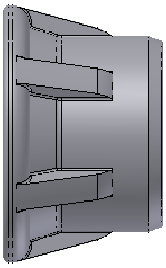
FLANGEFORM®

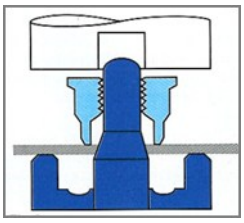


Flangeform Clinch Nuts are threaded fasteners with unique ribs designed for installation into thin gauge materials. The fastener plunges the pre-punched hole and wraps itself around the material whilst the ribs embed themselves providing an integral high strength attachment point.

PROCESS

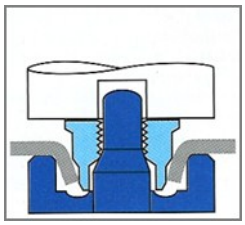
- HOLE PREPERATION—A pre-punched or drilled hole is required with a tolerance of +/- 0.1mm. Refer to product data sheet for hole sizes.
- SHEET PREPERATION— Flangeform is suited up to 80Rb.
- SHEET THICKNESS—Refer to the product data sheet for material thickness range
- INSTALLATION—Can be used on progression, transfer, off-line mechanical / hydraulic presses using auto-fed or manual technique.
- TOOLING—Mini-Die (bottom tool) will vary depending upon the material thickness, hole size and hardness

Location



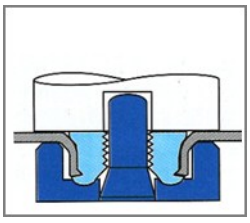
Material is placed over the mini-die and radially located on the pin

Plunging



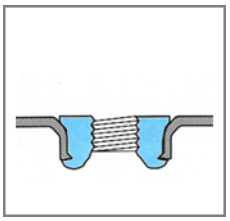
Force is applied to the nut/stud which enables it to plunge the material

Wrapping



The nut/stud is formed around the parent material by the profile of the mini-die.

Installed



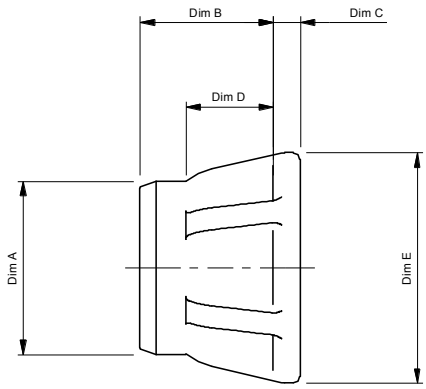
The nut is flush and integral with the component

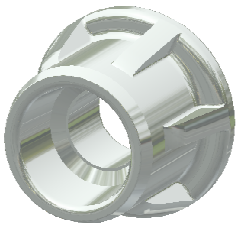
ADVANTAGES

- High strength attachment point in thin materials
- Accurate & positive positioning
- High bending moment resistance
- One fastener type per size covering material thickness range
- Pull & push out strength is of similar performance,
- Provides a flush mounting surface
- No weld splatter / fumes—environmentally friendly process
- Can be installed into 2 layers of material
- Ideally suited to multiple insertion and automated assembly in die or off line.

FLANGEFORM®

Technical data





Thread Size		Can Dia.	Overall Height	Spline Length	Flange Dia.	Material	Hole Size	Tonnage
Unified	Met-ric	A	B	D	E	mm	Typical	Typical
-	M4	6.63	5.13	2.85	8.8	0.7	4.6	3
						1	4.6	3
						1.2	4.6	3
						1.5	4.7	3.5
10-32	M5	8.25	7.68	4.25	10.9	0.7	4.8	3.5
						1	4.8	3.5
						1.2	5.5	4
						1.5	5.7	4.5
						2	5.8	5
1/4	M6	9.9	9.18	5	13.17	0.7	5.1	4
						1	5.1	4
						1.2	5.9	4.5
						1.5	6.5	5.5
						2	6.5	6
						2.5	6.6	8
5/16	M8	13.29	10.85	5.65	17.6	0.7	6.9	5
						1	6.9	5
						1.2	8	5.5
						1.5	8	7.5
						2	8.5	8
						2.5	8.6	9.5
						3	8.9	10
7/16	M10	16.48	12.58	6.45	21.75	1	9.4	8
						1.2	9.4	8.5
						1.5	10	9.5
						2	10.3	10
						2.5	11.4	11.5
						3	11.6	12
1/2	M12	19.9	16.23	8.75	26.3	1.5	11.1	16
						2	12.1	16.5
						2.5	13.1	17
						3	13.1	17.5

