



Flexible flat cables to your needs

CUSTOM DESIGNED FLAT CABLES FOR YOUR SPECIAL ELECTRONICS APPLICATIONS

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AXON' interconnect group integration in harnesses is enhanced by ADDIX expertise in design and production of elastomeric shapes : ADDIX can develop special formulations and compounds to meet customer requirements.



Description

In today's sophisticated technical applications such as those found in the defense and aerospace industries a common factor is often the need for high density cabling with severe mechanical and climatic restrictions to be located in restricted spaces. To meet these applications, AXON' can offer SILFORM® products to maximise technical solutions with flat silicon cables and assemblies.

Straight or shaped flat silicon cables are the outcome of a combination of different AXON' technologies including fine flexible wires and highly flexible conductors.

SILFORM® cables and harnesses can be designed and manufactured to customer requirements including RF cables, mouldings, EMI shielding ...

AXON' with its specialist knowledge of high technology custom design wires, cables and assemblies, can now offer custom design SILFORM® solutions for advanced electronic applications.

Applications

- Forward-looking infra-red systems (FLIRs),
- Gimbals (EL & Az),
- Missiles, counter measures,
- Day/night navigation systems (air/land/sea),
- Radars,
- Helmet display systems,
- Communications / electronic systems.

A complete solution

fully integrated solution : from conductor to cables to harnesses

Extremely flexible wires

- Very high stranded conductor up to 120 strands of 25 micron silver plated copper and copper alloys.
- High flexibility and flexlife.
- Fine braided shield up to AWG 52 in silver plated copper alloy.
- Fine FEP extrusion.

SILFORM® designs

- Low and medium shore, straight or shaped forms, silicon grades.
- Controlled impedance pairs.
- Construction adapted to applications.
- Integrated wires, cables, shielded, pairs, BUS, RF, Coax ...

Miniaturised assemblies

- High quality solder and crimped termination up to AWG 36 (AWG 44 solder).
- Automated stripping (rotating blades, laser, mechanical).
- Classic connectors such as 38999, sub-D.
- Ability of AXON' CABLE with micro-D and nano D connectors including soldering, crimping, potting and moulding.
- Low and high pressure moulding / overmoulding.
- EMI termination (backshells, conductive potting, direct shield termination).

SILFORM® cables technical data

	LOW SHORE	MEDIUM SHORE
- Flexibility	VERY HIGH	HIGH
- Typical silicon hardness	30 shA	60 shA
- Typical cable thickness	2 mm	2.5 mm
- Maximum width	NO LIMIT	30 mm
WIRE CONFIGURATION		
Wire AWG	14-34	14-34
RF : coax	OK	OK
Bus, controlled impedance pairs	OK	OK
Shielded wires/pairs	OK	OK
Triple / quadruple	OK	OK
Temperature range	-50 / +170 °C	-50 / +170 °C
- SILFORM® shape	ANY SHAPE	STRAIGHT SHAPE
- Voltage	200 V AC	200 V AC

Twist capsule using SILFORM® Axotwist™

To complete the SILFORM® assembly range, AXON' has developed twist capsules with SILFORM® cables. AXON's wide experience with clock spring or rotary cassettes manufactured with FFC (flat flexible polyester cables) for automotive airbag systems has enabled the company to offer dedicated solutions for the defense and aerospace industries. Twist capsules are used when movement between a static point and a rotating point are approximately one turn as opposed to the use of slip rings when there is more than one turn. Several twist capsule solutions already exists but are made with FPC.

The AXOTWIST™ solution places SILFORM® between two metal rings (clock spring or rotary). This technical capability offers the customer an almost unlimited configuration of signal wires, with or without shielding, inner cable constructions, power cables, coaxials, bus, controlled impedance pairs ... Irrespective of cable composition, the AXOTWIST™ solution maintains low torque and high flexlife within a restricted space. AXON' can offer full flex-testing capability to meet the customer application configuration with its dedicated AXOTWIST™ flex machine. The test equipment also allows observation of the performance of the flat cables inside the metal rings.

All products are designed in close collaboration with our customers to provide the ideal technical solutions.



Quality

Test & inspection

All harnesses are 100% tested on automatic test benches which confirm a variety of parameters including correct wiring schedule and insulation resistance for every circuit. Further specific tests can be carried out on request.

A Certificate of Conformity and Test Report can be issued with every assembly or harness.

