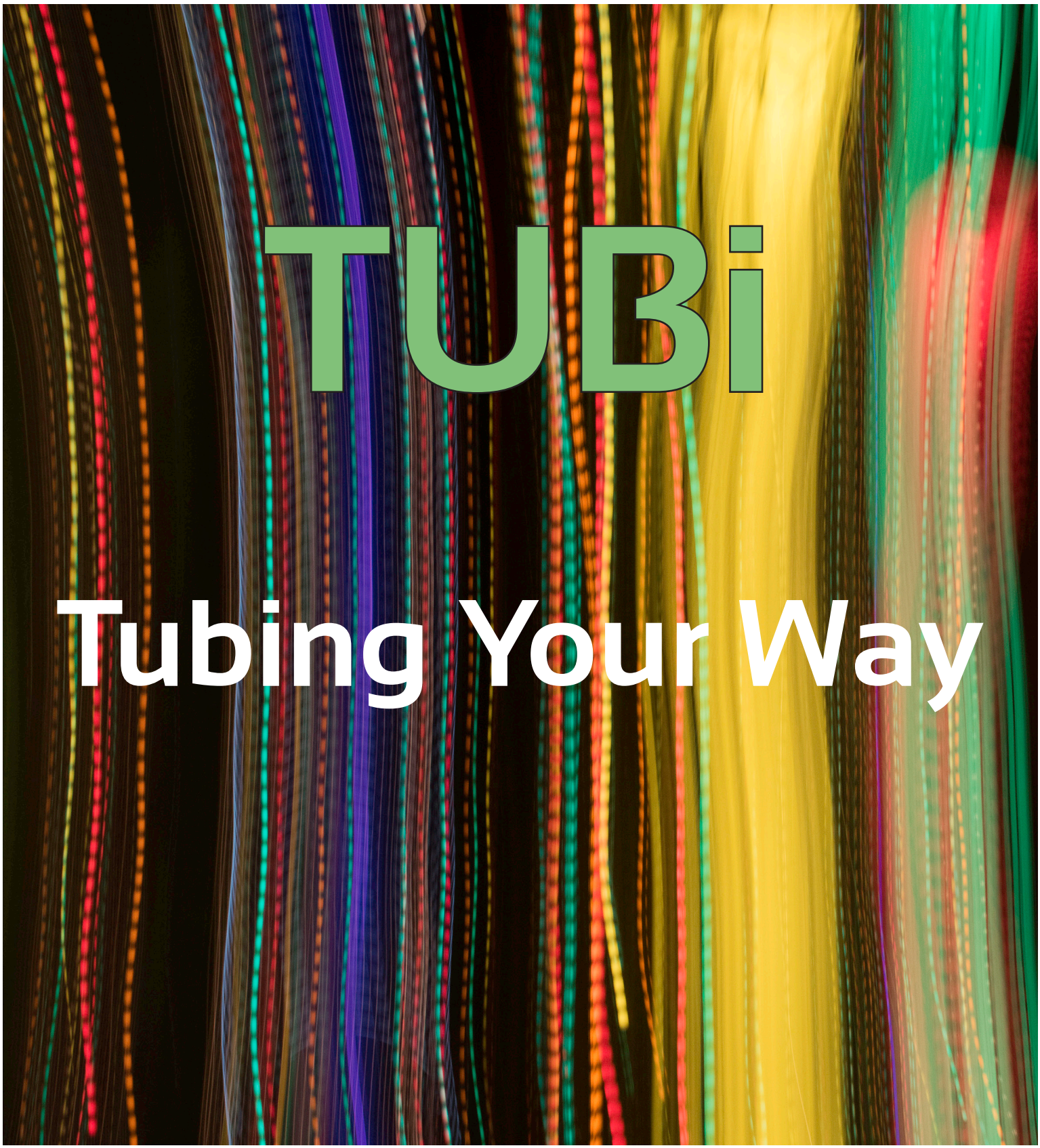
INACOM INSTRUMENTS

Issue 3

Magazine

Innovative products for fluidic systems



TUBi - TUBING YOUR WAY

Tubing is an essential part of every fluidic system. With our knowledge in the field we can assist you in finding the most suitable tubing solution for your needs. It is easy, smart and economical to ask us first. You will get tubing your way. We have a wide range of high quality tubing of different material, OD & ID and color. Furthermore, we offer clean room manicured tubing and standard to extreme tolerances on OD & ID. Our OEM solutions include customized solutions with pre-cut tubing, mounted fittings, packaging with your label and much more.

