



Specialty Fastening Solutions



**KEEP-NUT™ • DEFORM-NUT®
CROWN NUTS • BONDING FASTENERS**

**A Range of Fasteners for Stone, Solid Surface
Materials, Composites and Sandwich Panels**

Order online at www.chemical-concepts.com or call 1.800.220.1966

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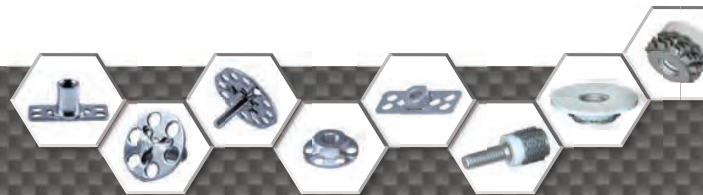


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BONDING FASTENERS



Bonding Fastener Spike

Bonding Fastener Tie

Bonding fasteners are available in a combination of base plate styles, in stud, standoff, and nut configurations.

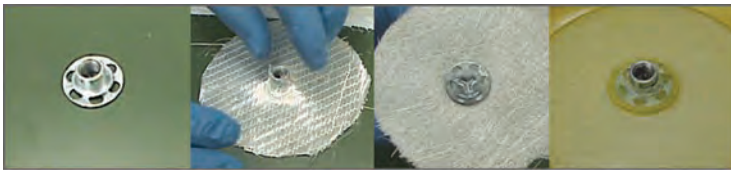
Bonding fasteners are a cost effective, secure, and reliable method of integrating male or female threads into composite, fiberglass, laminate, and carbon fibre applications.

Suitable for surface bonding using adhesive or embedding during the forming process, bonding fasteners are ideal for composites, fibreglass, carbon fibre, molding compounds, plastics, laminated timber, stone, etc.

Available in standard sizes, thread sizes, both imperial and metric, in zinc plated steel and 316 stainless steel Custom base plate, fastener type, thread/body lengths can be produced to order.



Alternatively bonding fasteners can be embedded



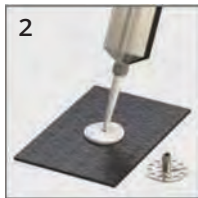
directly during the composite molding process.



A flexible manufacturing process means that specials can be produced to suit your exact requirements



1 Prepare the panel surface by cleaning thoroughly with IPA.



2 Ensuring the adhesive is fully mixed, dispense sufficient adhesive for the application.



3 Locate the bonding fastener over the adhesive.



4 Firmly press the bonding fastener into the adhesive until adhesive flows through the holes in the base plate.



5 Following the adhesive manufacturer's instructions, allow sufficient curing time.



6 Once the adhesive is fully cured, the bonding fastener is ready for use.

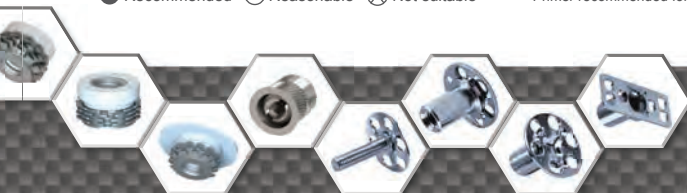
Commonly used bonding adhesives and materials compatibility

www.chemical-concepts.com

Adhesive	Composites	Plastic	Wood	Metal	Natural Stone	Engineered Stone	Glass*
LORD 406/19	●	●	⊗	●	⊗	○	○
Chem-Set™ Ultralok 420GB	●	●	⊗	●	⊗	○	○
LORD 310A/B	●	●	●	●	●	○	⊗
Chem-Set™ 633	●	●	●	○	●	○	⊗
Chem-Set™ 605	●	●	⊗	○	⊗	●	○
LORD 7545	●	●	●	⊗	⊗	○	⊗

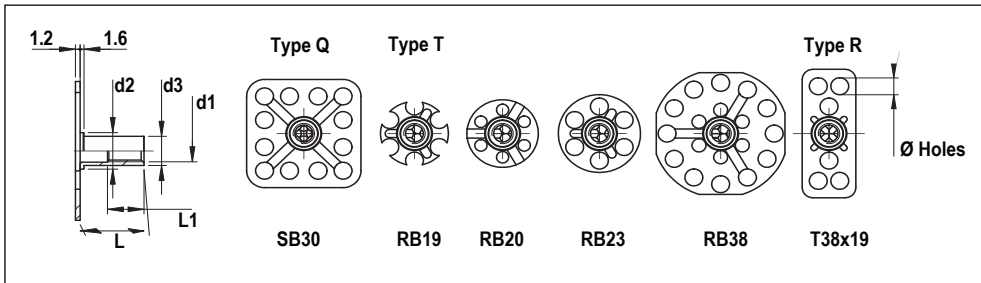
● Recommended ○ Reasonable ⊗ Not suitable

*Primer recommended for optimum bond on glass. Please refer to adhesive manufacturer specifications for guidance.



