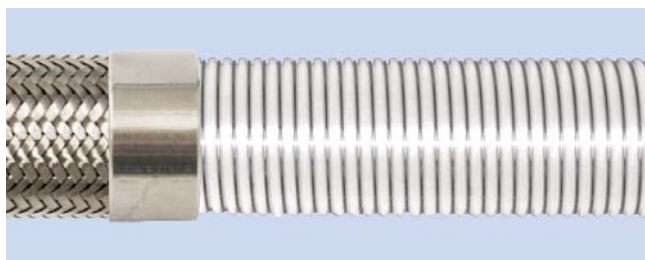


Bioflex Ultra Hose Liners

*GP - General Purpose Liner



Purpose

Bioflex Ultra GP is the 'General Purpose' grade, for use in all applications where fluids or gases are being conveyed which do not generate a risk of static charge development (see "AS").

Design & Approvals

A full list of Approvals is given on Page 11.

Bioflex Ultra GP is a virgin PTFE liner, manufactured from hose grade PTFE which conforms to the requirements of:

FDA 21 CFR 177.1550

Bioflex Ultra GP hose liner tube has also been tested, and complies with USP Class VI, at 37°C (99°F), 70°C (158°F) and at 121°C (250°F) - see page 11.

Bioflex Ultra GP and AS PTFE Liner Tubes have also been tested for Leachables and Extractables in accordance with BPSA recommendations, and were found to be satisfactory.

EC - ELECTRICAL CONTINUITY (Also known as 'Electrically Bonded')

All Bioflex Ultra hose assemblies are electrically continuous, except TO grade hose assemblies. Electrical Continuity requires that the hose assembly supplied is electrically continuous, or conductive, between metal end fittings at each end of the hose (whether GP or AS grade).

The requirements for this are specified in the German Document BRG 132 and EN ISO 8031 Annex A, when tested in accordance with EN ISO 8031, which requires that the resistance between end fittings shall be <100 ohms per assembly. For hose assemblies which meet this requirement a Grade "M" marking can be applied in accordance with EN ISO 8031 Annex A if requested.

Grade TO (Tube Only) hose assemblies are not normally EC (Electrically Continuous), which means that the electrical resistance between end fittings will usually be more than 100 ohms. However, if EC or non-EC are specific requirements for the TO hose assembly, then it is possible to ensure either, but only if the requirement is discussed in detail with Aflex Hose at the enquiry stage.

***EXCEPTIONS -**

The 3/8" hose size is not changed from the original Bioflex design. The hose liner tubes do not therefore, have increased bore size, and does not include a helical wire reinforcement as shown.

*AS - Anti-Static PTFE Liner



Purpose

Bioflex Ultra AS is an essential requirement in applications where there is the risk of an electrostatic charge build-up on the inside surface of the PTFE tube which may then discharge through the tube wall. Media passing through which create such a risk are fluids which have a Conductance of less than 10⁸ S/m (Siemens per Metre), or 10⁴ pS/m such as fuels, solvents, freons, some WFI (ultra-pure "Water for Injection") and non-polar organics which are being transferred at a medium to high flow velocity.

All twin or multi phase media, and any non-mixing media, such as powder in air, or water droplets in steam, in gases or in oil, also colloidal fluids constitute a particular hazard for static charge generation, and always require grade AS.

If in doubt, either order AS grade, or consult Aflex Hose.

Design & Approvals

Bioflex Ultra AS is an anti-static PTFE liner manufactured from FDA 21 CFR 177.1550 approved PTFE, mixed with less than 2.5% of 'high purity' Carbon Black material to FDA requirement 21 CFR 178.3297. Bioflex Ultra AS grade also meets the requirements of EC Directive 2007/19/EC. The carbon is encapsulated by the PTFE, and in normal, non-abrasive applications will not come loose to contaminate any fluid passing through.

Bioflex Ultra AS also conforms to USP Class VI, at 37°C (99°F), 70°C (158°F) and at 121°C (250°F) - see page 11.

Antistatic Hose Assemblies

When "AS" (Antistatic) grade hose is specified, then the hose or hose assembly supplied will be tested in accordance with EN ISO 8031 and meet the Antistatic requirements of EN ISO 8031 Annex A. This requires, for an antistatic liner or antistatic cover, that the resistance between an appropriately placed foam electrode and a metallic end fitting will be between 10³ to 10⁸ ohms per assembly. For hose assemblies which meet these requirements an appropriate Grade "Ω" marking can be applied in accordance with EN ISO 8031 Annex A if requested.

Note: When in service, at least one end fitting must be connected to earth, to permit dissipation of the static charge from the end fitting.