MATERIAL

Nuts

Steel BS EN ISO 10263-2. Finished nuts to conform to BS3692 Grade 8 mechanical properties. Other materials are available.

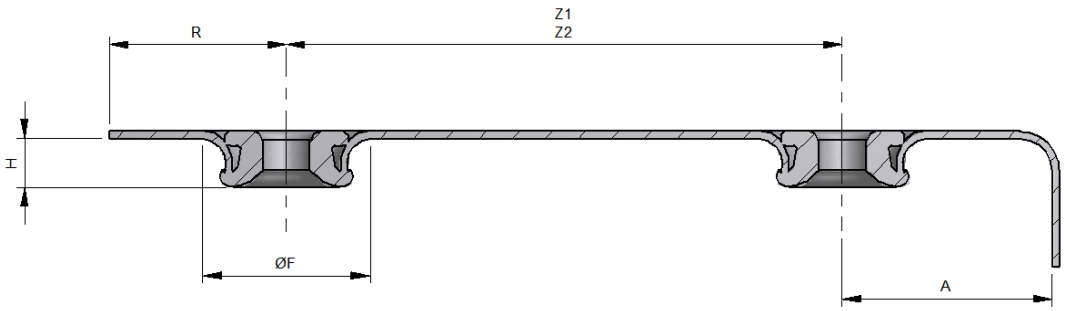
THREAD

Standard ISO Metric coarse pitch series to ISO 965/BS 3643-6H . Gauge tolerances in accordance with ISO 1502 / BS919 used to determine thread acceptability. After plating, threads must be capable of accepting a Go gauge of basic size. Other thread forms available.

FINISH

Zinc & Clear trivalent passivation as standard, other plating finishes available

INSTALLATION DATA



Flangeform nuts manual emplacement data.						
Nut size	Dimension H	Dimension ØF	Dimension R min	Dimension A min	*Dimension Z1	*Dimension Z2
M4	2.5	9.5	7.0	9.0	16.0	13.0
M5	3.8	12.5	8.5	10.0	19.0	16.0
M6	4.00-5.0	15.0	10.0	12.0	22.0	19.0
M8	5.5-7.5	19.0	14.0	15.0	28.5	24.0
M10	6.5-8.5	25.4	17.0	20.0	38.0	32.0
M12	10.2-10.7	35.0	25.0	27.0	48.0	44.0

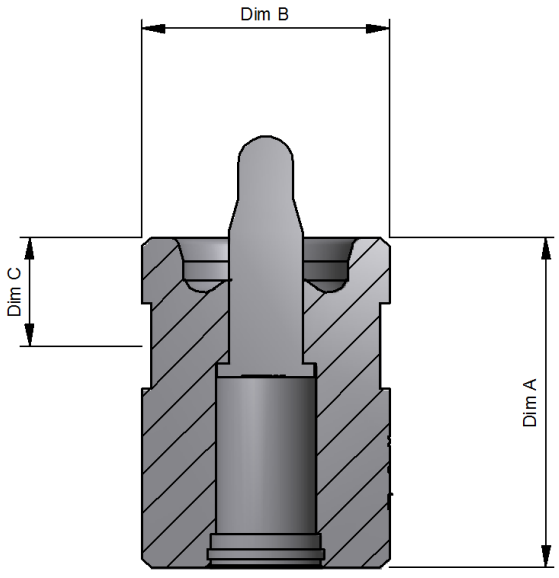
*Dimension Z1 When nuts are emplaced manualy simultaneously.
*Dimension Z2 When nuts are emplaced manualy one at a time.