THERMOPLASTIC POLYMERS

PE - PolyEthylene

PE is categorised by the density of the polymer, LDPE (low den- sity), MDPE (medium density) and HDPE (high density).

A higher crystallinity will produce a higher density, higher melt temperature, higher strength, and a lower permeability to gases and moisture. Polyethylene is a relatively inexpensive polymer that is widely used in medical applications.

- Low friction properties (HDPE)
- Good chemical resistance
- Service temperature up to +100°C (HDPE)

PP - PolyPropylene

PP is a semi-crystalline polymer with wide versatility. PP is rather rigid and is frequently used when slightly better mechanical characteristics than HDPE are required.

- High fatigue resistance
- Good chemical resistance
- Service temperature up to +100°C

EVA - Ethylene Vinyl Acetate
EMA - Ethylene Methyl Acrylate
EBA - Ethylene Butyl Acrylate

Copolymers of ethylene and polar mo- nomers (vinyl-acetate, methylacrylate or butylacrylate), are used to produce ma- terials with various properties of stickі- ness, toughness and impact resistance.

- Flexible
- High impact resistance
- High toughness

POM - PolyOxiMethylene

POM is a highly crystalline polymer commonly named “acetal”. POM is a very hard, strong, dimension stable, opaque polymer, which is an effect of

high crystallinity.

Low friction properties

- High strength and hardness
- High wear resistance
- Low absorption and permeability of water

PET - PolyEthylene Terephtalate

PBT - PolyButylene Terephthalate

PET and PBT are two of the most commonly used polyesters. PET has a slow crystallisation process compared to all other polymers. PBT is more flexible and tougher than PET.

- High strength and hardness
- High dimension stability
- Good chemical resistance

PC - PolyCarbonate

PC is a polyester of carbonic acid that has an amorphous structure to provide transparency. PC is used for its toughness and strength.

- High strength and toughness
- Good transparency
- High dimension stability
- Extreme impact resistance

PA - PolyAmide

PA is a group of semi-crystalline thermoplastics, often referred to as Nylon®. The number of carbon atoms between the functional amide groups in PA produces different properties of this polymer with names such as PA6, PA11 and PA12 indicating these numbers. Absorption of water decreases with increasing numbers of carbon atoms.

- High strength, stiffness and hardness
- Good wear resistance
- Service temperature up to +150°

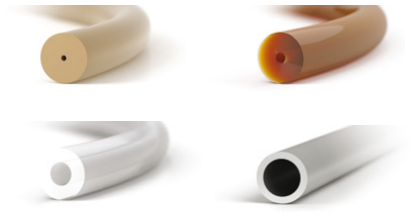
STAINLESS STEEL

Our thorough preparation and cleaning procedure guarantees tubing that is truly ready-to-use, with flat, burr-free ends and a clean finish. This care is important in achieving zero-dead-volume connections and good chromatographic results. We offer a variety of precut lengths as well as longer lengths (5' and 25') of some sizes. Tubing OD 1/32", 1/16" and 1/8".

MATERIAL

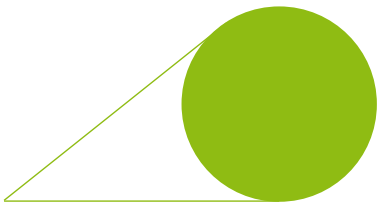
Wide variety of materials of highest quality.

- PEEK
- PTFE
- ETFE
- FEP
- PFA
- PVDF
- PE
- PP
- EVA, EMA, EBA
- POM
- PET, PBT
- PC
- PA
- Stainless Steel



OD & ID

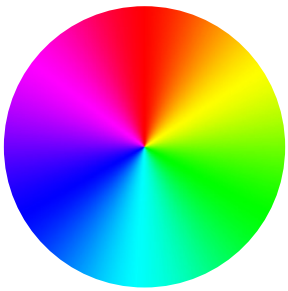
All common dimensions as well as more unusual options.



From 0.1 mm to 25 mm

COLOR

Natural or colorful.



