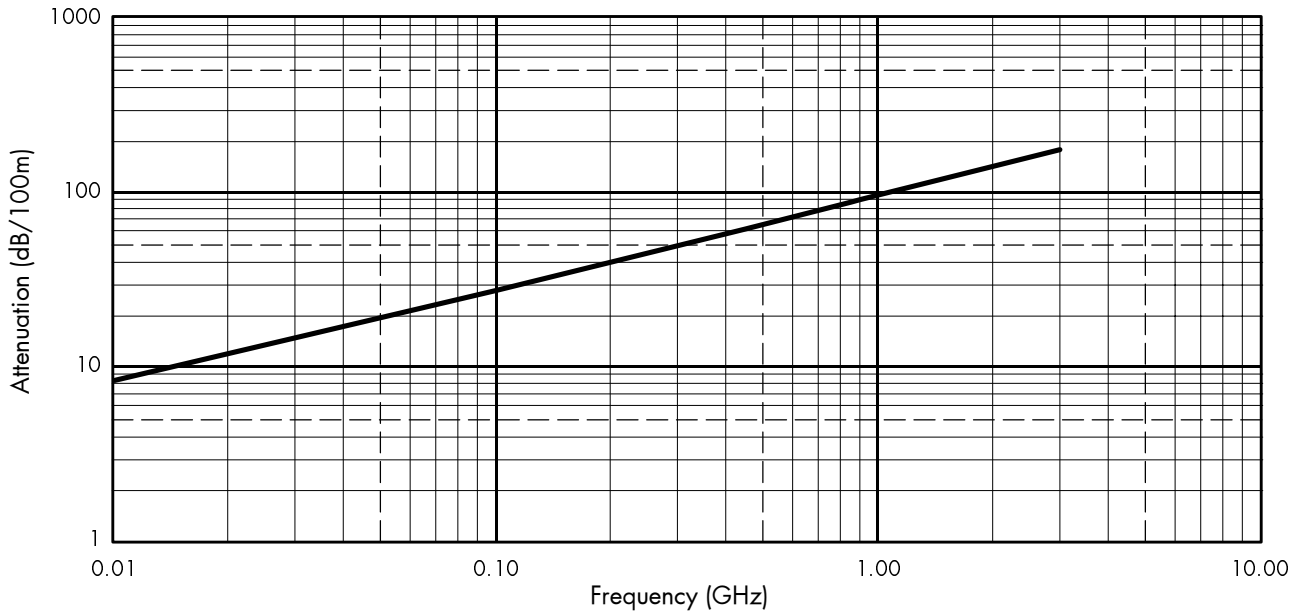
Cable group U2/U2

For details refer to the "SUHNER® coaxial connector catalogue" or contact your nearest HUBER+SUHNER representative

ENVIROFLEX™ - Type 316

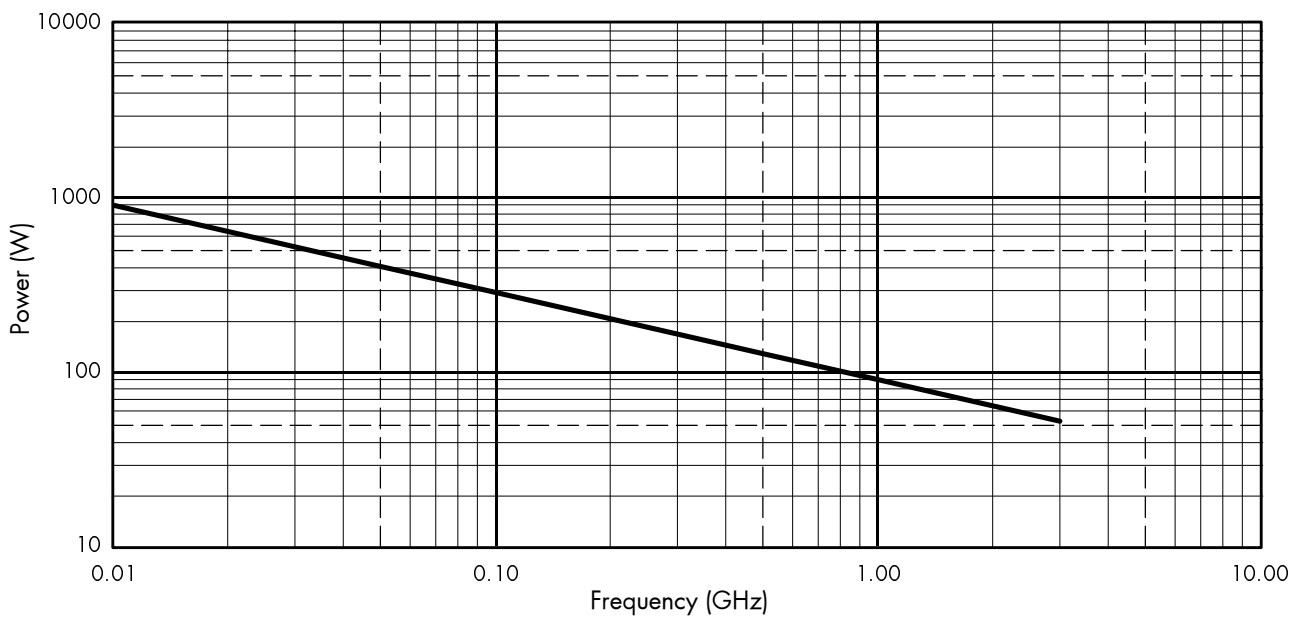
Cable attenuation

Nominal values @ +25 °C ambient temperature



C.W. power handling capability

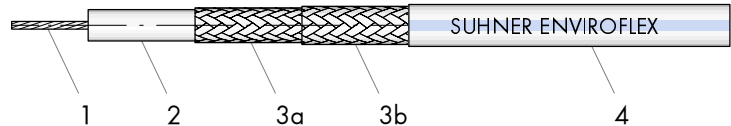
Maximum values @ +40°C ambient temperature and sea level, no solar load