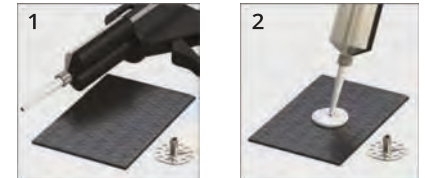
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BONDING FASTENER *MALE STUDS*

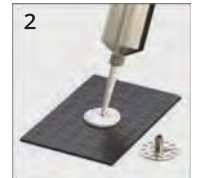


Part Code Type-Base-Thread-Length	Base Code	d1 Thread	L Standoff Length														
			0.25	0.375	0.5	0.625	0.75	0.875	1	1.25	1.5	2	2.5	3			
M1-SB30-10-24x****	SB30	10-24															
M1-RB19-10-24x****	RB19	10-24															
M1-RB20-10-24x****	RB20	10-24															
M1-RB23-10-24x****	RB23	10-24															
M1-RB38-10-24x****	RB38	10-24															
T38x19-10-10-24x****	T38x19	10-24															
M1-SB30-10-32x****	SB30	10-32															
M1-RB19-10-32x****	RB19	10-32															
M1-RB20-10-32x****	RB20	10-32															
M1-RB23-10-32x****	RB23	10-32															
M1-RB38-10-32x****	RB38	10-32															
M1-T38x19-10-32x****	T38x19	10-32															
M1-SB30-1/4-20x****	SB30	1/4-20															
M1-RB19-1/4-20x****	RB19	1/4-20															
M1-RB20-1/4-20x****	RB20	1/4-20															
M1-RB23-1/4-20x****	RB23	1/4-20															
M1-RB38-1/4-20x****	RB38	1/4-20															
M1-T38x19-1/4-20x****	T38x19	1/4-20															
M1-SB30-3/8-16x****	SB30	3/8-16															
M1-RB19-3/8-16x****	RB19	3/8-16															
M1-RB20-3/8-16x****	RB20	3/8-16															
M1-RB23-3/8-16x****	RB23	3/8-16															
M1-RB38-3/8-16x****	RB38	3/8-16															
≠	T38x19	3/8-16															

Standard Special order



1 Prepare the panel surface by cleaning thoroughly with IPA.



2 Ensuring the adhesive is fully mixed, dispense sufficient adhesive for the application.



3 Locate the bonding fastener over the adhesive.



4 Firmly press the bonding fastener into the adhesive until adhesive flows through the holes in the base plate.



5 Following the adhesive manufacturer's instructions, allow sufficient curing time.



6 Once the adhesive is fully cured, the bonding fastener is ready for use.

Material: Steel Electro Zinc or Stainless Steel

Part number is made up as follows:
M1-(Base Plate)-(Thread)-(Length)

For example:
M1-RB23-1/4-20x0.750" M1-[23mm diameter round base plate]-[1/4-20 thread]-[0.750 stud length]

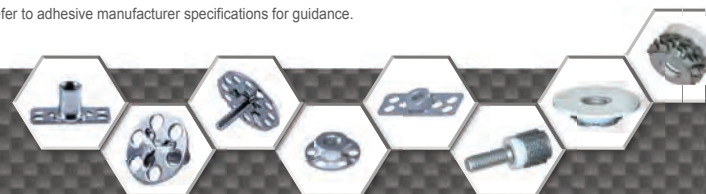
Commonly used bonding adhesives and materials compatibility

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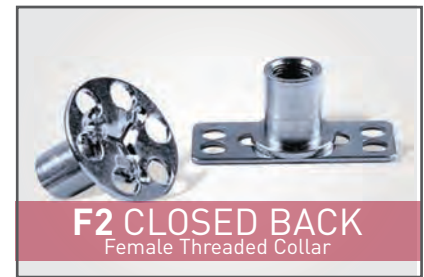
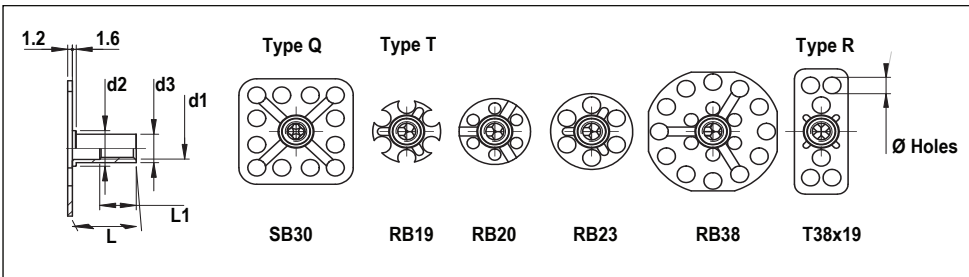
Adhesive	Composites	Plastic	Wood	Metal	Natural Stone	Engineered Stone	Glass*
LORD 406/19	●	●	⊗	●	⊗	○	○
Chem-Set™ Ultralok 420GB	●	●	⊗	●	⊗	○	○
LORD 310A/B	●	●	●	●	●	○	⊗
Chem-Set™ 633	●	●	●	○	●	○	⊗
Chem-Set™ 605	●	●	⊗	○	⊗	●	○
LORD 7545	●	●	●	⊗	⊗	○	⊗

● Recommended ○ Reasonable ⊗ Not suitable

*Primer recommended for optimum bond on glass. Please refer to adhesive manufacturer specifications for guidance.



