



# Value-add Services for Extrusions

Zeus offers an array of value-add services to optimize extrusions to your precise needs.



# Advancing Applications

*Performing these operations in-house eliminates steps, thus improving manufacturing while saving time and money.*

## Experience Matters

For 50 years, we've offered an impressive selection of value-add services for advanced applications. Our ability to produce tubing with flares (accessibility), flanges (mechanical stop), etching (bonding), pad printing (graphics, text), and other value-add services allow us to optimize materials to the precise needs of the application.

## A Varied Portfolio

**CONVOLUTED/CUFFING (1):** Value-add allows for more flexibility and kink resistance compared to smooth bore tubing. We can cuff the ends of PTFE convoluted tubing to allow for a smooth finish that easily attaches to fittings.

PEEK, PTFE, PFA, FEP and ETFE

**CHEMICAL ETCHING (2):** Surface properties are physically altered to allow bonding with conventional adhesives.

PTFE and FEP

**DRAW DOWN (3):** Utilizing many manufacturing and value-add processes, we've developed the technology to reduce the ID and OD of tubing with a minimal transition length.

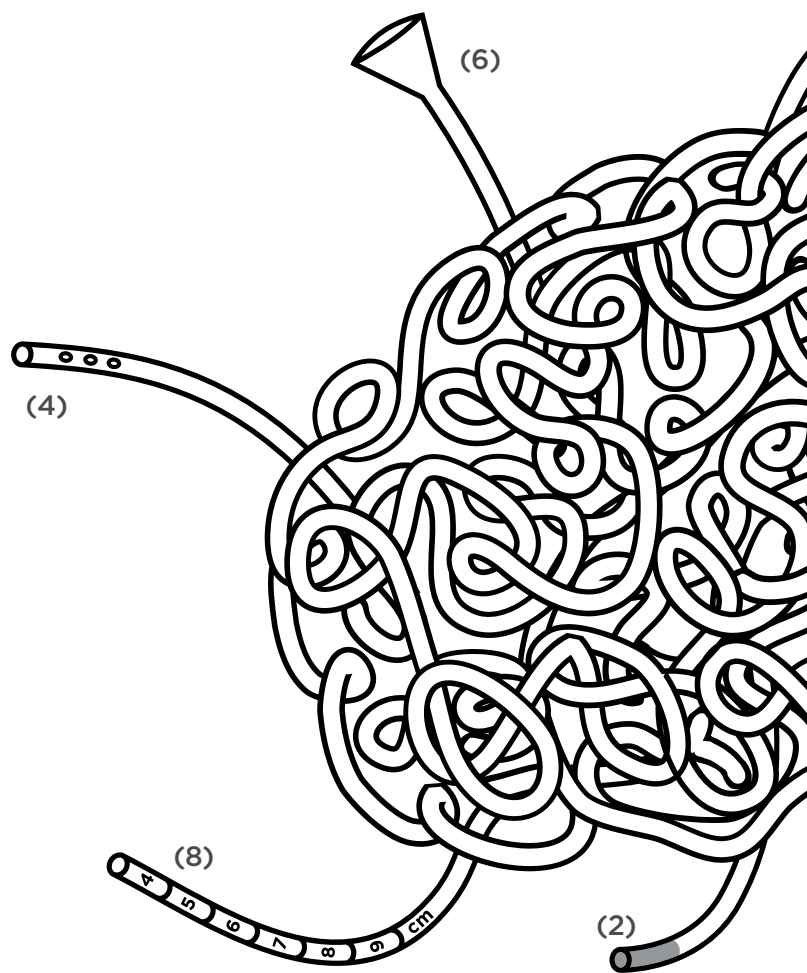
PEEK, PTFE, PFA, FEP, ETFE, Nylons, Pebax® and PE

**DRILLING/PUNCHING/SKIVING (4):** Performed through one or both walls, holes can be in line or spiraled.

PEEK, PTFE, PFA, FEP, ETFE, Nylons, Pebax® and PE

**ENGINEERED SURFACE:** Provides improved lubricity without fillers or additives, available on inner, outer or both surfaces.

