Tubings made from ePTFE (expanded PTFE) for maximum Flexibility

Industry sector: **Medical & Life Science, Textile Industry, Aerospace**

Application: **Endoscopy, Surgery, Sensor & Analysis technology**

Description:

A special manufacturing process gives the conventional PTFE hose a porous structure and thus additional properties such as high flexibility and bend resistance. Properties that are suitable for use in the minimalinva-surgery, are indispensable in mechanically flexible systems. The porosity/hardness of the ePTFE tubing can be adjusted to any application.
In addition, the ePTFE tubing can be lined with a thin-walled inliner made of FEP, for example. This layer serves to stabilize and protect the tubing, e.g. during cleaning processes with aggressive media and against mechanical destruction.

Product example: ePTFE-tubings for endos-copes

Application areas:

- Medical technology:
  - for endoscopic medical devices, allows extreme bending radii up to 270°
  - for artificial arteries or linings of tracheal cannulas
  - for covering bone defects in periodontology, oral and maxillofacial surgery, oral surgery and implantology
  - as sheathing of light guides and imager cables
- Aerospace: as sealing material
- Textile industry: as breathable clothing material
- Chemical and pharmaceutical industry as media separation

Product advantages

- Material characteristics like PTFE (e.g. universal chemical resistance)
- Flexibility/Bend resistance
- Individually adjustable porosity/degree of hardness
- Biocompatible and sterilizable
- Low sliding friction
- Reflection factor 100%
- Different types of semi-finished products can be produced (tubing, pipe, foil, plate)

Available dimensions

Depending on material density, porosity and flexibility ePTFE ducts with inner diameters of about 1.5 to 10 mm can be produced.
For small inner diameters, thin walls in the range of 0.5 mm and slightly smaller can be adjusted.

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