

Habia Cable

Coaxial Cables for Medium-Frequency Applications



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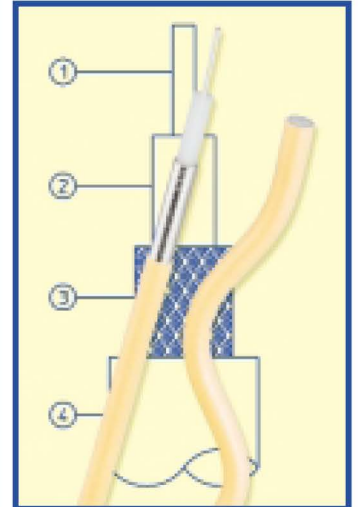
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The Reformable Alternative to Semi-Rigid Coaxial Cables

Engineering data

Habia ref	① Inner conductor material OD (mm)	② Dielectric PTFE OD (mm)	③ Standard Flexiform Outer Conductor OD (mm)	④ Flexiform FJ with FEP Outer Jacket OD (mm)	④ Flexiform HFJ with Zero-Halogen Outer Jacket OD (mm)	Variant of
Flexiform 401	SPC 1,6	5,3	6,4 [0,250]	7,2	7,6	M17/129-00001 M17/129-RG401
Flexiform 402	SCW 0,92	3,0	3,6 [0,141]	4,1	4,6	M17/130-00001 M17/130-RG402
Flexiform 405	SCW 0,51	1,7	2,2 [0,086]	2,6	3,2	M17/133-00001 M17/133-RG405

Note: All figures are nominal unless otherwise specified
SPC = Silver Plated Copper, SCW = Silver Plated Copper Weld.



Features and benefits

- Excellent electrical properties
- Good attenuation
- Easier bending and forming
- Usage of standard semi-rigid connectors
- High temperature range
- Utilise standard cut and strip machinery
- Up to 20 GHz - high operating frequency
- Excellent against crosstalk
- Good flexibility
- Simple mounting
- Outstanding shielding properties

Ease of use

Unique ability to be hand formed.
High degree of shape retention after bending and exhibits no buckling when reformed or flexed.
Routed at the time of installation and able to conform to extremely tight routing.
Eliminates many factors associated with pre-made assemblies.

Cost effective

A great advantage is the ability to simply shape or route the cable by hand and connect the assembly, eliminating the lead-time associated with pre-formed semi-rigid assemblies.
No special forming tools, no additional assembly costs.
No special packaging and shipping requirements.
Long lengths delivered on standard spools.
Significant cost advantages over semi-rigid coax - with minimal performance penalty.

Custom design

Standard Flexiform types supplied without a jacket.
Jacket options include fluoropolymer or halogen-free, cross-linked or flame-retardant.
Standard jacket colour is blue.
All other coaxial types can also be manufactured using the same process (ie Flexiform 179)
Other colours and conductor materials are available on request. Please ask for details.
All types can be supplied with non-magnetic (SPC) conductor, if required.
All types can be supplied with an extra copper foil under the braid, if required.

Connectors

Standard semi-rigid connectors (solder or crimp) can be used on all types above.

Note: All figures are nominal unless otherwise specified

Typical Applications

RF & microwave test equipment
Portable hand sets
Cabinet systems
Antenna applications
Radar equipment

For even better performance, all Flexiform types can be manufactured with an extra copper foil under the braid.

The Reformable Alternative
to Semi-Rigid Coaxial Cables

Type:
Flexiform 401

Engineering data

Cable design

Centre conductor silver-plated copper wire, non magnetic
Dielectric solid extruded PTFE
Outer conductor tin-soaked copper braid, Coverage 100%

Electrical data

Impedance 50 Ohms
Capacitance 94 pF/m
Velocity of signal propagation 70%
Signal delay 4,8 ns/m
Working voltage, maximum 3000V RMS
Attenuation, nominal see graph right
Power, nominal see graph right
Suitable for frequencies up to 20 GHz
Shielding effectiveness typically <-130 dB/m

General data

Flammability, passes IEC 60 332-3
Minimum bend radius
single bend 40mm
multiple bends 120mm

Connectors

Connector as semi-rigid M17/129-RG401

Additional information

Flexiform 401 (Standard):