These dimensions relate to when standard mini –dies are used. Mini-dies can be modified & tailored to customer needs to achieve closer A & Z dimensions.

MINI DIE INSERTION TOOL DIMENSIONS

Mini-die tools are specific for each metric / imperial size of Flangeform nut and material thickness. This data is required to choose the correct mini-die for the application.

Size	Height A	Diameter B	Groove Centre C
M4	20.70 / 20.80	15.989 / 16.000	8
M5	27.55 / 27.65	18.989 / 19.000	8
M6	32.00 / 32.10	21.963 / 21.975	12.5
M8	38.00 / 38.10	28.463 / 28.475	12.5
M10	54.00 / 54.10	37.963 / 37.975	12.5
M12	66.10 / 66.00	44.980 / 45.000	21



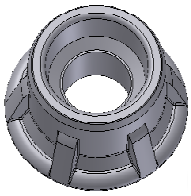
HOW TO SPECIFY

- PRODUCT CODE—High Torque Spline feature is product code 10, the standard spline feature is product code 20.
- THREAD CODE– Refer to thread code matrix
- GRADE & PLATING CODE-Grade 8 is H, 9 is J. Standard plating is Zinc & Clear trivalent passivation (W)

Part Number Layout / Meaning				
Product	-	Thread	-	Grade & Finish
10	-	M06	-	HW
10	-	M06	-	HW
10	-	M06	-	HW

Thread Code Matrix

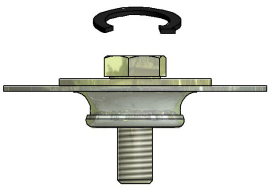
		M					
		4	5	6	8	10	12
Metric	Coarse - 6H	M04	M05	M06	M08	M10	M12
	Coarse - 6E	E04	E05	E06	E08	E10	E12
	Fine	N04	N05	N06	N08	N10	N12



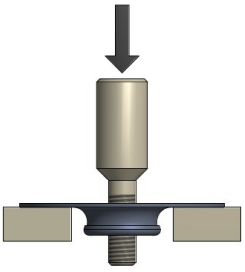
Unified	Coarse	8-32	10-24	12-24	1/4-20	5/16-18	3/8-16	7/16-14	1/2-13
		CEG	CTE	CTV	C04	C05	C06	C07	C08
	Fine	8-36	10-32	12-28	1/4-28	5/16-24	3/8-24	7/16-20	1/2-20
		FEG	FTE	FTV	F04	F05	F06	F07	F08

Performance Data

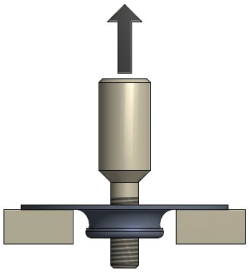
Nut Size	Material Thickness	Cold Rolled Mild Steel		
		Push-out	Pull-out	Torque-out
	mm	Kn	Kn	Nm
M5	0.7	3	4	9
	1	7	7	9
	1.5	9	10	9
M6	0.7	3.9	4.7	19
	1	7.3	7.4	19
	1.5	11.9	11	19
	2	14	11.5	19
M8	0.7	4.8	4.5	
	1	6.5	9.7	36
	1.5	13.1	16	36
	2	17	16	36
	2.5	27.9	18	36
M10	1	7.3	9.6	
	1.5	10.8	15.2	80
	2	16.7	20	81
	2.5	28	20	84
	3	29	20	86
M12	1.5	26	18	100
	2	44	24	114
	2.5	44	28	140
	3	45	31	140



Torque Out



Push Out



Pull Out

Note: The data provided above is for general guidance only and may vary depending upon material, hole size, tonnages & tooling.
For specific advice and data please contact BAS Components technical centre.