

# PEEK - Polyether ether ketone



Polyether ether ketone (PEEK) is a high-performance, semi-crystalline engineering plastic known for its exceptional properties. It offers robust chemical resistance, with concentrated sulfuric acid being the only common chemical capable of dissolving it. PEEK also boasts outstanding heat resistance, wear resistance, flame retardancy, and hydrolysis resistance, making it ideal for demanding applications.

Continuous Use Temperature  
Flame Retardant Grade

260°C/500°F  
UL94 V-0

Torsional fracture torque unit: Nm

Head Type	M2	M3	M4	M5	M6	M8	M10	M12
Hexagon Head		0.25	0.5	1.1	1.93	5	10	14.75
Socket Hex Head		0.25	0.5	1.05	1.85	5.03	-	-
Slotted Countersunk Head		0.25	0.5	1.08	1.8	3.05	-	-
Cross Countersunk Head		0.25	0.5	1.05	1.95	4.02	-	-

Tensile Fracture Load : N

Head Type	M2	M3	M4	M5	M6	M8	M10	M12
Hexagon Head		0.25	0.5	1.1	1.93	5	10	14.75

➡ **The flash (end stump) of the bolt length (L) is less than or equal to 5%**  
If bolts are used with nuts, we recommend using bolts and nuts of the same material.

➡ **Table contains reference values. These are not guaranteed**  
Please use a torque wrench for tightening. The recommended tightening torque is 50% of the breaking torque.



+ 44 1273 01273  
info@caterpillar-red.com



## PolyEtherEtherKetone (PEEK) Properties

Property	Nominal Value	Unit	Test Method
Density (Crystalline)	1.30	g/cm <sup>3</sup>	ISO 1183
Water Absorption (Saturation, 23°C)	0.45	%	ISO 62
Water Absorption (Saturation, 100°C)	0.55	%	ISO 62
Tensile Modulus (23°C)	4000	MPa	ISO 527-1
Tensile Stress (Yield, 23°C)	98.0	MPa	ISO 527-2
Tensile Strain (Break, 23°C)	45.0	%	ISO 527-2
Flexural Modulus (23°C)	3800	MPa	ISO 178
Flexural Stress (23°C)	165	MPa	ISO 178
Compressive Stress (23°C)	125	MPa	ISO 604
Notched Izod Impact Strength (23°C)	8.0	kJ/m <sup>2</sup>	ISO 180/A
Deflection Temperature (1.8 MPa, Unannealed)	152	°C	ISO 75-2/Af
Glass Transition Temperature (Onset)	143	°C	ISO 11357-2
Melting Temperature	343	°C	ISO 11357-3
Shore Hardness (Shore D, 23°C)	84.5		ISO 868
Flame Retardant Rating	UL94 V-0		UL 94



+ 44 1273 01273  
info@caterpillar-red.com

