

STRUX® CLINCH STUDS AND NUTS

Optimal Performance in Thin Sheet and Aluminum Sheet Applications



Acument Global Technologies has developed a line of products to meet the increasing demand for fastener attachment in a wide range of steel and aluminum sheet applications. Our STRUX® line of clinch fasteners provides an external or internal thread in sheet metal stack-ups where welding is impossible or undesirable.

STRUX® Clinch Studs – External Threads

Cost-effective, high performance alternative to other staked or welded products.



STRUX® Clinch Nuts – Internal Threads

A unique configuration offers unmatched performance and reliability when compared to competitive clinch products.

One Of A Kind Performance

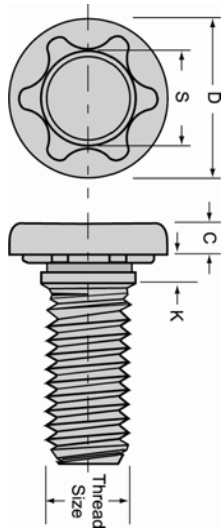
Features	Benefits
<ul style="list-style-type: none"> Heat treated to SAE grades, ISO classes or to your own specifications Studs: ISO 898-1 (metric), SAE J1199 (metric); SAE J429 (inch) Nuts: ISO 898-2 (metric); SAE J995 (inch) 	<ul style="list-style-type: none"> Greater strength May replace larger diameter, conventional weld or other non-heat treated studs
<ul style="list-style-type: none"> Displacement lobes and Retaining Groove 	<ul style="list-style-type: none"> Resist push-out and rotation during service
<ul style="list-style-type: none"> Can be used where welding is impossible or undesirable, such as joining dissimilar materials, pre-coated sheets and high strength sheet materials 	<ul style="list-style-type: none"> Eliminates hazardous welding operations Reduced potential for corrosion Provides a cleaner appearance than welded fasteners Improved centerline-to-centerline tolerances compared to weld studs and nuts
<ul style="list-style-type: none"> Unlike spot welding, joints can be created in-die with clinch fasteners and automated installation equipment 	<ul style="list-style-type: none"> Lowers in-place costs Maximizes assembly flexibility
<ul style="list-style-type: none"> Can be installed after the painting or coating process without aesthetic damage 	<ul style="list-style-type: none"> Changes and damage to the application materials are minimized
<ul style="list-style-type: none"> Unlike welding, clinch fasteners do not create a heat zone in the materials during installation 	<ul style="list-style-type: none"> No distortion due to excessive heat
<ul style="list-style-type: none"> Easy installation 	<ul style="list-style-type: none"> Increased production rates when used in a progressive die Improved product and joint integrity
<ul style="list-style-type: none"> Allows simple visual inspection 	<ul style="list-style-type: none"> Joints do not require destructive testing to determine installed strength

Efficient Installation Options

Installation of STRUX® fasteners can be achieved by using mechanical or hydraulic presses, whether your application calls for manual installation or fully automated in-line/in-die systems. Most equipment capable of feeding rivets, weld fasteners or conventional clinch fasteners will install STRUX® fasteners.

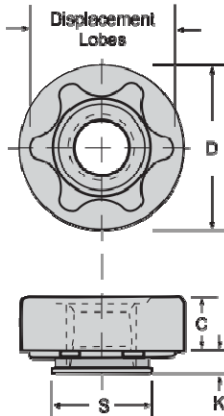


STRUX® Studs Dimensional & Performance Data† – Metric Sizes (all dimensions shown in millimeters)



Thread Size	S ±0.07	C ±0.13	D ±0.25	K Max	Mat Thick Min	Recommended Hole Size		Approx* Staking Force kN	Approx* Pushout kN	Approx* Unsupported Torsional Resistance Nm
						Min	Max			
M4 x 0.7	4.61	1.40	7.75	1.5	1.0	4.68	4.78	13.3	1.04	4.80
				2.3	1.5					
M5 x 0.8	5.61	1.75	8.75	1.5	1.0	5.68	5.78	13.3	1.09	4.00
				2.3	1.5					
M6 x 1.0	6.61	2.10	11.00	1.5	1.0	6.68	6.78	20.2	1.42	7.69
				2.3	1.5					
				3.4	2.3					
M8 x 1.25	8.61	2.80	15.25	2.3	1.5	8.68	8.78	35.6	2.40	26.78
				3.4	2.3					
				4.6	3.0					
M10 x 1.5	10.61	3.50	19.75	3.4	2.3	10.68	10.78	66.7	5.92	60.49
				4.6	3.0					
M12 x 1.75	12.61	3.80	20.00	3.4	2.3	12.68	12.78	73.4	7.26	81.14
				4.6	3.0					

STRUX® Nuts Dimensional & Performance Data† – Metric Sizes (all dimensions shown in millimeters)



Thread Size	S ±0.07	C ±0.19	D ±0.13	K Max	Mat Thick Min	Recommended Hole Size		Approx* Staking Force kN	Approx* Pushout kN	Approx* Unsupported Torsional Resistance Nm
						Min	Max			
M4 x 0.7	7.13	3.19	10.16	1.5	1.5	7.20	7.30	13.3	0.91	6.19
M5 x 0.8	7.61	4.19	11.30	1.5	1.5	7.68	7.78	26.7	1.04	12.00
				1.9	1.9					
M6 x 1.0	8.61	4.71	14.10	1.5	1.5	8.68	8.78	38.7	1.39	18.85
				1.9	1.9					
				2.3	2.3					
M8 x 1.25	10.61	5.93	16.64	1.5	1.5	10.68	10.78	44.5	1.53	21.17
				1.9	1.9					
				2.3	2.3					
M10 x 1.5	13.09	7.20	18.42	2.3	2.3	13.16	13.26	53.4	4.16	57.21
				3.4	3.4					
M12 x 1.75	15.61	9.61	23.88	2.3	2.3	15.68	15.78	108.3	4.75	75.39
				3.4	3.4					

NOTES FOR BOTH STRUX® STUDS AND NUTS:

Other sizes up through M16 available upon request.

Underhead shape and dimensions controlled by manufacturer to meet performance requirements.

*Tests conducted in low carbon steel with a maximum hardness of Rockwell B70.

†Performance data shown are typical results obtained under laboratory conditions. It is recommended that each application be tested individually for precise values. For performance in materials other than steel, individual testing is a requirement. This data is not to be considered a specification. Contact an Acument® Global Technologies applications engineer for assistance.



6125 18 Mile Road
Sterling Heights, Michigan 48314

acument.com