ENVIROFLEX™ - Type 316D

Item: 22512281

Cable design



1	Inner conductor	Stranded silver-plated copper-clad steel	7x 0.18 mm	∅ 0.54 mm
2	Dielectric	Cellular polyethylene, cross-linked (SPEX)		∅ 1.55 mm
3	Outer conductor	a) Silver-plated copper braid	96% coverage	∅ 1.97 mm
		b) Silver-plated copper braid	91% coverage	∅ 2.45 mm
4	Jacket	RADOX® 125, cross-linked, blue stripe bk (RAL 9005)		∅ 3.10 mm
	Print on jacket	SUHNER ENVIROFLEX 316 D (UL File no)	AWM (Batch no.)	

Electrical data

Typ. operating frequency		(GHz)	≤ 5
Impedance		(Ω)	50 ± 2
Capacitance		(pF/m)	95.0
Relative signal propagation		(%)	70.2
Signal delay		(ns/m)	4.75
Phase stability	vs temperature	-40°C ... +100°C	(ppm) ≤ 10'000
	vs bending		(°/GHz) -
Insulation resistance		(MΩm)	> 10 ⁸
Test voltage	50 Hz / 1 min.	(kV _{rms})	3.0
Max. operating voltage	at sea level	(kV _{rms})	1.5
Typ. DC resistance	inner conductor	(Ω/km)	≤ 234
	outer conductor	(Ω/km)	≤ 17
Typ. screening effectiveness	1 MHz ... 1000 MHz	(dB)	≥ 70

General data

Cable specification	cable dimensions in accordance with	-
Temperature range	operating	(°C) -40...+105
	installation	(°C) -20...+70
Flame propagation	IEC 332 -1, 332 -2	passed
	UL 1581, §1100	passed
Halogen content	IEC 754	passed
Abrasion (Chafing)	MIL-T-81490, §4.7.19	(Oscillations) n/a
Typ. Weight		(kg/100m) 2.0
Min. bending radius	for bending once	(mm) 5
	for repeated bendings	(mm) 30

Suitable connectors

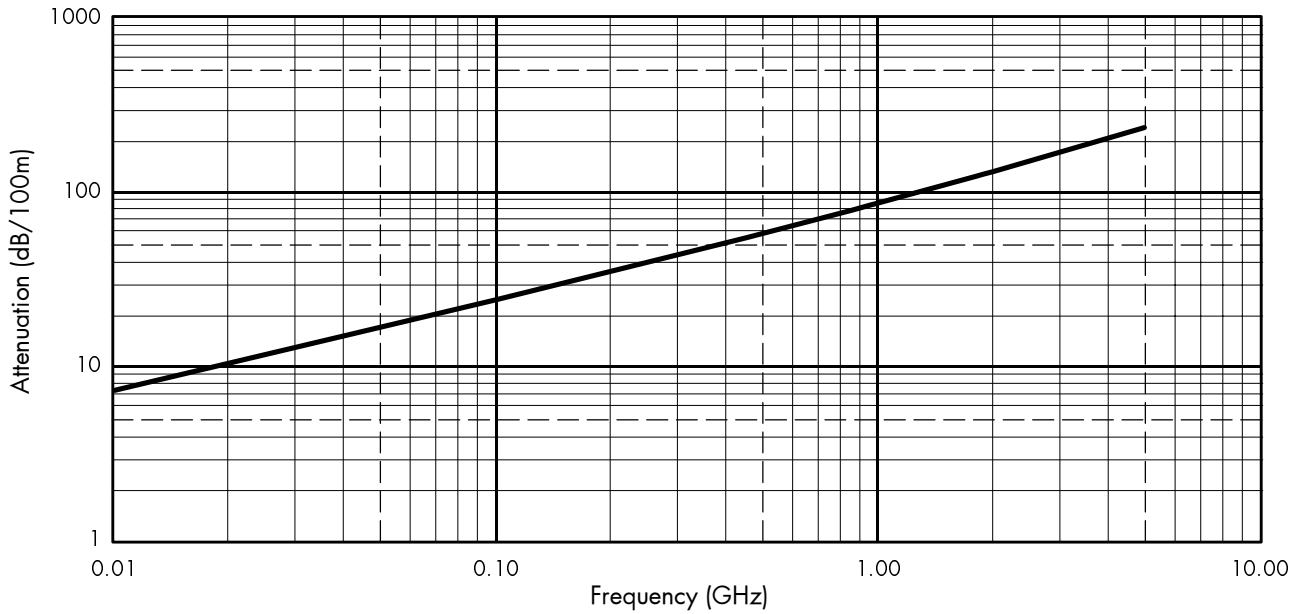
Cable group U4/U4

For details refer to the "SUHNER® coaxial connector catalogue" or contact your nearest HUBER+SUHNER representative