Jacket none
OD 6,4mm
Weight, nominal 110kg/km
Operating temperature -40 to +165°C

Flexiform 401 FJ

Jacket FEP, Blue
OD 7,2mm
Weight, nominal 130kg/km
Operating temperature -40 to +165°C

Flexiform 401 HFJ

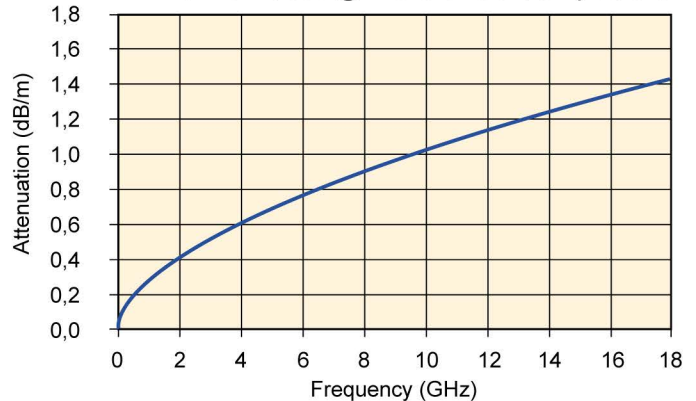
Jacket halogen-free, flame-retardant, Blue
OD 7,6mm
Weight, nominal 130kg/km
Operating temperature -30 to +80°C

Delivered on standard spools in long lengths, giving less waste than semi-rigids.

Note: All figures are nominal unless otherwise specified

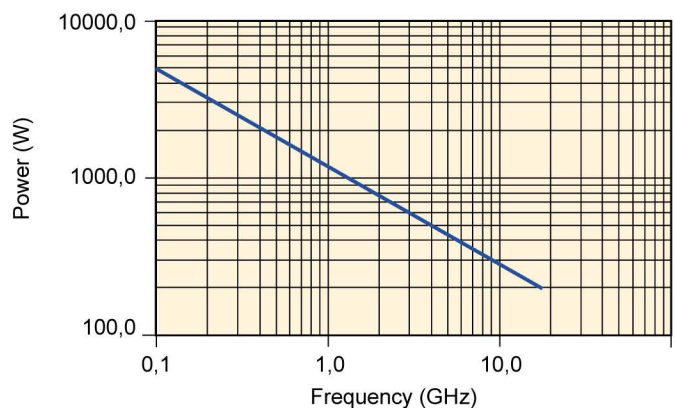
Cable Attenuation

Nominal values @ +25°C ambient temperature



Average Power

Ambient temperature 40°C at sea level & VSWR1.0



Custom design

All MIL types of coaxial cables can be manufactured using the Flexiform method or process.

Flexiform can be manufactured with an extra copper foil under the braid.

Other impedance versions available on request.

Different types of outer jacket are also available.

Please ask for details.

For even better performance, all Flexiform types can be manufactured with an extra copper foil under the braid.

Type: Flexiform 402

The Reformable Alternative
to Semi-Rigid Coaxial Cables

Engineering data

Cable design

Centre conductor silver-plated copper-clad steel wire
Dielectric solid extruded PTFE
Outer conductor tin-soaked copper braid, Coverage 100%

Electrical data

Impedance 50 Ohms
Capacitance 94 pF/m
Velocity of signal propagation 70%
Signal delay 4,8 ns/m
Working voltage, maximum 2500V RMS
Attenuation, nominal see graph right
Power, nominal see graph right
Suitable for frequencies up to 20 GHz
Shielding effectiveness typically <-130 dB/m

General data

Flammability, passes IEC 60 332-3
Minimum bend radius
single bend 10mm
multiple bends 40mm

Connectors

Connector as semi-rigid M17/130-RG402

Additional information

Flexiform 402 (Standard):

Jacket none
OD 3,6mm
Weight, nominal 44kg/km
Operating temperature -40 to +165°C

Flexiform 402 FJ

Jacket FEP, Blue
OD 4,1mm
Weight, nominal 52kg/km
Operating temperature -40 to +165°C