BONDING FASTENER *FEMALE STANDOFFS*

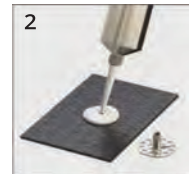


Part Code Type-Base-Thread-Length	Base Code	d1 Thread	L Standoff Length														
			0.25	0.375	0.5	0.625	0.75	0.875	1	1.25	1.5	2	2.5	3			
F2CB-SB30-10-24x****	SB30	10-24															
F2CB-RB19-10-24x****	RB19	10-24															
F2CB-RB20-10-24x****	RB20	10-24															
F2CB-RB23-10-24x****	RB23	10-24															
F2CB-RB38-10-24x****	RB38	10-24															
F2CB-T38x19-10-24x****	T38x19	10-24															
F2CB-SB30-10-32x****	SB30	10-32															
F2CB-RB19-10-32x****	RB19	10-32															
F2CB-RB20-10-32x****	RB20	10-32															
F2CB-RB23-10-32x****	RB23	10-32															
F2CB-RB38-10-32x****	RB38	10-32															
F2CB-T38x19-10-32x****	T38x19	10-32															
F2CB-SB30-1/4-20x****	SB30	1/4-20															
F2CB-RB19-1/4-20x****	RB19	1/4-20															
F2CB-RB20-1/4-20x****	RB20	1/4-20															
F2CB-RB23-1/4-20x****	RB23	1/4-20															
F2CB-RB38-1/4-20x****	RB38	1/4-20															
F2CB-T38x19-1/4-20x****	T38x19	1/4-20															
F2CB-SB30-3/8-16x****	SB30	3/8-16															
F2CB-RB19-3/8-16x****	RB19	3/8-16															
F2CB-RB20-3/8-16x****	RB20	3/8-16															
F2CB-RB23-3/8-16x****	RB23	3/8-16															
F2CB-RB38-3/8-16x****	RB38	3/8-16															
F2CB-T38x19-3/8-16x****	T38x19	3/8-16															

Standard
 Special order



1 Prepare the panel surface by cleaning thoroughly with IPA.



2 Ensuring the adhesive is fully mixed, dispense sufficient adhesive for the application.



3 Locate the bonding fastener over the adhesive.



4 Firmly press the bonding fastener into the adhesive until adhesive flows through the holes in the base plate.



5 Following the adhesive manufacturer's instructions, allow sufficient curing time.



6 Once the adhesive is fully cured, the bonding fastener is ready for use.

Material: Steel Electro Zinc or Stainless Steel

Part number is made up as follows:
F2-(Base Plate)-(Thread)-(Collar Length)

For example:
F2-RB23-1/4-20x0.750" F2-(23mm diameter round base plate)-(1/4-20 thread)-(0.750" collar length)

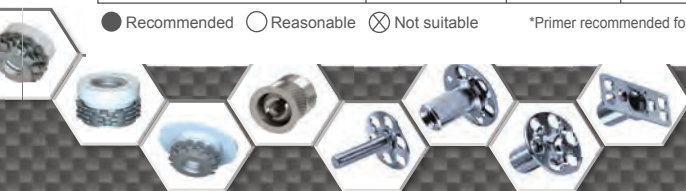
Commonly used bonding adhesives and materials compatibility

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Adhesive	Composites	Plastic	Wood	Metal	Natural Stone	Engineered Stone	Glass*
LORD 406/19	●	●	⊗	●	⊗	○	○
Chem-Set™ Ultralok 420GB	●	●	⊗	●	⊗	○	○
LORD 310A/B	●	●	●	●	●	○	⊗
Chem-Set™ 633	●	●	●	○	●	○	⊗
Chem-Set™ 605	●	●	⊗	○	⊗	●	○
LORD 7545	●	●	●	⊗	⊗	○	⊗