ENVIROFLEX™ - Type 316D

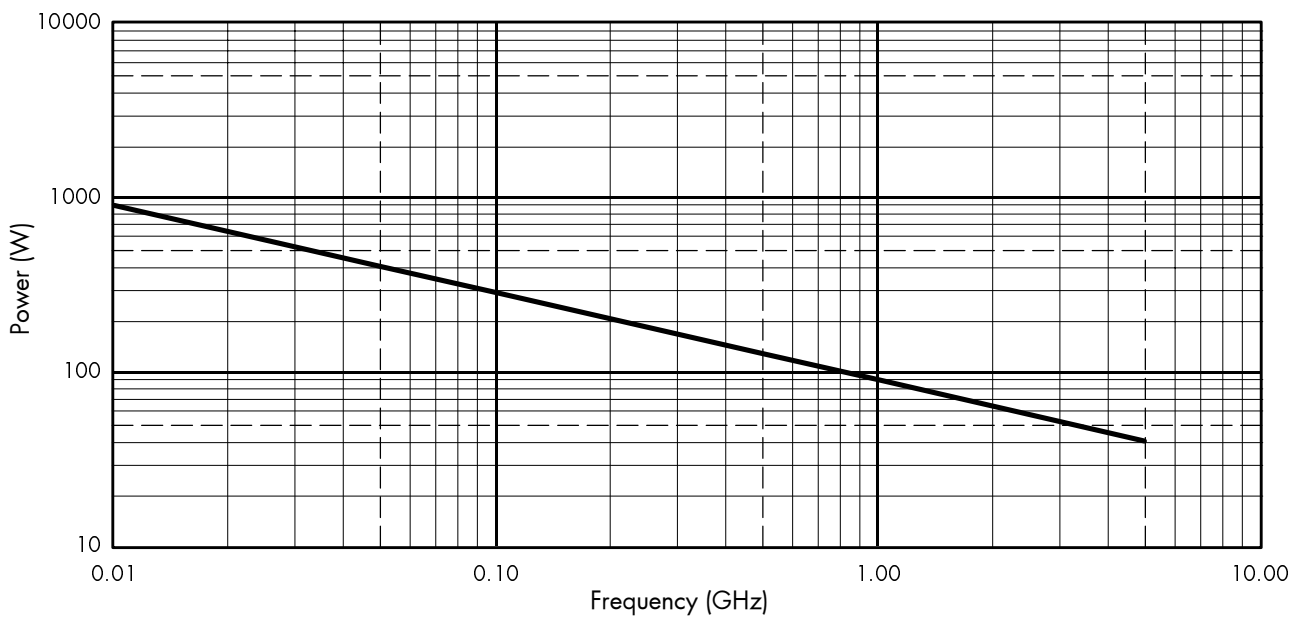
Cable attenuation

Nominal values @ +25 °C ambient temperature



C.W. power handling capability

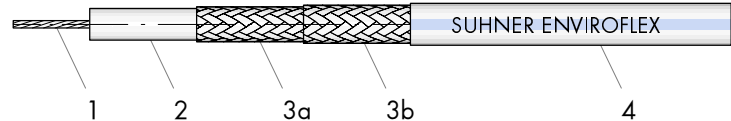
Maximum values @ +40 °C ambient temperature and sea level, no solar load



ENVIROFLEX™ - Type 142

Item: 22512168

Cable design



1	Inner conductor	..... Silver-plated copper wire	.....	∅ 0.95 mm
2	Dielectric	..... Cellular polyethylene, cross-linked (SPEX)	.....	∅ 2.95 mm
3	Outer conductor	a) Silver-plated copper braid, EMC opt. 97% coverage	.....	∅ 3.54 mm
		b) Silver-plated copper braid	..... 95% coverage	∅ 4.20 mm
4	Jacket	..... RADOX® 125, cross-linked, blue stripe bk (RAL 9005)	.....	∅ 4.95 mm
	Print on jacket	..... SUHNER ENVIROFLEX 142 (UL File no)	UL AWM	(Batch no.)

Electrical data

Typ. operating frequency	.....	(GHz)	≤ 5
Impedance	.....	(Ω)	50 ± 2
Capacitance	.....	(pF/m)	95.0
Relative signal propagation	.....	(%)	70.2
Signal delay	.....	(ns/m)	4.75
Phase stability	vs temperature	-40°C ... +100°C	(ppm) ≤ 9000
	vs bending		(°/GHz) -
Insulation resistance	.....	(MΩm)	> 10 ⁸
Test voltage	..... 50 Hz / 1 min.	(kV _{rms})	5.0
Max. operating voltage	at sea level	(kV _{rms})	2.5
Typ. DC resistance	inner conductor	(Ω/km)	≤ 24.9
	outer conductor	(Ω/km)	≤ 10
Typ. screening effectiveness	..... 1 MHz ... 100 MHz	(dB)	≥ 70

General data

Cable specification	..... cable dimensions in accordance with	MIL-C-17/60
Temperature range	operating	(°C) -40...+105
	installation	(°C) -20...+70
Flame propagation	IEC 332 -1, 332 -2	passed
	UL 1581, §1100	passed
Halogen content	IEC 754	passed
Abrasion (Chafing)	MIL-T-81490, §4.7.19	(Oscillations) ≥ 100
Typ. Weight	.....	(kg/100m) 6.0
Min. bending radius	for bending once	(mm) 30
	for repeated bendings	(mm) 50