PEEK, PTFE, FEP, PFA, PVDF, ETFE and Nylons

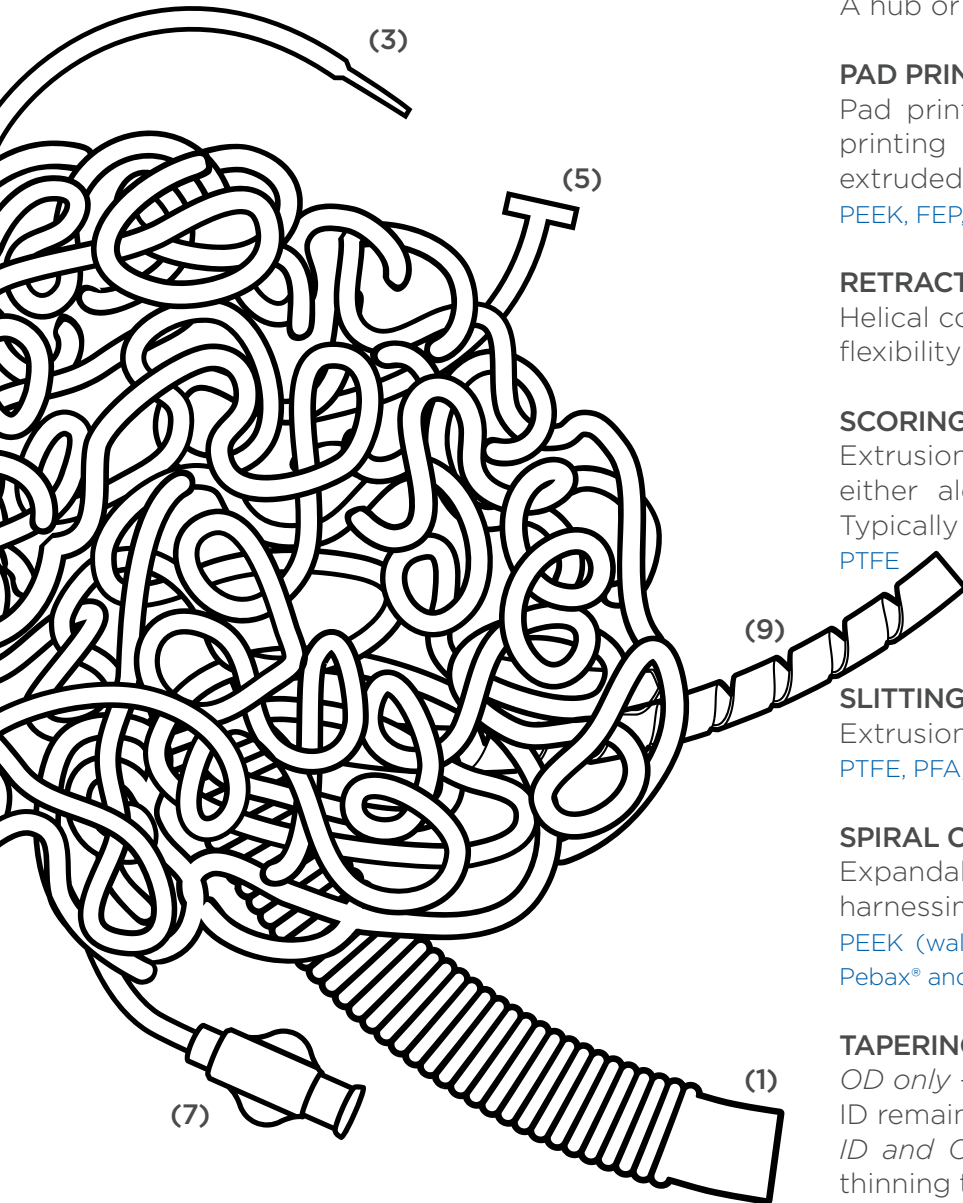


**FLANGING (5):** Extrusion is heat formed to be 90 degrees from the OD of the tube. This feature is beneficial for increasing pull strength for over molding components.