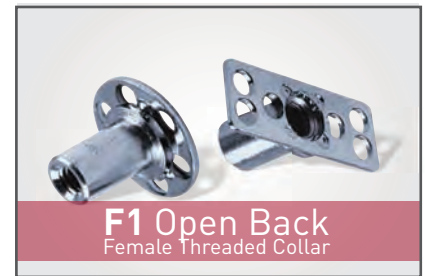
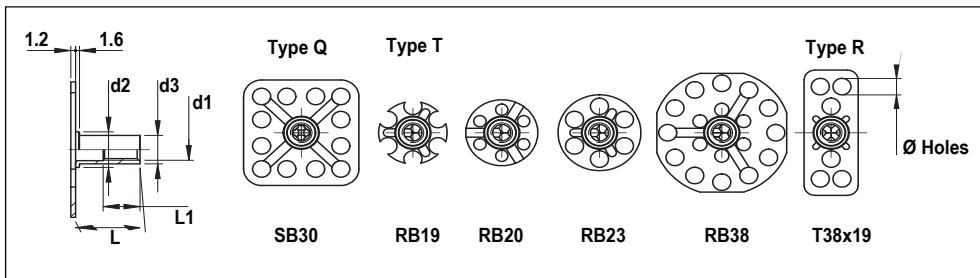
● Recommended ○ Reasonable ⊗ Not suitable

*Primer recommended for optimum bond on glass. Please refer to adhesive manufacturer specifications for guidance.



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BONDING FASTENER *OPEN BACK STANDOFFS*



Part Code Type-Base-Thread-Length	Base Code	d1 Thread															
			0.25	0.375	0.5	0.625	0.75	0.875	1	1.25	1.5	2	2.5	3			
F1-SB30-10-24x****	SB30	10-24															
F1-RB19-10-24x****	RB19	10-24															
F1-RB20-10-24x****	RB20	10-24															
F1-RB23-10-24x****	RB23	10-24															
F1-RB38-10-24x****	RB38	10-24															
F1-T38x19-10-24x****	T38x19	10-24															
F1-SB30-10-32x****	SB30	10-32															
F1-RB19-10-32x****	RB19	10-32															
F1-RB20-10-32x****	RB20	10-32															
F1-RB23-10-32x****	RB23	10-32															
F1-RB38-10-32x****	RB38	10-32															
F1-T38x19-10-32x****	T38x19	10-32															
F1-SB30-1/4-20x****	SB30	1/4-20															
F1-RB19-1/4-20x****	RB19	1/4-20															
F1-RB20-1/4-20x****	RB20	1/4-20															
F1-RB23-1/4-20x****	RB23	1/4-20															
F1-RB38-1/4-20x****	RB38	1/4-20															
F1-T38x19-1/4-20x****	T38x19	1/4-20															
F1-SB30-3/8-16x****	SB30	3/8-16															
F1-RB19-3/8-16x****	RB19	3/8-16															
F1-RB20-3/8-16x****	RB20	3/8-16															
F1-RB23-3/8-16x****	RB23	3/8-16															
F1-RB38-3/8-16x****	RB38	3/8-16															
F1-T38x19-3/8-16x****	T38x19	3/8-16															

Standard Special order



Prepare the panel surface by cleaning thoroughly with IPA.



Ensuring the adhesive is fully mixed, dispense sufficient adhesive for the application.



Locate the bonding fastener over the adhesive.



Firmly press the bonding fastener into the adhesive until adhesive flows through the holes in the base plate.



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Once the adhesive is fully cured, the bonding fastener is ready for use.

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For example:
F2-RB23-1/4-20x0.750" F2-(23mm diameter round base plate)-(1/4-20 thread)-(0.750" collar length)

Commonly used bonding adhesives and materials compatibility

www.chemical-concepts.com

Adhesive	Composites	Plastic	Wood	Metal	Natural Stone	Engineered Stone	Glass*
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Chem-Set™ Ultralok 420GB	●	●	⊗	●	⊗	○	○
LORD 310A/B	●	●	●	●	●	○	⊗
Chem-Set™ 633	●	●	●	○	●	○	⊗
Chem-Set™ 605	●	●	⊗	○	⊗	●	○
LORD 7545	●	●	●	⊗	⊗	○	⊗

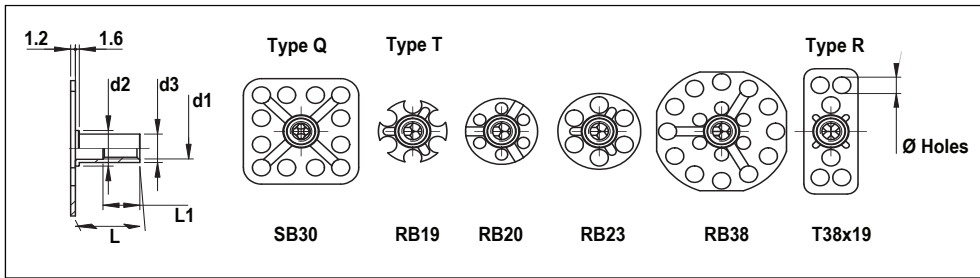
● Recommended ○ Reasonable ⊗ Not suitable

*Primer recommended for optimum bond on glass.