Suitable connectors

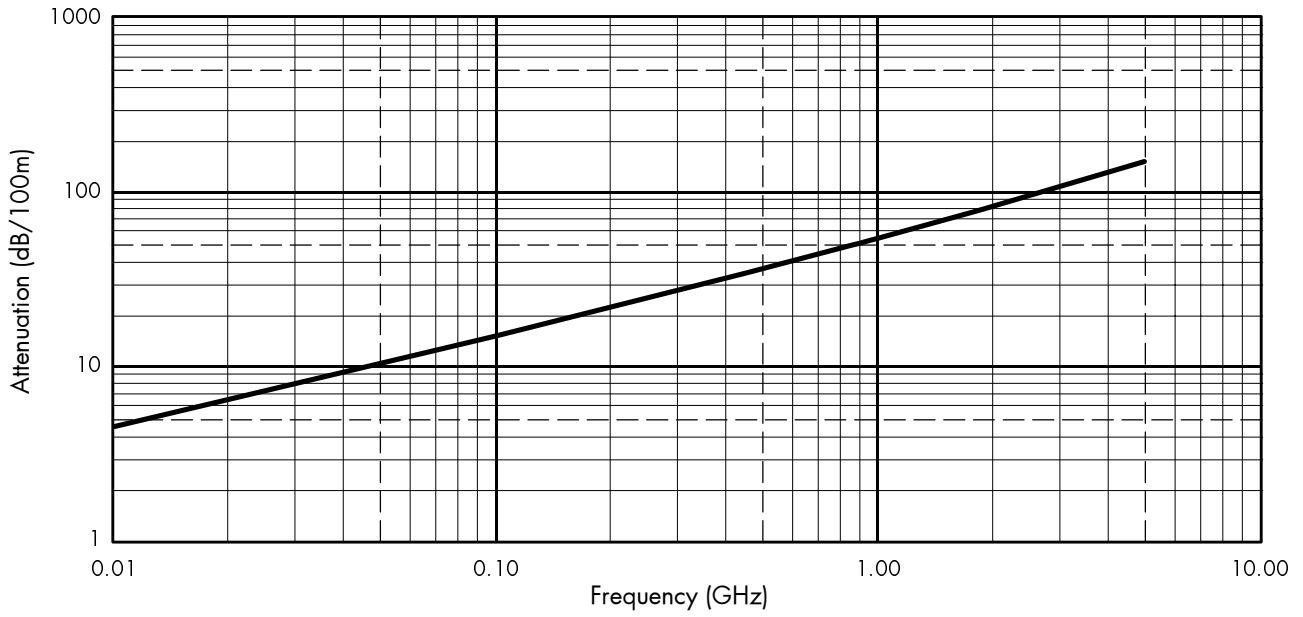
Cable group U9/U10

For details refer to the "SUHNER® coaxial connector catalogue" or contact your nearest HUBER+SUHNER representative

ENVIROFLEX™ - Type 142

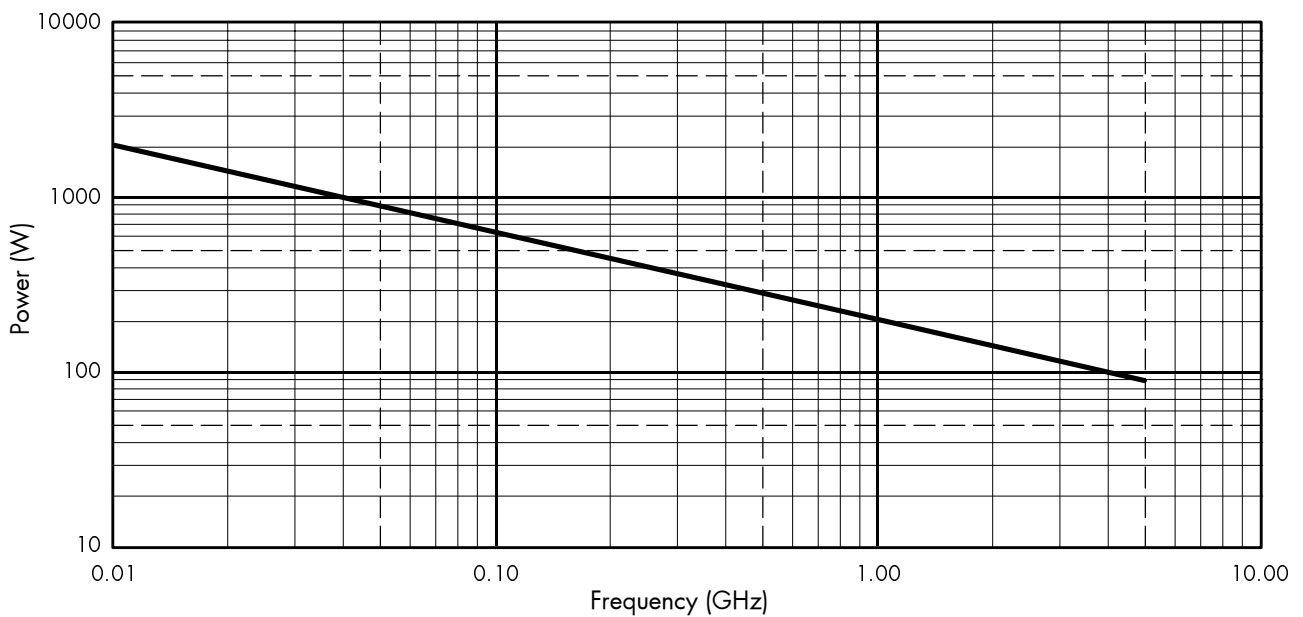
Cable attenuation

Nominal values @ +25 °C ambient temperature



C.W. power handling capability

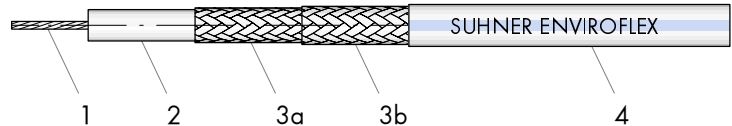
Maximum values @ +40°C ambient temperature and sea level, no solar load



