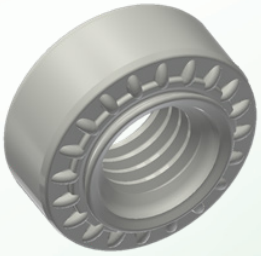
FONTANA GRUPPO
FASTENING THE FUTURE

Strux HM™

STRUX HM™ NUT

SUPERIOR HARD METAL CLINCH NUT SOLUTION

Strux HM™ is our next generation of clinch product designed for hard metal. Using an optimized hole size and the same installation method to that of Strux® nuts, Strux HM™ nuts provide superior torsional resistance when compared to traditional clinch nuts and can be installed into thinner material (0.75 mm thick).



FEATURES

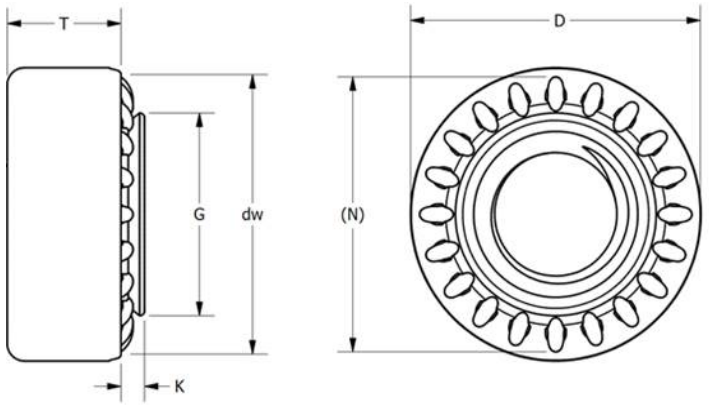
- New rib profile equally spaced around the underside of the body
  - Prevents rotation after being staked into sheet material
- Displacement Collar
  - Displaces sheet material into retaining groove
- Retaining Groove
  - Allows sheet material to flow inward to secure nut
- Retaining Ring
  - Barrier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

BENEFITS

- Significantly higher torsional resistance in thin steel vs. current competing clinch product
- Each thread size (M3 - M16) has a single design for reduced product complexity
- Consistent performance
- 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

APPLICATIONS INCLUDE:

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



THREAD SIZE	DESIGN (MINIMUM MATERIAL THICKNESS) (mm)	RECOMMENDED COARSE THREAD MINIMUM JOINT STACK-UP THICKNESS (mm)	D BODY DIAMETER (mm)	dw MINIMUM BEARING DIAMETER (mm)	T BODY HEIGHT (mm)	G RETAINING RING DIAMETER (mm)	K UNDERSIDE TO RETAINING RING DISTANCE (MAXIMUM) (mm)	N RIB DIAMETER (mm)
M3	0.75	1.0	6.80 6.60	6.1	2.27 2.15	4.95 4.80	1.00	6.4
M4	0.75	1.4	8.55 8.35	7.8	2.77 2.63	6.35 6.20	1.00	7.9
M5	0.75	1.6	10.30 10.10	9.5	4.37 4.13	7.45 7.30	1.00	9.6
M6	0.75	2.0	11.90 11.70	11.0	4.89 4.63	8.45 8.30	1.00	11.1
M8	0.75	2.5	15.30 15.10	14.4	6.43 6.17	10.45 10.30	1.00	14.4
M10	0.75	3.0	18.70 18.50	17.7	8.03 7.77	12.45 12.30	1.00	17.7
M12	1.00	3.5	22.55 22.35	21.3	10.24 9.98	14.95 14.80	1.25	21.3
M14	1.50	4.0	26.45 26.25	25.0	11.89 11.63	17.65 17.50	1.50	24.9
M16	1.50	4.0	30.15 29.95	28.6	13.89 13.63	19.65 19.50	1.50	26.9

Minimum joint stack-up thickness is calculated assuming a mating bolt with a maximum underhead distance of 2 thread pitches to the 1st gageable thread and includes the installation material thickness. Fine pitch threads will result in a lower minimum joint stack-up thickness.

THREAD SIZE	TEST COUPON THICKNESS (mm)	ASTM A1008 APPROXIMATE PUSH OUT FORCE (N)	ASTM A1008 APPROXIMATE UNSUPPORTED TORSIONAL RESISTANCE (N·m)	ISO 898-7 MINIMUM BREAKING TORQUE FOR PC 10.9 (N·m)
M3	1.00	1,400	6.2	1.9
M4	1.00	1,500	9.2	4.4
M5	1.00	1,500	14.7	9.3
M6	1.00	1,500	22.6	16.0
M8	1.00	1,500	46.7	40.0
M10	1.00	1,600	70.3	81.0
M12	1.25	2,400	144.8	-
M14	1.50	3,800	242.7	-
M16	1.50	3,700	279.4	-

Performance approximations based on installation into A1008 steel.

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