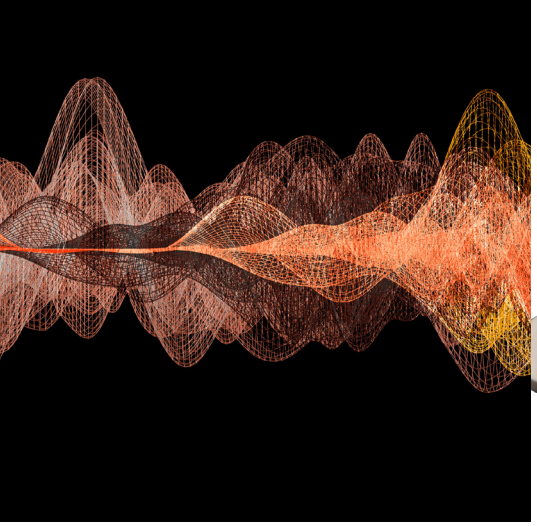
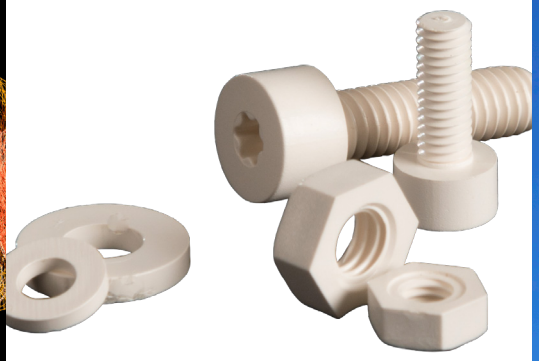


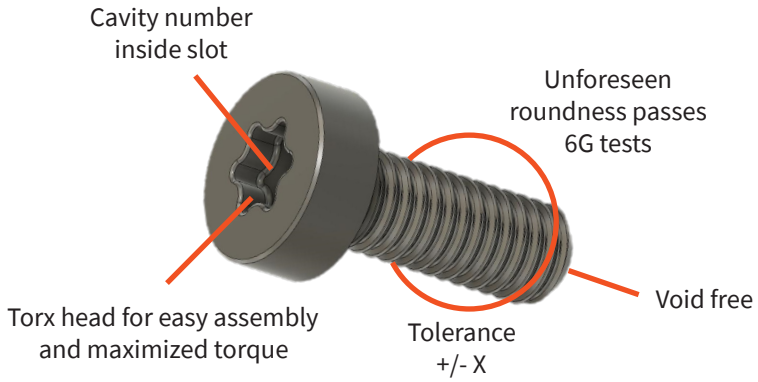


APPLICATION BULLETIN

PREPERM™ Fasteners for RF Applications

Millimeter-wave frequencies put the performance of RF materials into a real test. PREPERM™ fasteners are an excellent choice for mmWave applications due to the well-controlled and stable dielectric constant and ultra-low losses. Other benefits include e.g. high level of isotropy, low water absorption and excellent mechanical properties even in arctic conditions.

- Well-controlled and stable ε_r
- Ultra-low loss
- PIM-free guarantee
- Low water absorption
- Competitive price-performance
- Excellent traceability and quality management
- IATF 16949 certified manufacturing facility



**PREPERM WEBSHOP
for a full selection
of RF components**

www.preperm.com/webshop

PREPERM™
AN AVIENT BRAND.

	PARAMETER	PA9 (dry)	PEI	PREPERM PEEK	PREPERM PEI	ALUMINA	PREPERM TUNING
ELECTRICAL	ε_r @2.4 GHz	3.5	2.9	3.2	3.2	9.5	9.5
	Tan δ @ 2.4 GHz	0.2	0.0025	0.0025	0.0009	0.0004	0.0009
	Batch-to-batch consistency	Excellent	Excellent	Excellent	Excellent	Limited	Excellent
	PIM-free quarantee			Yes	Yes		Yes
MECHANICAL	Torque (M3) Nm	0.1	0.2	0.3–0.4	0.2–0.25	0.3	0.1–0.15
	Dimensional tolerance	Producer specific	Producer specific	Excellent	Excellent	Limited	Excellent
	Brittleness	No	Yes	No	No	Yes	No
	Vibration resistance	Excellent	Moderate	Excellent	Excellent	Limited	Excellent
	Density g/cm3	1.15	1.3	1.3	1.2	3.9	2.2
THERMAL	Max use temp °C	80	170	260	120	1500	100
	Inherent flammability (UL94/4 mm)	HB-V0	V0	V0	V0	V0	
ENVIRONMENTAL	Water absorption	6–9%	1.25%	0.5%	0.2%	0%	0.1%
	Chemical resistance	Fair	Excellent	Excellent	Good	Excellent	Fair
	Hydrolysis resistant	Limited	Yes	Yes	Yes	Yes	Yes
MANUFACTURING	Screw batch traceability and quality control			Excellent	Excellent		Excellent
	Typical slot type	Chisel or cross	Chisel or cross	Torx	Torx	Chisel or cross	Torx
	Price	Low	Moderate	Moderate	Low	High	Moderate
	Used to replace			Metallic screws	Plastic screws		Alumina screws

PREPERM materials are used in these applications:

- Radomes
- DRAs
- Tuning elements

Our PREPERM team is at your service:
www.preperm.com/contact-us

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