Please refer to adhesive manufacturer specifications for guidance.

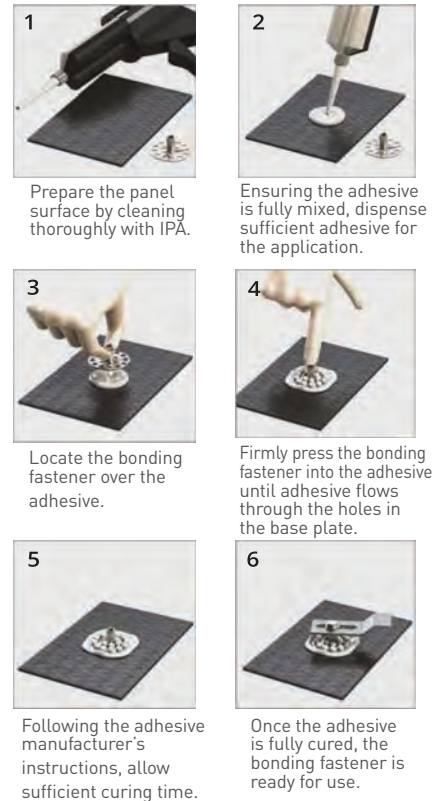


BONDING FASTENER *NUTS*



Part Code Type-Base-Thread-Length	Base Code	d1 Thread	L Standoff Length														
			0.25	0.375	0.5	0.625	0.75	0.875	1	1.25	1.5	2	2.5	3			
F1-SB30-10-24x****	SB30	10-24															
F1-RB19-10-24x****	RB19	10-24															
F1-RB20-10-24x****	RB20	10-24															
F1-RB23-10-24x****	RB23	10-24															
F1-RB38-10-24x****	RB38	10-24															
F1-T38x19-10-24x****	T38x19	10-24															
F1-SB30-10-32x****	SB30	10-32															
F1-RB19-10-32x****	RB19	10-32															
F1-RB20-10-32x****	RB20	10-32															
F1-RB23-10-32x****	RB23	10-32															
F1-RB38-10-32x****	RB38	10-32															
F1-T38x19-10-32x****	T38x19	10-32															
F1-SB30-1/4-20x****	SB30	1/4-20															
F1-RB19-1/4-20x****	RB19	1/4-20															
F1-RB20-1/4-20x****	RB20	1/4-20															
F1-RB23-1/4-20x****	RB23	1/4-20															
F1-RB38-1/4-20x****	RB38	1/4-20															
F1-T38x19-1/4-20x****	T38x19	1/4-20															
F1-SB30-3/8-16x****	SB30	3/8-16															
F1-RB19-3/8-16x****	RB19	3/8-16															
F1-RB20-3/8-16x****	RB20	3/8-16															
F1-RB23-3/8-16x****	RB23	3/8-16															
F1-RB38-3/8-16x****	RB38	3/8-16															
F1-T38x19-3/8-16x****	T38x19	3/8-16															

Standard Special order



Material: Steel Electro Zinc or Stainless Steel
 Part number is made up as follows:
 F1-(Base Plate)-(Thread)
 For example:
F2-RB23-1/4-20 F2-(23mm diameter round base plate)-(1/4-20 thread)

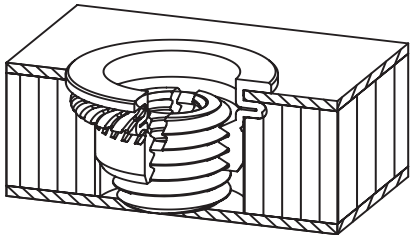
Commonly used bonding adhesives and materials compatibility www.chemical-concepts.com

Adhesive	Composites	Plastic	Wood	Metal	Natural Stone	Engineered Stone	Glass*
LORD 406/19	●	●	⊗	●	⊗	○	○
Chem-Set™ Ultralok 420GB	●	●	⊗	●	⊗	○	○
LORD 310A/B	●	●	●	○	●	○	⊗
Chem-Set™ 633	●	●	●	○	●	○	⊗
Chem-Set™ 605	●	●	⊗	○	⊗	●	○
LORD 7545	●	●	●	⊗	⊗	○	⊗

● Recommended ○ Reasonable ⊗ Not suitable *Primer recommended for optimum bond on glass. Please refer to adhesive manufacturer specifications for guidance.



THE INSERT SYSTEM FOR SANDWICH PANELS



Deform-Nut® is a patented threaded insert system that combines mechanical anchoring and structural adhesive to provide strong load-bearing threads in sandwich panel materials (with a honeycomb or composite internal structure).

Expensive or complex solutions such as resin potting or bonding of bushes and tie rods can be avoided.