ENVIROFLEX™ - Type 400

Item: 22512280

Cable design



1	Inner conductor	Stranded silver-plated copper	19x 0.20 mm	∅ 1.00 mm
2	Dielectric	Cellular polyethylene, cross-linked (SPEX)		∅ 3.00 mm
3	Outer conductor	a) Silver-plated copper braid	97% coverage	∅ 3.60 mm
		b) Silver-plated copper braid	94% coverage	∅ 4.15 mm
4	Jacket	RADOX® 125, cross-linked, blue stripe bk (RAL 9005)		∅ 4.95 mm
	Print on jacket	SUHNER ENVIROFLEX 400 (UL File no)	UL AWM	(Batch no.)

Electrical data

Typ. operating frequency		(GHz)	≤ 5
Impedance		(Ω)	50 ± 2
Capacitance		(pF/m)	95.0
Relative signal propagation		(%)	70.2
Signal delay		(ns/m)	4.75
Phase stability	vs temperature	-40°C ... +100°C	(ppm) ≤ 10'000
	vs bending		(°/GHz) -
Insulation resistance		(MΩm)	> 10 ⁸
Test voltage	50 Hz / 1 min.	(kV _{rms})	5.0
Max. operating voltage	at sea level	(kV _{rms})	2.5
Typ. DC resistance	inner conductor	(Ω/km)	29.5
	outer conductor	(Ω/km)	≤ 8.00
Typ. screening effectiveness	1 MHz ... 1000 MHz	(dB)	≥ 70

General data

Cable specification	cable dimensions in accordance with	MIL-C-17/128
Temperature range	operating	(°C) -40...+105
	installation	(°C) -20...+70
Flame propagation	IEC 332 -1, 332 -2	passed
	UL 1581, §1100	passed
Halogen content	IEC 754	passed
Abrasion (Chafing)	MIL-T-81490, §4.7.19	(Oscillations) n/a
Typ. Weight		(kg/100m) 5.2
Min. bending radius	for bending once	(mm) 10
	for repeated bendings	(mm) 40

Suitable connectors

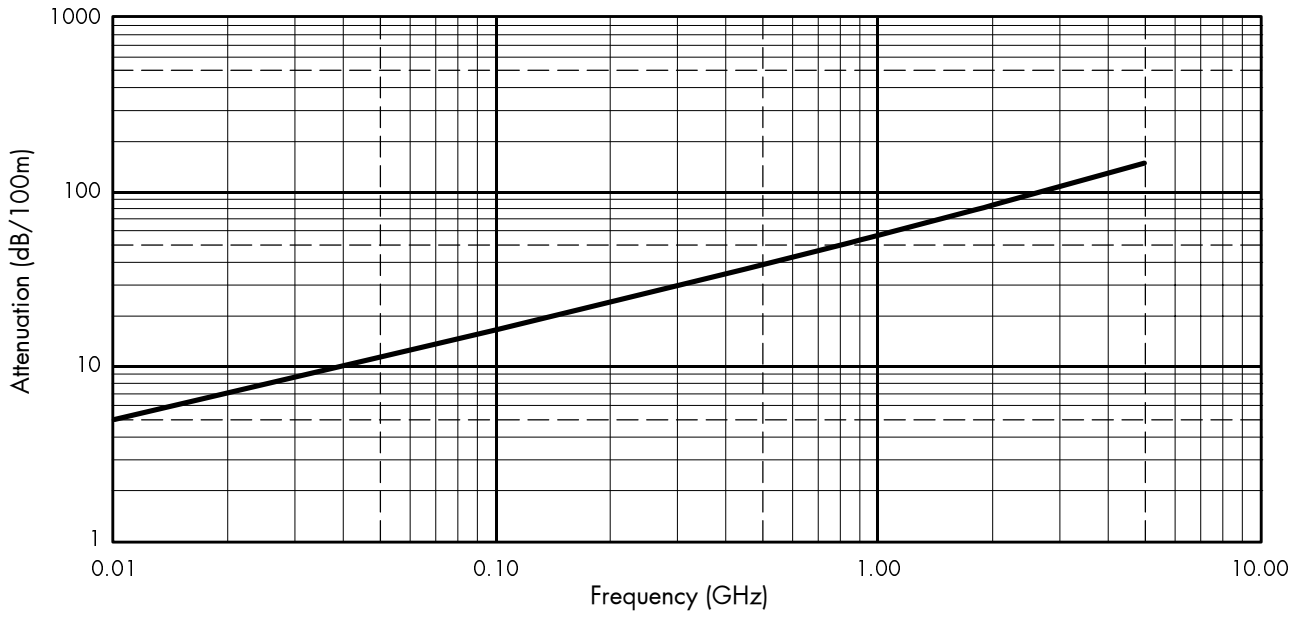
Cable group crimp/clamp U11/U10

For details refer to the "SUHNER® coaxial connector catalogue" or contact your nearest HUBER+SUHNER representative