- PEEK covered fused silica
- 1/32" and 1/16" outside diameters with a wide variety of inside diameters
- Precut to numerous standard lengths

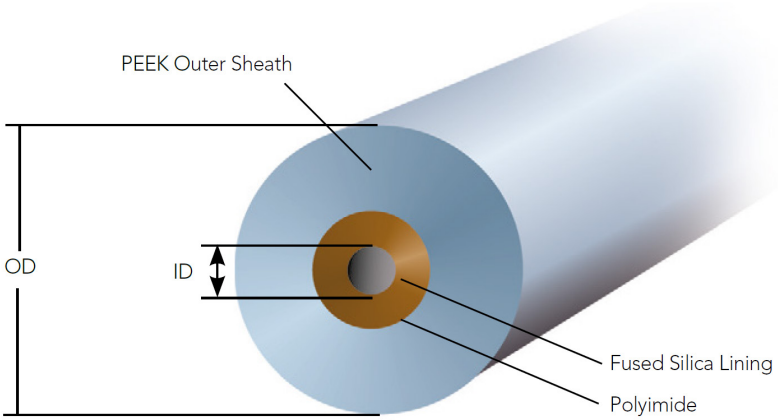
PEEKsil™ Tubing

NEW!

PEEKsil's sheathing is mechanically strong and has ideal characteristics for sealing with many styles of fittings. The fused silica core provides a consistent and rigid fluid pathway with very tight tolerances and industry-accepted chemical properties. Together, this makes PEEKsil tubing ideal for numerous applications. In fact, PEEKsil can be used as a direct replacement for conventional stainless steel or PEEK tubing in many analytical systems.

Like traditional fused silica tubing, PEEKsil has excellent chemical compatibility and extremely low adsorption characteristics, especially when compared with stainless steel.

Please Note: Do not cut this tubing. It should be used at its precut lengths because of permanent damage caused by conventional cutters.



SPECIFICATIONS & DETAILS

Tubing OD	OD Tolerance	Tubing ID	ID Tolerance
		25µ	±0.00004" (1 µm)
1/32"	±0.0008" (20 µm)	50-100 µm	±0.00012" (3 µm)
1/16	±0.0012" (30 µm)	0.15-0.30 mm	±0.0002" (5 µm)

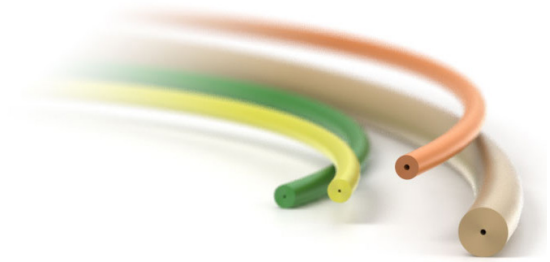
Because PEEKsil tubing has fused silica tubing at its core, the pressure rating for this tubing is determined by the inner diameter of the tubing. The following chart highlights the Maximum Pressure values for this tubing:

Tubing ID	Maximum Pressure
25 µm	25,000 psi (1,723 bar)
50 µm	20,000 psi (1,379 bar)
75–100 µm	15,000 psi (1,034 bar)
150–175 µm	8,500 psi (586 bar)

The pressure ratings provided are indicative of the performance capabilities of the tubing. The actual pressure limits achievable will depend upon the fittings used, the quality of the receiving port, and other factors. Contact your authorized Distributor for more information.

PEEK — PolyEtherEtherKetone

PEEK polymer is the flagship member of the poly(aryl)etherketone family of polymers. It has excellent chemical resistance to virtually all commonly used solvents. However, the following solvents are usually not recommended for use with PEEK: nitric acid; sulfuric acid; halogenated acids, such as hydrofluoric acid and hydrobromic acid (hydrochloric acid is approved for use in-most applications); and pure halogenated gases. Additionally, due to a swelling effect, be cautious in using the following solvents with PEEK tubing: methylene chloride, THF, and DMSO in any concentration and acetonitrile in higher concentrations. Excellent thread strength.



FLUOROPOLYMERS

PTFE - PolyTetraFluoroEthylene

The stability of the carbon-fluorine bond in combination with the very high polarity of the fluorine atom will create the unique properties of the high crystalline PTFE paste fluoropolymer. These properties are unlikely to be beaten by any other plastic material. The physiological inertness of the polymer makes PTFE ideal for medical applications. Since PTFE does not melt, it has to be paste-extruded, followed by sintering to obtain its final properties.

- Outstanding low friction properties and non stick characteristics.
- Outstanding chemical resistance.
- Excellent resistance to aging.
- Outstanding continuous service temperature from -200°C up to +260°C

ETFE - Ethylene TetraFluoroEthylene

ETFE is a copolymer of ethylene and tetrafluoroethylene. ETFE is stiff, tough and has a higher resistance to wear than most fluoropolymers.