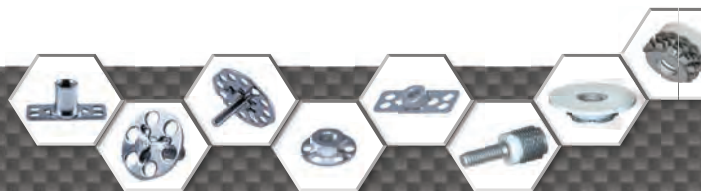
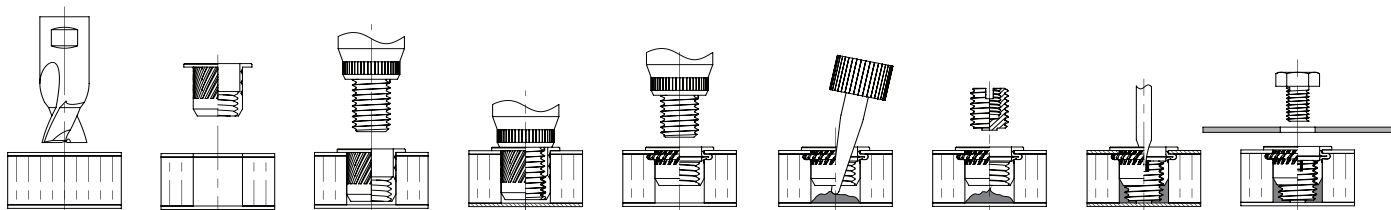
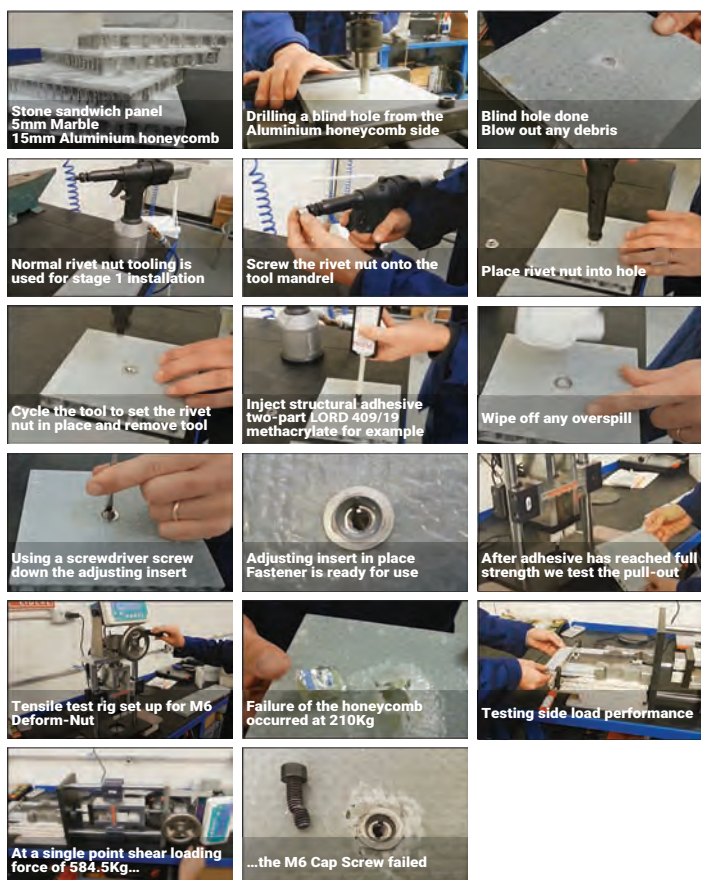
Furthermore, Deform-Nut allows you to use the same type of product in a wide range of sandwich panel materials and thicknesses, is easy and quick to install and doesn't require any further processes or finishing after installation.

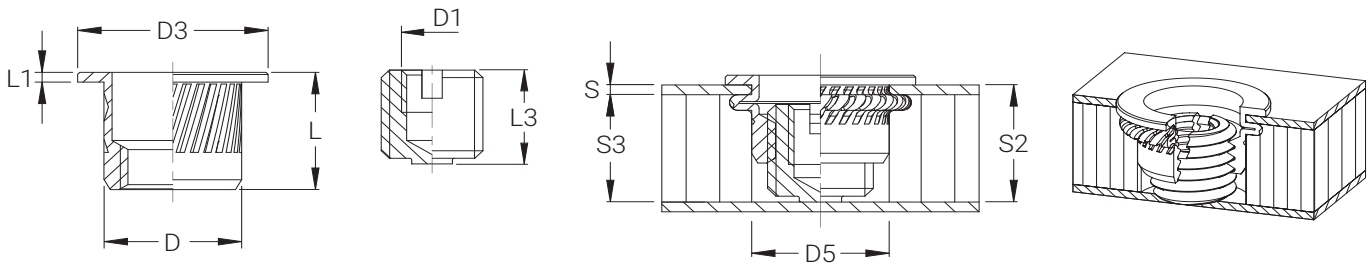
Deform-Nut can be used in any composite material panel, resins, carbon fibre, light alloy, and more.