ENVIROFLEX™ - Type 400

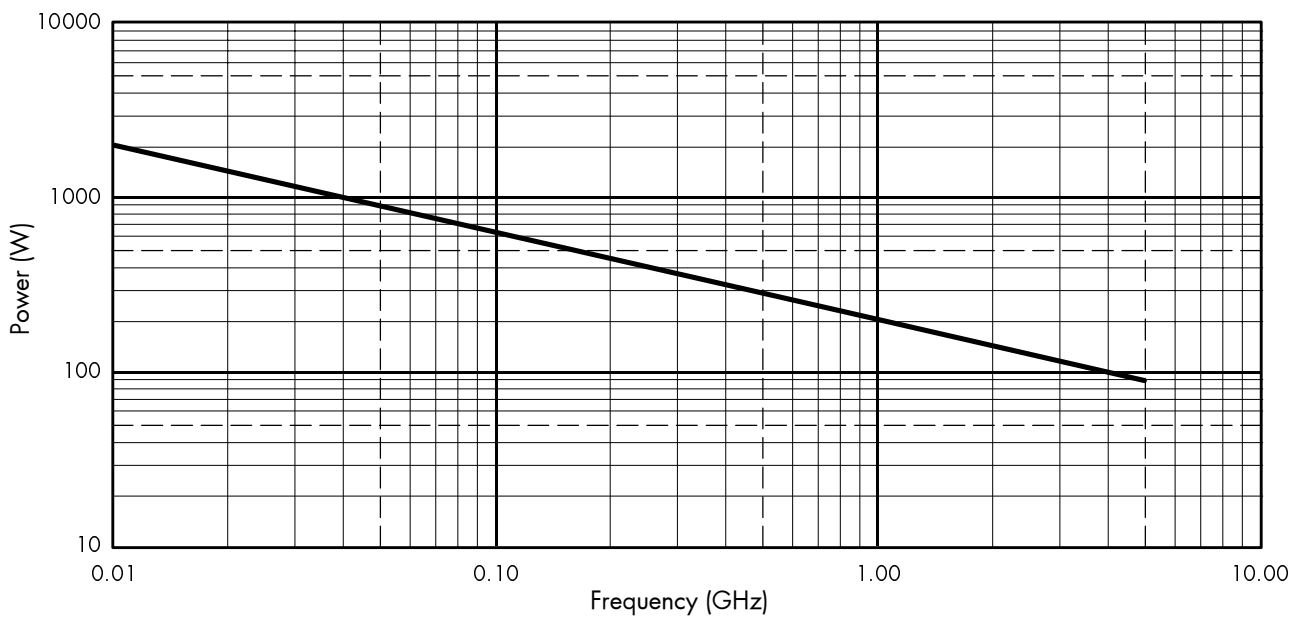
Cable attenuation

Nominal values @ +25 °C ambient temperature



C.W. power handling capability

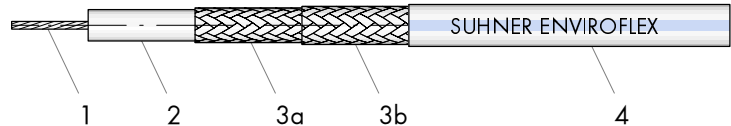
Maximum values @ +40°C ambient temperature and sea level, no solar load



ENVIROFLEX™ - Type 393

Item: 22512282

Cable design



1	Inner conductor	Stranded silver-plated copper	7x 0.82 mm	∅ 2.46 mm
2	Dielectric	Cellular polyethylene, cross-linked (SPEX)		∅ 7.33 mm
3	Outer conductor	a) Silver-plated copper braid	92% coverage	∅ 8.00 mm
		b) Silver-plated copper braid	94% coverage	∅ 8.75 mm
4	Jacket	RADOX® 125, cross-linked, blue stripe bk (RAL 9005)		∅ 10.05 mm
	Print on jacket	SUHNER ENVIROFLEX 393 (Batch no.)		

Electrical data

Typ. operating frequency		(GHz)	≤ 5
Impedance		(Ω)	50 ± 2
Capacitance		(pF/m)	95.0
Relative signal propagation		(%)	70.2
Signal delay		(ns/m)	4.75
Phase stability	vs temperature	-40°C ... +100°C	(ppm) ≤ 3500
	vs bending		(°/GHz) -
Insulation resistance		(MΩ·m)	> 10 ⁸
Test voltage	50 Hz / 1 min.	(kV _{rms})	10.0
Max. operating voltage	at sea level	(kV _{rms})	5.0
Typ. DC resistance	inner conductor	(Ω/km)	≤ 5
	outer conductor	(Ω/km)	≤ 5.1
Typ. screening effectiveness	1 MHz ... 1000 MHz	(dB)	≥ 56

General data

Cable specification	cable dimensions in accordance with	MIL-C-17/127
Temperature range	operating	(°C) -40...+105
	installation	(°C) -20...+70
Flame propagation	IEC 332 -1, 332 -2	passed
	UL 1581, §1080 (VW-1)	passed
Halogen content	IEC 754	passed
Abrasion (Chafing)	MIL-T-81490, §4.7.19 . (Oscillations)	n/a
Typ. Weight		(kg/100m) 17.6
Min. bending radius	for bending once	(mm) 20
	for repeated bendings	(mm) 100