Flexiform 402 HFJ

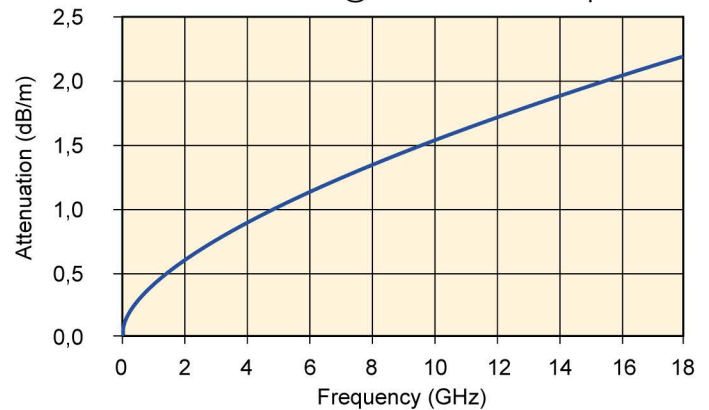
Jacket halogen-free, flame-retardant, Blue
OD 4,6mm
Weight, nominal 53kg/km
Operating temperature -30 to +80°C

Delivered on standard spools in long lengths, giving less waste than semi-rigid.

Note: All figures are nominal unless otherwise specified

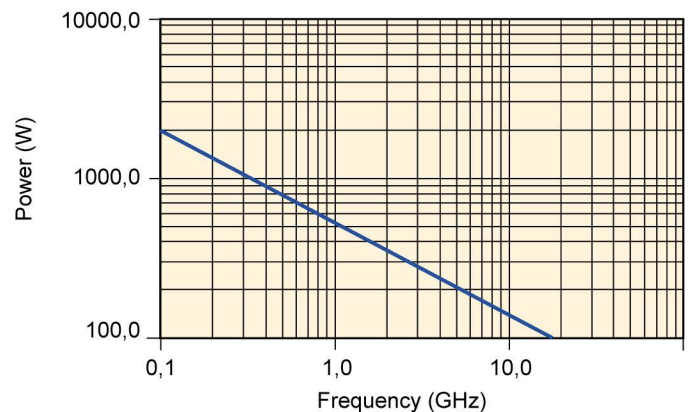
Cable Attenuation

Nominal values @ +25°C ambient temperature



Average Power

Ambient temperature 40°C at sea level & VSWR1.0



Custom design

All MIL types of coaxial cables can be manufactured using the Flexiform method or process.

Flexiform can be manufactured with a non-magnetic SPC conductor and with a copper foil under the braid.

Other impedance versions available on request.

Different types of outer jacket are also available. Please ask for details.

For even better performance, all Flexiform types can be manufactured with an extra copper foil under the braid.

The Reformable Alternative
to Semi-Rigid Coaxial Cables

Type:
Flexiform 405

Engineering data

Cable design

Centre conductor silver-plated copper-clad steel wire
Dielectric solid extruded PTFE
Outer conductor tin-soaked copper braid, Coverage 100%

Electrical data

Impedance 50 Ohms
Capacitance 94 pF/m
Velocity of signal propagation 70%
Signal delay 4,8 ns/m
Working voltage, maximum 1500V RMS
Attenuation, nominal see graph right
Power, nominal see graph right
Suitable for frequencies up to 20 GHz
Shielding effectiveness typically <-130 dB/m

General data

Flammability, passes IEC 60 332-3
Minimum bend radius
single bend 6mm
multiple bends 25mm

Connectors

Connector as semi-rigid M17/133-RG405

Additional information

Flexiform 405 (Standard):

Jacket none
OD 2,2mm
Weight, nominal 15kg/km
Operating temperature -40 to +165°C

Flexiform 405 FJ

Jacket FEP, Blue
OD 2,6mm
Weight, nominal 18kg/km
Operating temperature -40 to +165°C

Flexiform 405 HFJ

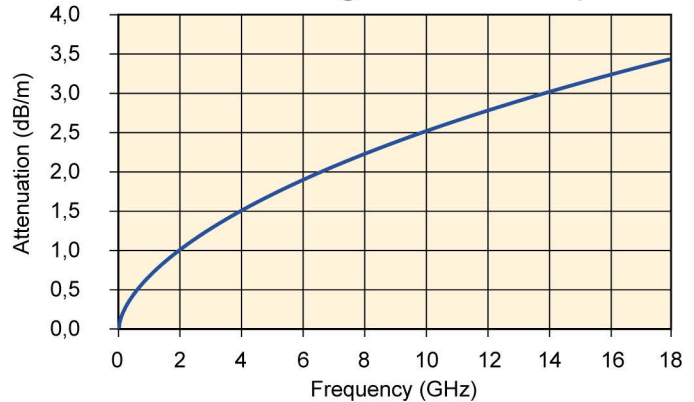
Jacket halogen-free, flame-retardant, Blue
OD 3,2mm
Weight, nominal 21kg/km
Operating temperature -30 to +80°C

Delivered on standard spools in long lengths, giving less waste than semi-rigids.

