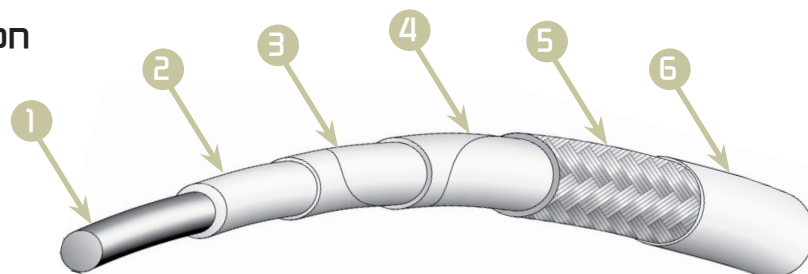


Low loss coaxial assemblies

Flexible equivalent of semi-rigid cables

AXOWAVE® SERIES AX

Cable construction



1 - CONDUCTOR			2 - DIELECTRIC		3 - SHIELDING	4 - TAPE	5 - SHIELDING		6 - JACKET	
Version	Material	Diameter (mm)	Material	Diameter (mm)	Material	Material	Material	Diameter (mm)	Material	Diameter (mm)
AX047	SPC	0.25	PTFE	0.82	SPC tape	Polyester	SPC braid	1.17	FEP	1.50
AX086	SPC	0.51	PTFE	1.66	SPC tape	Polyester	SPC braid	2.17	FEP	2.50
AX141	SPC	0.91	PTFE	2.95	SPC tape	Polyester	SPC braid	3.55	FEP	4.15
AX250	SPC	1.63	PTFE	5.31	SPC tape	Polyester	SPC braid	6.33	FEP	7.25

Operating temperature : -55°C / +125°C

Connector types

Coaxial cables of the AX series are compatible with any connector type for semi-rigid cables.

Connector type (for semi-rigids) Non-exhaustive list	AX 047 M17/151-00001 (.047)	AX 086 M17/133-RG405 (.086)	AX 141 M17/130-RG402 (.141)	AX 250 M17/129-RG401 (.250)
SSMA series	X	X	-	-
SMP series	X	X	-	-
BMA series	X	X	X	-
SMA series	X	X	X	X
N series	-	X	X	X
TNC series	-	X	X	X

Mechanical characteristics

	AX 047	AX 086	AX 141	AX 250
Nominal cable weight (g/m)	6	16	43	130
Minimum cable/connector retention force (N)	40	90	90	110
Flexlife (number of cycles)*	20 000	5 000	3 000	500
Crush resistance (N/10 cm)*	500	600	800	1 500
Minimum bend radius (mm) for static applications	10	20	35	55
dynamic applications	20	30	50	80

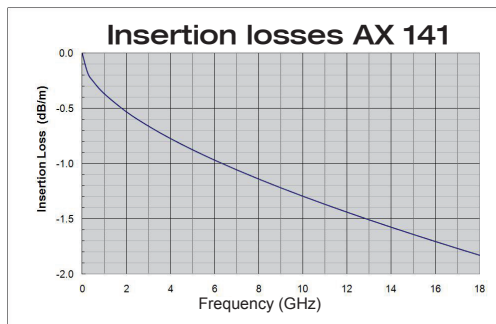
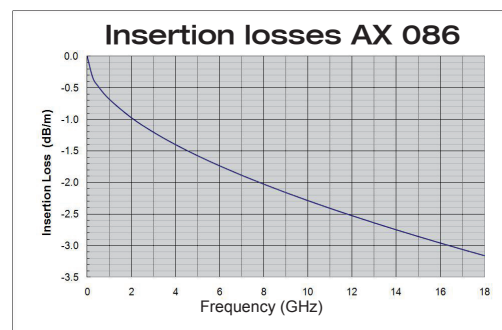
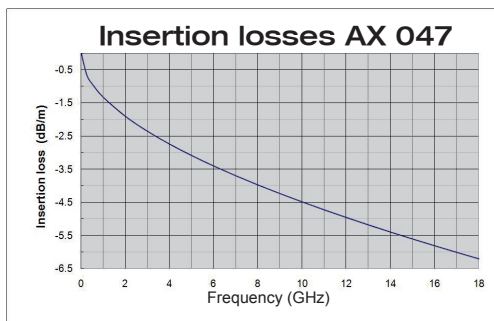
(*) Advised but not maximum values.

Electrical characteristics

	AX 047	AX 086	AX 141	AX 250
Characteristics of cables				
Characteristic Impedance (Ω)	50+/- 2	50+/- 1	50+/- 2	50+/- 1
Operating frequency (GHz)	0 - 18			
Nominal capacitance (pF/m)	96			
Velocity of propagation (%)	69			
Screening efficiency (dB)	< -100	< -105	< -110	< -120
Characteristics of assemblies				
ROS (SMA plug, straight)	< 1.35	1.30	1.25	1.35
Stability of insertion losses as function of temperature/m	$\propto T^\circ = \frac{1,05 \times \infty 20^\circ \times}{\sqrt{0,0038 (T^\circ - 20^\circ) + 1}}$			
Phase variation at -55° to +125°C (°/m/GHz)	7	15		5
Stability of insertion loss (when bending) (dB)	< 0.2	0.05		0.1
Phase stability (when bending) (°/m/GHz)	0.5	0.50		1

Insertion losses

F (GHz)	Nominal insertion losses at 23°C (dB/m)			
	AX 047	AX 086	AX 141	AX 250
1	1.35	0.70	0.40	0.20
2	1.90	1.00	0.55	0.30
5	3.10	1.60	0.90	0.50
10	4.50	2.30	1.30	0.80
12	4.95	2.55	1.45	0.90
15	5.60	2.85	1.65	1.05
18	6.20	3.15	1.85	1.20



Test and measurement procedure

The VSWR and insertion losses are measured on 100 % of the assemblies, and a test certificate is automatically supplied. Other values can be measured on request (e.g. phase matching,...).