Suitable connectors

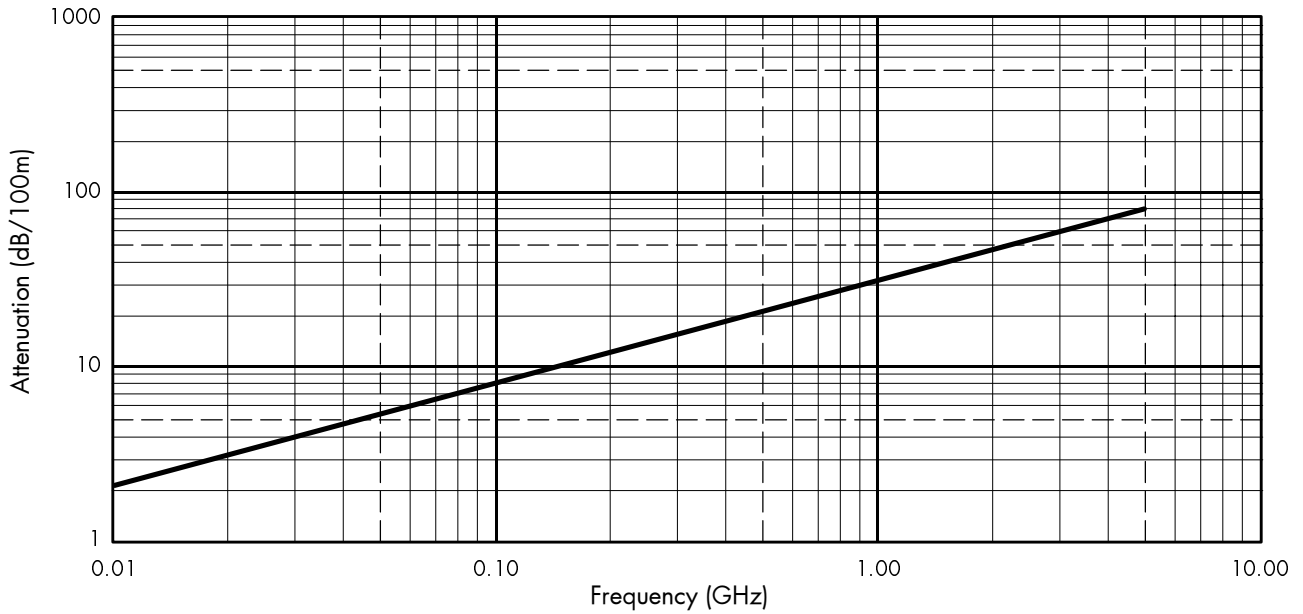
Cable group U33

For details refer to the "SUHNER® coaxial connector catalogue" or contact your nearest HUBER+SUHNER representative

ENVIROFLEX™ - Type 393

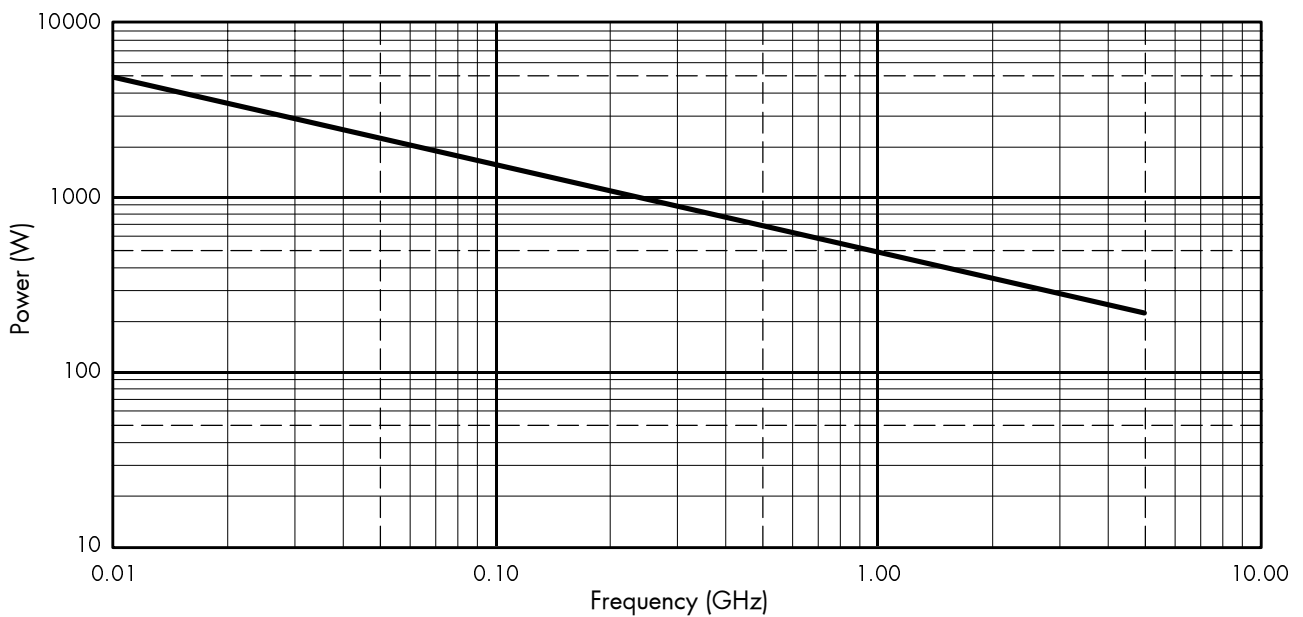
Cable attenuation

Nominal values @ +25 °C ambient temperature



C.W. power handling capability

Maximum values @ +40 °C ambient temperature and sea level, no solar load



ENVIROFLEX™ - FREQUENTLY ASKED QUESTIONS (FAQ)

a) Why should we consider a cost efficient PTFE cable alternative for existing and new system designs?

Industry standard RG-type PTFE/FEP bearing cables possess excellent overall characteristics.

