



Polymics, Ltd.

Concept to Solution®

CAM™ - Centrifugally Assisted Molding





Polymics, Ltd. has developed proprietary CAM™ technology that allows us to economically manufacture unfilled PEEK tubes to longer lengths - up to 19.0" - and thinner wall thicknesses - as small as 0.100" - than formerly possible by standard molding or extrusion processes.

CAM™ processes result in minimal scrap material and shorter run times. Despite this, the mechanical properties of the PEEK tubes are better than their compression molded and extruded alternatives, while offering lower residual stress than injection molded parts.







These tubes are commonly sliced into thin parts for use as seals and gaskets in the Oil & Gas Industry, but can also be used for a variety of other end-uses. Custom runs are also available, contact Polymics for details.



Standard Sizes/Shapes of Unfilled PEEK Tubes

-  Outer Diameters (OD) of 2.0" to 10.25" in increments of 0.25"
-  Standard Wall Thicknesses of 0.125," 0.250," 0.375," and 0.500"
-  In Outer Diameters (OD) of 3.25" and 5.75," a Wall Thickness of 0.625" is also offered
-  Lengths of 6.0" to 19.0"

Benefits of CAM™

-  Good for Small Lot Production (Batches of One)
-  Shorter Run Times with Minimal Scrap Material (Versatile for Fast Prototyping)
-  Superior Mechanical Properties (Relative to Compression Molded and Extruded Alternatives)
-  Longer Lengths (up to 19.0")
-  Thinner Wall Thicknesses (as small as 0.100")
-  Lower Residual Stress than Injection Molded Parts

Visit Us at polymics.com for More Information!



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Pyramid™ KD2000 CAM™ Tube

Polyetheretherketone (PEEK) Tube

<u>General</u>	ASTM No.	US Value	SI Unit
Specific Gravity	D792	1.3	
Water Absorption (24h4. @ 23°C, %)	D570	0.2%	
<u>Mechanical</u>			
Tensile Strength	D638	15.2 Kpsi	105 MPa
Tensile Modulus	D638	0.5 Mpsi	3.4 GPa
Tensile Elongation (Break), %	D638	>30%	
Flexural Strength	D790	20 Kpsi	137 MPa
Flexural Modulus	D790	0.5 Mpsi	3.4 GPa
<u>Thermal</u>			
Melting Point, °F	DSC	644	340°C
CLTE, linear $\mu\text{in/in} - ^\circ\text{F} (<T_g)$	D696	2.6	4.7 $\mu\text{m/m} - ^\circ\text{C}$
HDT@ 264 psi, °F	DMA	302	150 °C
Flexural Modulus, °F	D3418	289	143 °C
<u>Flammability</u>			
Flammability (1.6 mm)	UL94	V-0	
Oxygen Index (3.2 mm)	D2863	38%	
<u>Electrical</u>			
Dielectric Strength	D149	530 V/mil	21 kV/mm
Volume Resistivity	D257	1 x 10 ¹⁴ Ohm	
Surface Resistivity	D257	1 x 10 ¹⁴ Ohm	

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