

AXON' INDIA CAPABILITY: RF & MICROWAVE CABLE ASSEMBLIES



RF & COAXIAL MICROWAVE CABLE ASSEMBLIES CAPABILITY

From standard coaxial cables including low noise cables to microwave coaxial cables up to 40GHz, Axon' Cable offers a wide range of low loss and flexible microwave coaxial assemblies for the most demanding applications such as test and measurement systems, radar, antennae, surveillance systems satellite communications and defense systems.

COAXIAL CABLES UP TO 40 GHZ

PRODUCT FAMILY	MAXIMUM FREQUENCY	OPERATING TEMPERATURE
RG assemblies	3 GHz	-55°C up to +125°C
AX assemblies	18 GHz	-55°C up to +125°C
QFX assemblies	18 GHz	-55°C up to +125°C
Semi-rigid assemblies	40 GHz	-55°C up to +125°C
AXOWAVE assemblies	40 GHz	-55°C up to +125°C
Space grade assemblies	40 GHz	-55°C up to +150°C
Multiways assemblies	40 GHz	-55°C up to +125°C

TEST CAPABILITY

100% microwave cable assemblies tests are carried out by Axon' India: insulation resistance, flexlife and flexibility, dielectric withstanding voltage, insertion loss and VSWR.

Axon' India test equipment includes Vectorial Network Analyzer up to 40GHz, Time Domain Reflectometer, Thermal chambers ranging from -55°C to +125°C. These equipment allow to perform specific tests including phase matching, extreme temperature, impedance, bending, etc.

PHASE MATCHING

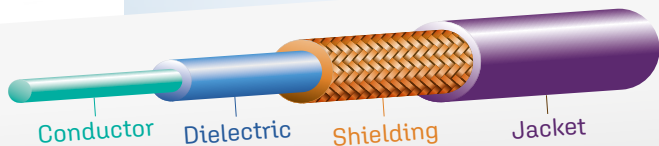
Axon' India carries out phase matching for microwave cable assemblies. Precise phase matching can be performed on demand.



RF COAXIAL CABLE ASSEMBLIES

Axon' India designs and manufactures complete range of RF cable assemblies. The entire assembly is carried-out on site. Axon' Cable offers tailor-made cable assemblies with specific cables made by Axon' or other manufacturers.

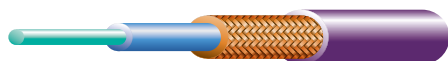
- Designed with standard cables, Axon' RF assemblies comply with MIL-DTL-17 standard or equivalents.
- Compatible with many type of connectors such as SMA, SSMA, SMB, SMP, N, TNC, BNC, QMA, SMC, etc.
- Very High performance level (optimized insertion loss up to 40 GHz).



Quasi-Flex® assemblies

Quasi-Flex® (QFX) assemblies are made of QFX cables, substitute to semi-rigid according to MIL-DTL-17 standard. The copper tube, normally used on semi-rigid cables has been replaced by an optimized tin soaked braided shield.

- Easy to install hand-formable cable with high shielding effectiveness
- High electrical performance up to 18 GHz
- Excellent memory properties
- Compatible with all standard connectors for semi-rigid cables
- Optional jacket possibility.



Conductor: Solid, SPC, SCWS

Dielectric: PTFE

Shielding: Tin soaked TPC braid

Jacket (optional): FEP, PE, POLIAX

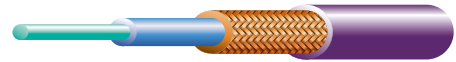
Impedance: 50 ohms

SEMI-RIGID FAMILY

AX™ assemblies

AX™ assemblies are made of AX cables, a flexible substitute to semi-rigid cables according to MIL-DTL-17 standard with a specific construction based on AXOWAVE range.

- High Electrical performance (up to 40 GHz)
- Similar dimensions as semi-rigid cables (diameter, dielectric and shielding)
- Compatible with all standard connectors for semi-rigids.



Conductor: Solid, SPC

Dielectric: PTFE

Shielding: SPC tape + SPC braid

Jacket: FEP

Impedance: 50 ohms

Semi-rigid assemblies

Semi-rigid assemblies are made of semi-rigid cables defined from MIL-DTL-17. This type of coaxial cables are not hand-formable and are shaped during the construction using specific process and control methods.

- High shielding effectiveness
- Good electrical performances
- Length precision up to 0.5 mm
- Angle precision up to 1°
- Compatible with all standard connectors for semi-rigids
- Phase matching up to 40 GHz.