Note: All figures are nominal unless otherwise specified

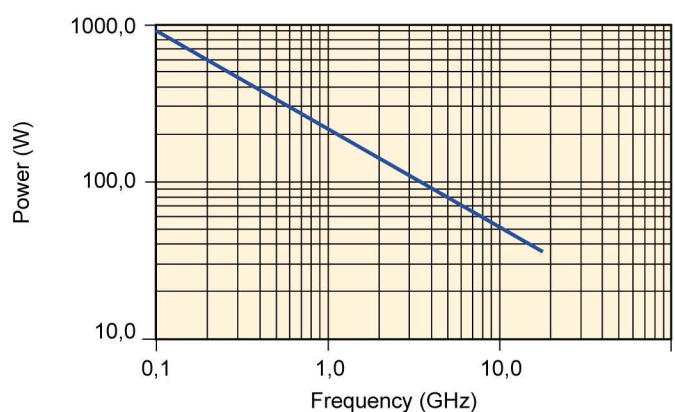
Cable Attenuation

Nominal values @ +25°C ambient temperature



Average Power

Ambient temperature 40°C at sea level & VSWR1.0



Custom design

All MIL types of coaxial cables can be manufactured using the Flexiform method or process.

Flexiform can be manufactured with a non-magnetic SPC conductor and with a copper foil under the braid.

Other impedance versions available on request.

Different types of outer jacket are also available. Please ask for details.

For even better performance, all Flexiform types can be manufactured with an extra copper foil under the braid.

Construction:

Features & Benefits:

Reformable alternative to semi-rigid coaxial cables

Offers the unique ability to be hand-formed, no special tools required

Outstanding shielding properties

Fluoropolymer (FJ) and halogen free jacket (HFJ) versions available

Alternative jacket colours available on request

Construction:

Conductor

Silver plated copper	SPC	Non-magnetic
Silver plated copper alloy	SPCA	Non-magnetic
Silver plated copper covered steel	SPCCS	Magnetic

Dielectric

Solid extruded PTFE	Natural
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Braid

Tin-soaked copper wire braid	coverage: 100%
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Jacket (optional)

FJ versions	FEP	Blue
HFJ versions	HFS 80	Blue
	HFI 100	Black

Standard Flexiform:



Flexiform FJ:



Flexiform HFJ:



Technical Data:

Habia Reference	Alternative to:	Inner conductor	Dielectric	Outer conductor	Impedance
Flexiform 151	M17/151-00002 RG 178	0,29	0,94	1,30	50
Flexiform 154	M17/154-00002	0,20	0,66	0,90	50
Flexiform 380	N/A	1,20	3,80	4,50	50
Flexiform 401	M17/129-00001 M17/129-RG401	1,60	5,30	6,40	50
Flexiform 402	M17/130-00001 M17/130-RG402 RG 142 RG 303	0,94	2,95	3,60	50
Flexiform 402-35	N/A	1,38	2,95	3,60	35
Flexiform 402-60	N/A	0,76	2,95	3,60	60
Flexiform 402-70,7	N/A	0,60	2,95	3,60	70,7
Flexiform 402-75	N/A	0,51	2,95	3,60	75
Flexiform 402-93	N/A	0,34	2,95	3,60	93
Flexiform 402-100	N/A	0,287	2,95	3,60	100
Flexiform 402 L	N/A	1,02	2,95	3,60	50
Flexiform 405	M17/133-00001 M17/133-RG405 M17/152-00001 RG 316	0,56	1,68	2,20	50

Flexiform 380, 401, 402, 402L and 405 form Habia Cable's core range of Flexiform products and details of these types can be found in this information pack. For further information on the other Flexiform types listed, please contact one of our sales offices.