However, their excessive temperature capability has resulted in numerous problems that range from initial sourcing availability to end-of-life recycling.

Especially initial sourcing availability deficiencies are intolerable in today's highly competitive market-place.

With regard to cost, the PTFE/FEP material and manufacturing process is relatively expensive. When the supply and demand mechanisms are aggravated by allocated availability, PTFE cable costs rise excessively.

With regard to flexibility, PTFE cable is relatively rigid. This is a characteristic of extruded PTFE, and virtually nothing can be done to improve this physical property.

With regard to health and safety, PTFE cables are halogen bearing like PVC cables. In the event of fire it can lead to the incineration of the cable with a resultant release of toxic smoke.

With regard to being recyclable, PTFE cables are particular resistant to decomposition. As environmental responsibility regulations evolve to mandate that manufactures recycle their products at the end of their service life, the true application cost of PTFE cables will reach excessive levels.

Every manufacturer needs to be aware of new regulations and the products and processes that will meet them. Early new product design-in is the best insurance against future regulatory difficulties as world nations move toward more environmentally responsible end-life-product recycling legislation. Companies that adopt the latest technology will also easily provide their customers with the best balance of properties at the lowest possible price.

b) Up to now we have specified PTFE cables. What do we have to consider if we want to design in ENVIROFLEX cables?

ENVIROFLEX cables offer significant advantages over PTFE/FEP bearing RG cables in situations where the application temperature does not exceed 105° C. In most applications the excess thermal capability of PTFE cable is of no utility, given that the associated circuit components desolder at a temperature that is substantially below the maximum useable temperature of the PTFE cable dielectric.

Being the dimensional and electrical equivalent of an RG type cable, ENVIROFLEX cables can be easily designed into existing RG type cable applications by merely considering the maximum temperature, power and frequency requirements of the application.

c) As the temperature rating of PTFE cables goes beyond that of ENVIROFLEX cables, which benefit ENVIROFLEX has in case of fire?

Fire Safety is more important than ever. The plastic insulation material of standard RG (PTFE) cables contains halogen, which will produce highly toxic and corrosive gasses when it is burnt. Fumes given off during a fire can severely damage circuitry, and toxic smoke can cause human injury.

Careful selection of ENVIROFLEX cable materials ensures that any emissions are of low toxicity, low smoke and low flame generation.

d) Are ENVIROFLEX cables just like RG type cables, but with a halogen free jacket?

No, better than that. SUHNER ENVIROFLEX is a truly halogen free cable family. ENVIROFLEX utilizes not only halogen-free, low smoke and fire retardant material for the jacket, but also for the dielectric. No PTFE nor PVC is involved, making the cables particularly interesting from a safety, as well as an environmental point of view.

ENVIROFLEX™ - FREQUENTLY ASKED QUESTIONS (FAQ)

e) The operating temperature of Polyethylene cables is generally limited up to +85° C. Why is the temperature resistance of ENVIROFLEX better?

The Polyethylene dielectric and the RADOX® jacket of ENVIROFLEX are cross-linked to increase its chain molecular stability and thereby elevate thereby its maximum useable temperature by approximately 30° C. This results in a maximum specified operating temperature of +105 C.

The cross-molecular linkages of the material enhances the physical stability, so that it will not begin to soften if it is heated during a soldering process.

f) Can the ENVIROFLEX cross linked materials be more easily decomposed than Teflon®?

Yes definitively! One of the characteristics of PTFE is an excellent temperature capability during its service life. It does not begin to soften until it is heated above 327° C. On the other hand, this means that it will be very resistant to subsequent decomposition when it is no longer needed. In addition, careful consideration must be given to the decompositional byproducts of materials, so as to avoid health and safety hazards like that which results from the incineration of halogen bearing plastics such as PTFE, FEP or PVC. The incineration of halogenated combustibles may produce significant amounts of dioxine-like and furan-like species that can damage the incinerator itself and the exhaust can cause a public health problem.

Recyclable plastics used in ENVIROFLEX are molecularly altered to enhance their physical properties without producing materials that substantially resist decomposition. The materials are toxically harmless in accordance with the European Union safety specification-sheet 91/155/EWG.

g) You're claiming that ENVIROFLEX cables are fully dimensionally compatible to industry standard RG Type cables. For what reason are there certain deviations when comparing the data sheets?

The ENVIROFLEX cables were developed to be fully compatible with to the existing international standards for RG 178, RG 179, RG 142 B/U, RG 400 /U, RG 393 /U, RG 316 /U, RD 316 (or K 02252 D in "SUHNER language").

Due to manufacturing and material requirements, we have to put up with a few negligible changes in dimension within the accepted range. However, those will have no impact on compatibility, meaning that one can easily move to either cable type while using the same industry standard connectors that are available from suppliers worldwide.

h) It has been stated that the ENVIROFLEX cables would be priced 30% below pegging to their RG equivalents. In PE We are using RG 223 /U cables. Looking for an ENVIROFLEX alternative however, we have noticed that the price level of EF 142 is higher. What is the reason for that?

The ENVIROFLEX cable family has been developed as an alternative to PTFE bearing cables. Some RG-type cables, like RG 223 /U, feature a Polyethylen dielectric and a PVC jacket. These type of cables are at the lower end price level. They are being used for applications that do not require the performance of their PTFE equivalent. Compared to PE/PVC cables, ENVIROFLEX offers:

- suitability for applicaitons that call for better, higher temperature range, power handling and signal propagation
- significant advantages in terms of health and safety