Conductor: Solid, SPC, SCWS

Dielectric: PTFE

Shielding: Tube, Copper, Tin plated copper, Tin plated Aluminum

Impedance: 50 ohms

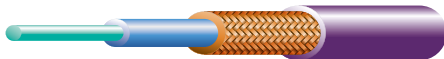
AXOWAVE™

AXOWAVE™ is a complete range of flexible low loss microwave coaxial assemblies. They are made of expanded PTFE developed and patented by Axon' brand-named CELLOFLON® with a lower dielectric constant:

- Better electrical performance of the cable thanks to a low dielectric constant
- Lower insertion losses
- Higher cut-off frequency
- Faster propagation velocity
- Weight and space saving for identical performances
- Better phase stability under mechanical stress or temperature changes.
- AXOSAT™ and AXOWAVE™ are compatible with a large panel of connectors : 2.9mm, 2.4 mm, SMA, N, TNC, etc.

AXOWAVE™ specific versions:

- Lightweight coaxial cables: 30% lighter than standard Axowave™
- Extraflex: low loss coaxial cables with optimized flex-life for high flexlife applications
- AXOLAB™: strong mechanical protection for highly challenging environments



Conductor: Solid or stranded SPC*

Dielectric: Celloflon

Shielding: SPC tape + SPC* braid

Jacket: FEP, PU, POLIAX, PFA

Impedance: 50 ohms

Axon' India designs and manufactures Axowave™ cable assemblies up to 40 GHz

- Specific connectors developed by Axon' to have the best compatibility with the cables
- Several connectors available: 2.9 mm, 2.4 mm SMA, N, TNC.

*SPC

*Silver Plated Copper Clad Aluminum
[lightweight]

*Silver Plated Copper Alloy [extraflex]

*SPC

*Silver Plated Aluminum braid [lightweight]

*SCA braid [extraflex]

AXOSAT™ SPACE GRADE ASSEMBLIES

As an established expert in the design and manufacture of Microwave assemblies, Axon' has used its 35 years' experience to develop a new range of space grade microwave assemblies called AXOSAT™. All the specific manufacturing process is carried out in a dedicated ISO 7 clean room; including thermal stabilization, soldering, curing, etc.

- Compatible with specific coaxial assemblies (QUASI-FLEX®, AXOWAVE™, AX™, etc.) and Lightweight conductors to save up to 30% of the mass
- Axon' India manufactures space grade microwave assemblies up to 40 GHz
- Specific materials to limit outgassing, increase radiation resistance or ATOX resistance.
- Compatible with connectors with specific characteristics such as venting holes.



MULTIWAY COAXIAL CABLE ASSEMBLIES

Axon' India designs and manufactures RF harnesses equipped with multiway connectors. Multiway harnesses are often phase matched.

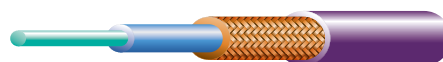
- Multiway harness with BMA contacts and D38999 connectors up to 18GHz
- 10.5 GHz SMA to TNC EXTRAFLEX harness.



RG assemblies

Axon' RG (Radio Frequency Government) assemblies are made of coaxial cables manufactured according to MIL-DTL-17 standard.

- They manufactured with PTFE dielectric and all types can be assembled
- Compatible with many connectors allowing various type of configuration
- Can be integrated in composite cables with other coaxial or standard cables.



Conductor: Solid or Stranded

SPC, SCWS

Dielectric: PTFE

Braid: Single, double, SPC

Jacket: FEP, PFA, PTFE tape

Impedance: 50 ohms, 75 ohms and others...



Axon' connectors & wires, your local partner

In order to bring the best support to Indian customers, the Axon' group opened in Bangalore a subsidiary called AXON' INTERCONNECTORS & WIRES PVT. LTD. The Indian subsidiary specializes in the manufacture of cable assemblies terminated with any type of connectors, multi-branched harnesses and RF assemblies. The company is very well versed in challenging markets including defense, aeronautics and space. As part of the Axon' Group, Axon' India offers state-of-the-art interconnect solutions made within the group.

About Axon' Cable

Headquartered in France, the Axon' group has significant sales and manufacturing footprints in North America, Europe and Asia. The group has in-house expertise in materials including conductor plating, cable insulation, moulding & overmoulding, enabling the company to offer custom-designed cables for many diverse and challenging applications.

CONTACT US

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