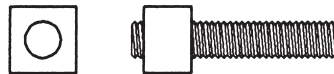


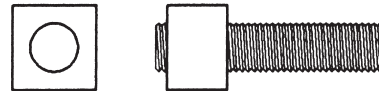
GATOR-STUD & NUTS

Pultruded Fiberglass Reinforced Structural Shapes

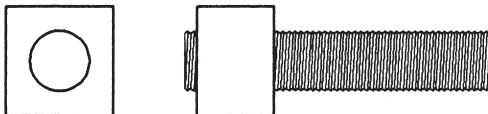
APPLICATION



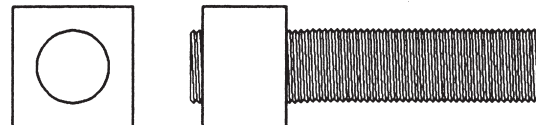
3/8" Diameter



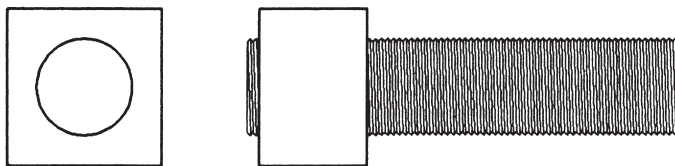
1/2" Diameter



5/8" Diameter



3/4" Diameter



1" Diameter

Reinforced Plastic Fasteners

3/8" - UNCROD	3/8" NUTS
1/2" - UNCROD	1/2" NUTS
5/8" - UNCROD	5/8" NUTS
3/4" - UNCROD	3/4" NUTS
1" - UNCROD	1" NUTS

DESCRIPTION

The ideal fastener for **GATORSHAPE** structural's is **GATOR-STUD** all-thread rod. **GATOR-STUD** is a fiberglass reinforced vinylester fastener with superior physical, mechanical and corrosion resistant properties. Both shear and tensile strength of **GATOR-STUD** are much greater than any other plastic stud, and in severe corrosive environments, **GATOR-STUD** typically outperforms metal fasteners through:

- * Ease for disassembly and reduced downtime of equipment.
- * Greater retained strength, as a percent of initial strength.
- * Virtually no maintenance cost.

MATERIAL SPECIFICATION

GATOR-STUD all thread rod is a proprietary combination of fiberglass and Class A flame vinylester resin designed specifically for mechanical fastener applications where corrosion resistance non-conductivity and non-magnetic characteristics are a must.

- * This resin is classified Class A flame spread per ASTM E-84.
- * Unlike competitive products, **GATOR-STUD** is constructed with a proprietary polymeric thread reinforcement. This means there are no exposed glass fibers after threads are machined. Exposed glass fibers when left unsealed create a track for corrosive wicking and ultimate deterioration.¹
- * Both **GATOR-STUD** and **NUTS** are produced in a uniform gray color to eliminate the need for painting or post finishing.

¹ Optimum corrosion resistance and insulating properties can be achieved by sealing with compatible resin.

PROPERTIES

Property (coupon values)	Type of Nut	ASTM Test	Units	Diameter / Threads per Inch				
				3/8" 16 UNC	1/2" 13 UNC	5/8" 11 UNC	3/4" 10 UNC	1" 8 UNC
Ultimate Thread Shear Capacity ^{1 2 6}	Square Nut		lbs.	1,000	2,000	3,100	4,500	6,200
	Hex Nut			1,250	2,500	3,900	5,650	7,400
Max. Ultimate Design Tensile Load ^{1 2 5 6}	Square Nut		lbs.	800	1,600	2,480	3,600	4,960
	Hex Nut			1,000	2,000	3,120	4,520	6,200
Flexural Strength ^{2 3}	Square Nut	D790	psi	60,000	60,000	60,000	60,000	60,000
	Hex Nut			60,000	60,000	60,000	60,000	60,000
Flexural Modulus ^{2 3}	Square Nut	D790	10 ⁶ psi	2.0	2.0	2.0	2.5	2.75
	Hex Nut			2.0	2.0	2.0	2.5	2.75
Compressive Strength (LW) ^{2 3}	Square Nut	D695	psi	55,000	55,000	55,000	55,000	60,000
	Hex Nut			55,000	55,000	55,000	55,000	60,000
Ultimate Transverse Shear ^{2 3}	Square Nut	B565	load lb.	4,200	7,400	11,600	17,200	27,400
	Hex Nut			4,200	7,400	11,600	17,200	27,400
Transverse Shear Yield ^{2 3}	Square Nut		load lb.	2,100	3,300	4,500	7,500	12,500
	Hex Nut			2,100	3,300	4,500	7,500	12,500
Dielectric Strength ^{2 3}	Square Nut	D149	KV/in	40	40	40	40	40
	Hex Nut			40	40	40	40	40
Water Absorption ³	Square Nut	D570	%	1	1	1	1	1
	Hex Nut			1	1	1	1	1
Coefficient of Thermal Expansion (LW)	Square Nut	D696	10 ⁻⁶ in/in°F	3.0	3.0	3.0	3.0	3.0
	Hex Nut			3.0	3.0	3.0	3.0	3.0
Torque Strength Using Square Nut Lubricated with SAE 10W30 Motor Oil ^{2 4 5 6}	Square Nut	Ultimate	ft-lb	8	15	33	50	115
	Hex Nut			8	15	33	50	115
	Square Nut	Recommended	ft-lb	4	8	16	24	50
	Hex Nut			4	8	16	24	50
Stud Weight ³	Square Nut		lb/ft	0.076	0.129	0.209	0.315	0.592
	Hex Nut			0.076	0.129	0.209	0.315	0.592
Flammability	Square Nut	D635		Self-Extinguishing on All				
	Hex Nut		-	-	-	-	-	-
Thickness Square Nut	Square Nut		in	0.437	0.562	0.688	0.813	1.062
	Hex Nut			0.750	0.855	1.220	1.590	1.750
Width Square Nut	Square Nut		in	0.688	0.875	1.062	1.250	1.625
	Hex Nut			0.745	1.000	1.250	1.950	2.000

LW = lengthwise

Note: the results are average values based on random sampling and testing of production lots. Composite materials are not homogeneous; and therefore, the location of the coupon extraction can cause variances in the coupon results. Seasafe publishes an average value of random samples from production lots. Optimum corrosion resistance and insulating properties can be achieved by sealing Gator-Stud with a compatible resin.

¹Applies to single nut only; multiple nuts do not yield corresponding results.

²Ultimate strength values are average obtained in design testing.

³Values are based on unthreaded rod.

⁴Torque results are dependent on several variable factors including the lubricant used, the length of stud between nuts, alignment, washer surfaces, etc. Therefore, if such results of torque tightening are important, it is vital that torque limits be determined experimentally for the exact installation conditions.

⁵Appropriate safety factors must be applied.

⁶Properties apply to Gator-Stud used with Square and Hex Nuts.



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