PEEK, PTFE, PFA, FEP, ETFE, Nylons, Pebax® and PE

**FLARING (6):** We're capable of forming flares onto almost any tubing we manufacture. Continual investments in high capacity equipment as well as our in-house machine shop, guarantee top quality performance with rapid turnaround.

PEEK, PTFE, PFA, FEP, ETFE, Nylons, Pebax®, THV and PE



**LIGHT PRODUCT ASSEMBLY:** Assembly of our tubing and/or other supplied components together.

PEEK, PTFE, PFA, FEP, ETFE, Nylons, Pebax®, THV and PE

#### OVER MOLDING (7)

A hub or luer insert molded onto tubing.

#### PAD PRINTING (8)

Pad printing services allow for the custom printing of graphics, logos and text onto extruded and lay-flat tubing.

PEEK, FEP, Nylons and Pebax®

#### RETRACTABLE COILS

Helical coils are heat set for a high degree of flexibility and retractability.

#### SCORING

Extrusion is partially slit through the wall either along the length or circumference. Typically used for tear-away purposes.

PTFE

#### SLITTING

Extrusion is cut down the length of the tube.

PTFE, PFA, FEP, ETFE, Pebax® and PE

#### SPIRAL CUT (9)

Expandable abrasion resistant wrap for wire harnessing and insulation.

PEEK (wall<0.008), PTFE, PFA, FEP, ETFE, Nylons, Pebax® and PE

#### TAPERING

*OD only* - outer tube wall is thinned with the ID remaining the same size

*ID and OD* - reduces the ID and OD while thinning the wall over the length of the taper.

LDPE, HDPE, PEEK and FEP

**HEAT SEALING:** Reflowing of material to seal the tip of a tube.

PEEK, PFA, FEP, ETFE, Nylons, Pebax® and PE

**LASER MARKING:** Alphanumeric text, light graphics, or other imprints.

PEEK, PFA, FEP, ETFE, Nylons, Pebax® and PE

#### TIPPING

The outer tube wall is rounded off, providing an atraumatic tip.

PEEK, FEP, PFA, PVDF, ETFE, Nylons, Pebax® and PE

#### TUBE BONDING

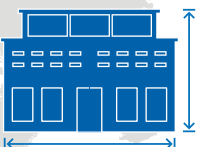
Two or more tubes are heat fused together.

PEEK, PFA, FEP, ETFE, Nylons, Pebax®, THV and PE

# About Zeus.



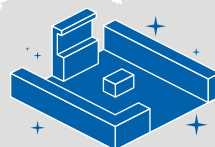
**1,500**  
EMPLOYEES



**400,000+ ft<sup>2</sup>**  
MANUFACTURING SPACE



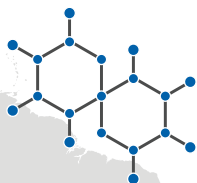
**23**  
CLEAN ROOMS



**3,876 ft<sup>2</sup>**  
DEVOTED TO  
CLEAN ROOMS



**50+**  
SCIENTISTS,  
ENGINEERS &  
R&D PERSONNEL



**5,000 ft<sup>2</sup>**  
BIOABSORBABLES  
RESEARCH & MFG.



**100+**  
CLASS VI APPROVED  
RESINS & PIGMENTS



**ZOS**  
OPERATIONAL  
EXCELLENCE



**ISO  
CERTIFIED**  
ISO 9001  
AS 9100  
ISO 13485  
IATF 16949

## - OVER 50 YEARS OF INDUSTRY SOLUTIONS -

Zeus delivers precision polymer solutions that transform businesses, markets, and lives. We have dedicated ourselves to building partnerships, products, and services for the benefit of our customers.

Headquartered in Orangeburg, South Carolina, Zeus employs approximately 1,500 people and operates multiple facilities around the world.



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