



CLINCH STUD®
Strux

STRUX SM™ STUD

SUPERIOR SOFT METAL CLINCH SOLUTION

Strux SM™ is our next generation of clinch product designed for soft metal, offering a stronger and more reliable assembly alternative to traditional clinch studs into the same material. Using an identical hole size and installation method to that of Strux®, Strux SM™ offers the ultimate performance into soft metal. Strux SM™ clinch studs are generally recommended for materials up to 360 MPa.



FEATURES

- ▶ New rib profile equally spaced around the head
 - Prevents rotation after being staked into sheet material
- ▶ Displacement Collar
 - Displaces sheet material into retaining groove
- ▶ Retaining Groove
 - Allows sheet material to flow inward to secure stud
- ▶ Retaining Ring
 - Barrier for displaced sheet material to prevent stud pushout

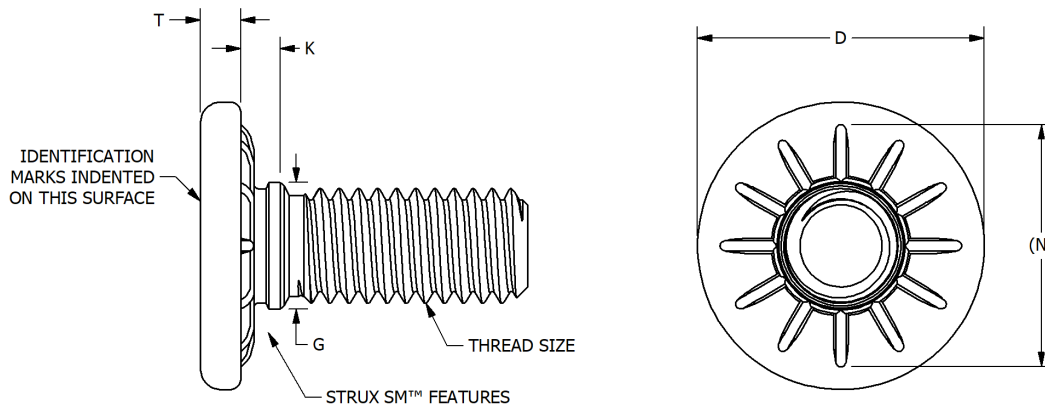
BENEFITS

- ▶ Significantly higher push out and torsional resistance in aluminum vs. current competing clinch product
- ▶ Minimalized panel distortion from installation
- ▶ Fasteners may be installed close together with less panel distortion than current competing clinch product
- ▶ Consistent performance
- ▶ Simple tooling for manufacturing
- ▶ Fast and easy installation- can be installed in-die or using automated equipment
 - Low-cost, long-life installation tooling compared to competitors
- ▶ May be installed into difficult-to-weld materials
- ▶ Seals against fluids without the need for expensive chemical sealants
- ▶ Each thread size (M5 - M12) has a single design for reduced product complexity

APPLICATIONS INCLUDE:

- ▶ Bumpers and Beams
- ▶ Heat Shield
- ▶ Battery Pack Enclosures
- ▶ Body and Closures
- ▶ Roof Rails





THREAD SIZE	DESIGN (MINIMUM MATERIAL THICKNESS) (mm)	D	T	G	K	N
		HEAD DIAMETER (mm)	HEAD HEIGHT (mm)	RETAINING RING DIAMETER (mm)	UNDERHEAD TO RETAINING RING DISTANCE (MAXIMUM) (mm)	RIB DIAMETER (mm)
M5	1.0	12.50 12.00	1.70 1.40	5.68 5.54	1.5	10.90
M6	1.0	14.25 13.75	2.00 1.70	6.68 6.54	1.5	12.40
M8	1.5	18.25 17.75	2.55 2.25	8.68 8.54	2.2	14.90
M10	2.3	22.75 22.25	3.05 2.75	10.68 10.54	2.9	17.90
M12	2.3	27.25 26.75	3.80 3.50	12.68 12.54	2.9	20.90

THREAD SIZE	DESIGN (MINIMUM MATERIAL THICKNESS) (mm)	APPROXIMATE PUSH OUT FORCE (N)	APPROXIMATE UNSUPPORTED TORSIONAL RESISTANCE (N·m)	ISO 898-7 MINIMUM BREAKING TORQUE FOR PC 10.9 (N·m)
M5	1.0	800	11.5	9.3
M6	1.0	900	20.0	16.0
M8	1.5	2,100	42.2	40.0
M10	2.3	3,800	84.4	81.0
M12	2.3	4,100	125.0	-