

Product: Fiberglass Threaded Stud and Nut

Threaded Stud & Nut in fiberglass reinforced vinyl ester. With Superior physical and mechanical properties will this product in several cases outperform the traditional material steel.

Benefits:

Corrosion Resistant

- Low Maintenance Cost
- Reduced Downtime

Electrical Insulation

- Magnetically Transparent
- Non-Conductive

High Strength

- Structural Design Capabilities

Lightweight

- Ease of Fabrication



Fiberglass Stud

Fiberglass Reinforced Polymer (FRP) studs are high strength polymer studs, pultruded with E-glass reinforcements and a Vinyl Ester resin matrix. The rods are then milled to establish Unified National Coarse (UNC) threads. Fiberglass threaded studs are used for applications where corrosion resistance, electrical and thermal insulation, light weight and high strength properties are required.

Fiberglass Nut

Nuts are available in FRP square nuts or molded flanged hex nuts. The FRP square nuts are manufactured in a high strength Vinyl Ester resin and E-Glass matrix, secondarily milled with UNC threads. The flanged hex nuts are molded with polyurethane resin with glass reinforcement. FRP square nuts and molded flanged hex nuts can be applied with standard mechanical tools.



Technical: Fiberglass Threaded Stud and Nut

Availability

Fiberglass threaded stud and nuts are available in diameters of 9,5 mm, 12,7 mm, 15,9 mm 19,1 mm and 25,4 mm. Standard Stud length is 1219 mm og 2538 mm. Special lengths and threading can be quoted upon request. Stud and Nut are available in a uniform gray color.

Properties

The ultimate thread shear strength, flexural strength, flexural modulus and double shear values were derived via full section testing and are characterized per the requirements of ASTM D7290. The characteristic value is based on material property representing the 80% lower confidence bound on the 5th percentile value of a specified population.

Physical / Mechanical Properties	Type of Nut	ASTM test	Units	9,5mm 16 UNC	12,7mm 13 UNC	15,9mm 11 UNC	19,1 10 UNC	25,4mm 8 UNC
Ultimate Thread Shear Strength (1,2,3)	CP Square Nut		Kg	368	853	997	1221	3000
	CP Molded Hex Nut		Kg	684,5	947	1173	1565	2958
Flexural Strength (2,3,5)		D790	MPa	413	413	413	413	413
Flexural Modulus (2)		D790	GPa	13,8	2,8	13,8	13,8	13,8
Ultimate Double Shear Strength (2,3,4)		B565	load Kg	1905	3357	5262	7802	12428
Dielectric Strength		D149	KV/mm	1,58	1,58	1,58	1,58	1,58
Water Absorption 24 hr Immersion		D570	%	1	1	1	1	1
Coefficient of Thermal Expansion (LW)		D696	10 ⁻⁶ K ⁻¹	9,5	9,5	9,5	9,5	9,5
Maximum Recommended Torque Strength Using CP Square Nut lubricated with SAE 10W30 Motor Oil (1)	CP Square Nut		m-Kg	0,55	1,1	2,21	3,32	6,91
	CP Molded Hex Nut		m-Kg	0,55	1,1	2,21	3,32	6,91
Stud Weight			Kg/m	0,1	0,18	0,31	0,47	0,88
Flammability	CP Square Nut	D635	Self Extinguishing on all					
	CP Molded Hex Nut	D635	Self Extinguishing on all					
Thickness Nut	CP Square Nut		mm	11	14	17	21	27
	CP Molded Hex Nut		mm	19	22	31	40	45
Width Nut	CP Square Nut		mm	17,5	22	27	32	41,3
	CP Molded Hex Nut		mm	19	25	32	50	50

1. Applies to single nut only.
2. Values statistically derived per ASTM D7290 on the actual studs.
3. Appropriate safety factors shall be applied.
4. Single Shear can be estimated by dividing the double shear value in half.
5. Flexural strength governed by compression failure. Therefore, flexural and compression strength are the same in bending.