The 3 stage system comprises:

- A special rivet nut style fastener which is riveted in to the top skin of the panel using conventional rivet nut hand or air tooling
- Structural adhesive is then injected into base of the rivet nut
- A separate adjusting nut is then screwed into the rivet nut until it bottoms out on the bottom skin, displacing the adhesive into the surrounding structure to increase load strength

1. Drill the correct hole from one side of the panel (blind hole)
2. Insert the rivet nut in the hole
3. Using rivet nut setting tool, pull up the rivet nut to attach it to the top skin of the sandwich panel
4. Inject structural adhesive
5. Insert and screw down the threaded adjusting insert until it reaches the bottom skin of the sandwich panel
6. Fastener is ready for use (time to full strength is dependant on structural adhesive properties)





Dimensional

Part Code	D1 Thread	S Skin Thickness	S3 Min.	S2*	L3	L	D	D3	L1	D5 +0.15 -0.00
TC/CM08XZI-M6/10X	M6	0.5 - 2.0	13.5	13.5	10.0	14.8	11.0	14.0	1.3	11.0
TC/CM08XZI-M6/15X				18.0	15.0					
TC/AM08XZI-M6/15X	M6	0.5 - 3.5	15.7	19.0	15.0	17.0	11.0	14.0	1.3	11.0
TC/AM08XZI-M6/20X				24.0	20.0					
TC/AM08XZI-M6/25X				29.0	25.0					
TC/BM08XZI-M6/15X	M6	3.0 - 6.0	18.2	21.0	15.0	19.5	11.0	14.0	1.3	11.0
TC/BM08XZI-M6/20X				26.0	20.0					
TC/BM08XZI-M6/25X				31.0	25.0					
TC/DM10XZI-M6/10X	M6	0.5 - 2.0	11.0	14.0	10.0	12.0	13.0	18.0	1.0	13.0
TC/DM10XZI-M6/15X				19.0	15.0					
TC/DM10XZI-M6/20X				24.0	20.0					
TC/AM10XZI-M6/15X	M6	0.5 - 3.5	19.5	19.5	15.0	21.0	13.0	16.0	1.5	13.0
TC/AM10XZI-M6/20X				24.5	20.0					
TC/BM10XZI-M6/15X	M6	3.0 - 6.0	22.0	22.0	15.0	23.5	13.0	16.0	1.5	13.0
TC/BM10XZI-M6/15X				27.0	20.0					
TC/DM12XZI-M8/15X	M8	0.5 - 2.0	17.0	18.0	15.0	18.5	15.0	18.0	1.5	15.0
TC/DM12XZI-M8/20X				23.0	20.0					
TC/AM12XZI-M8/20X	M8	0.5 - 3.5	23.0	24.0	20.0	25.0	15.0	18.0	2.0	15.0
TC/AM12XZI-M8/25X				29.0	25.0					
TC/BM12XZI-M8/20X	M8	3.0 - 6.5	26.0	26.0	20.0	28.0	15.0	18.0	2.0	15.0
TC/BM12XZI-M8/25X				31.0	25.0					

Standard Special order

* S2 dimension variable depending on S dimension and adjusting insert set-up.

Material

Rivet Nut: 303 Stainless Steel
Adjusting Insert: 303 Stainless Steel

www.chemical-concepts.com



Chemical Concepts
Our customers stick with us.

Chemical Concepts, 410 Pike Road
Huntingdon Valley, PA 19006
1.800.220.1966
www.chemical-concepts.com

KEEP-NUT® INSERTS

Keep-Nut® is a press-in threaded insert that utilises a mechanical anchoring feature, to provide permanent threads in panels made of marble, granite or other stones, as well as composites, carbon, Corian®, HPL, glass and others solid surface materials.

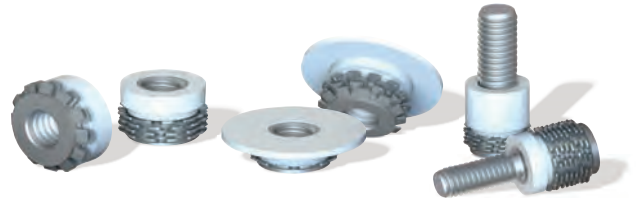
Keep-Nut is manufactured in stainless steel and consists of a threaded bush, a set of toothed spring washers (crowns), and a plastic ring holding the parts together. Available in different lengths, with or without flange, to fit several different panel thicknesses, Keep-Nut can be installed quickly since the user simply needs to drill the material with the correct hole diameter and press-in the insert. Keep-Nut can also be customised with different versions and sizes, to meet specific customer requirements.

The Keep-Nut insert is specifically developed to fasten ventilated façades, wall-coverings, décor and interiors, furniture, kitchen and sanitary elements, as well as a variety of other applications.