- Excellent non-stick characteristics
- Low liquid permeability
- Good resistance to radiation
- High light transmission

FEP - Fluorinated Ethylene Propylene

FEP is a copolymer of tetrafluoroethylene and hexafluoropropylene with a linear molecule chain. FEP has almost the same characteristics as PTFE and is transparent, even though it is a semi-crystalline polymer.

- Excellent low friction properties and non-stick
- characteristics
- Excellent chemical resistance
- Outstanding continuous service temperature from -200°C up to +200°C
- Extremely smooth surface

PFA - PerFluoroAlkoxy

PFA is a transparent perfluoroalkoxy copolymer that is considered to be the thermoplastic fluoropolymer with the closest properties to PTFE, whilst being melt processable.

- Low friction properties and non-stick characteristics
- Outstanding chemical resistance
- Outstanding service temperatures up to +260°C
- High light transmission

PVDF - PolyVinyliDene Fluoride

PVDF is a polymer of vinylidene fluoride. PVDF is stiffer and hasa higher mechanical strength and resistance to wear than ETFE.

- Good chemical resistance
- Excellent abrasion resistance
- Excellent aging resistance
- Smooth surfaces

TAILORMADE TUBING - OEM SOLUTIONS

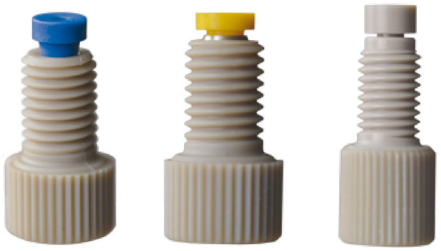
Ready-to-send kits with the tubing in desired lengths and the fittings you need; attached, labeled and packed! We help you choose the best fittings and tubing for every application!

WE HELP YOU EVERY STEP OF THE WAY:

- Wide selection of fittings and tubing
- Filters, tools, tubing markers and accessories
- Labeling with your logo and company details
- Packaging in boxes or plastic bags
- Long experience in this business
- We help you to find solutions for your needs

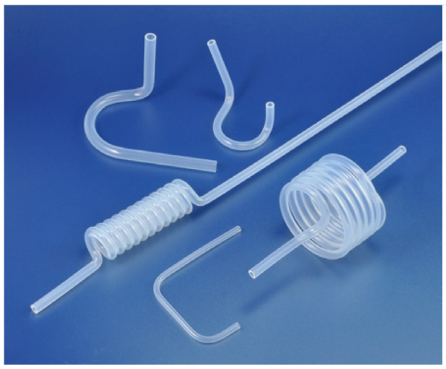
LENGTH & FITTINGS

We can mount easy-to-use fittings to your tubes. All for your convenience.
Nicely pre-cut tubing of desired length.



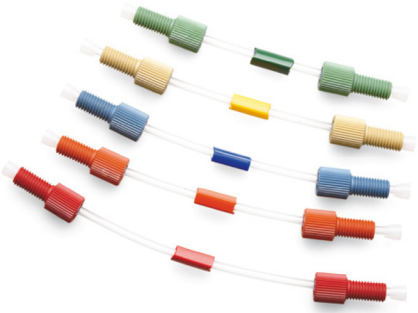
FLANGED OR THERMO FORMED

If you prefer a flanged end of the tube, or a thermo formed tube - let us know. We also manufacture knitted reaction/ delay coils.



PRINTED OR TUBING MARKERS

Make your system easy to use with printed tubes or a colored tubing marker.



CLEAN ROOM MANUFACTURED

If you have high demands regarding cleanness, we can offer clean room manufactured tubing.

Is this a part of your business?

If so, there is more, much more...

- Page 32-43 Fittings
- Page 57-59 Metric Fittings
- Page 57 Micro Fittings

etc.

If you do not have a complete IDEX catalouge... your Dealer will be glad to provide one

Fluidic Connections

IDEX Health & Science has developed a comprehensive line of standard and custom tubing, connectors, fittings, and flow control devices that meet the increasingly demanding requirements of today's high performance analytical fluidic systems. We feature specialty, high-performance polymers and distinct materials designed to work with your system needs. We offer unique products such as biocompatible PEEK-lined stainless steel tubing as well as an assortment of high pressure and fluoropolymer tubing. All of our fittings, filters and frits and connectors come in a variety of materials and styles. We can provide micro and nano-scale dimensions and well as custom forming, assembly and kitting.

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