Keep-Nut inserts have several advantages compared to other fasteners for stone and solid materials. The preparation needed is just a cylindrical hole – an undercut hole is not required – which means that standard tools can be used. In addition, assembly by pressure is quick and easy and does not require use of any additional resins or adhesives. Keep-Nut inserts can be used for hidden assemblies without any protruding parts, facilitating the handling and installation of a variety of materials.

In use, the crowns are engaged by axial force, acting radially against the hole wall, effectively permanently locking the insert in place. In addition, the internal thread does not run completely through the bush, which prevents extraction as a result of the use of an excessively long screw.

Keep-Nut is a trademark of SPECIALINSERT S.r.l., Corian is a trademark of E. I. du Pont de Nemours and Company.



Comparison of results from tests carried out on a range of materials.

Material	Keep-Nut Type	Average pull-out load on a single insert (lb)*
Granite 20mm—.79"	SPE-IM4S/**/H8.5	1080
Marble 20mm—.79"	SPE-IM4S/**/H8.5	848
Travertine 20mm—.7"	SPE-IM4S/**/H8.5	496
Fibre cement (high density) 12mm—.47"	SPE-IM4S/**/H8.5	606
Fibre cement (high density) 10mm—.39"	SPE-IM4S/**/H8.5	526
Fibre cement (high density) 8mm—.31"	SPE-IM2S/**/H6	275
HPL 12mm—.47"	SPE-IM4S/**/H8.5	1192
HPL 10mm—.39"	SPE-IM4S/**/H8.5	1347
HPL 8mm—.39"	SPE-IM2S/**/H6	595
Corian 12mm—.47"	SPE-IM4S/**/H8.5	1067
Corian 10mm—.39"	SPE-IM2S/**/H6	650
Agglomerate stone 15mm—.59"	SPE-IM4S/**/H8.5	672
Tempered glass 5mm—.19"	SPE-IM1S/**/H5	165

* Tests were carried out under laboratory conditions. Pull-out figures are indicative only and are offered for guidance purposes. It is recommended that you undertake your own tests in the actual application panel material.



1 Prepare hole in base material to correct specification.



2 Verify hole diameter using Go/No-Go gauge. Check hole depth against reference line on Go side of gauge.



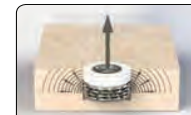
3 To ensure correct installation it is recommended that a threaded mandrel is used. Fully screw on the insert and drive into the hole.



4 Unscrew the mandrel and the insert is installed and ready for use.

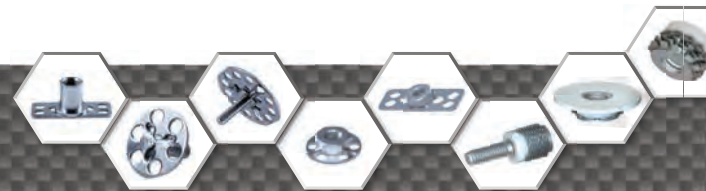


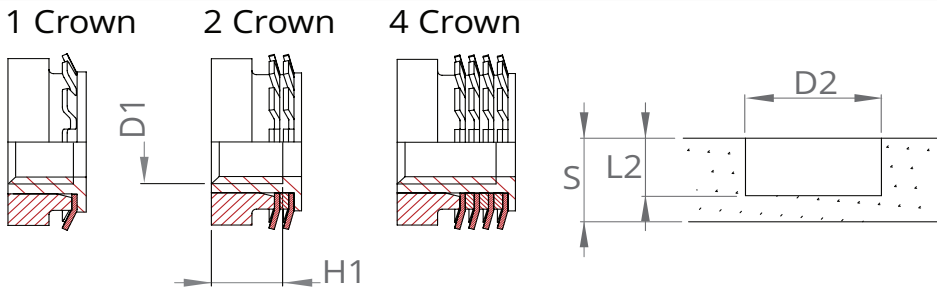
5 Example assembly



Advantages

- Simple hole preparation
- Quick installation
- No need for resins or adhesives
- Radial force is produced only while the insert is under tensile load. The crowns spread the load into the parent material, allowing large loads to be carried
- Thread stops before end of insert, avoiding extraction as a result of the use of an excessively long bolt





Material & Finish

Bush: Stainleds Steel
Crown: Stainless Steel
Body: Plastic

Part Number Examples

Part number is made up as follows:
SPE (Type code)-(Thread)-(Height)

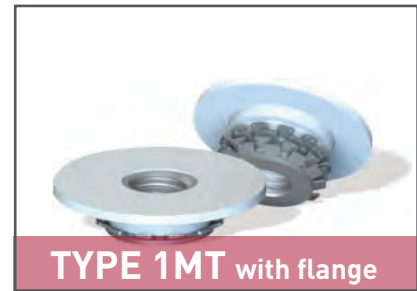
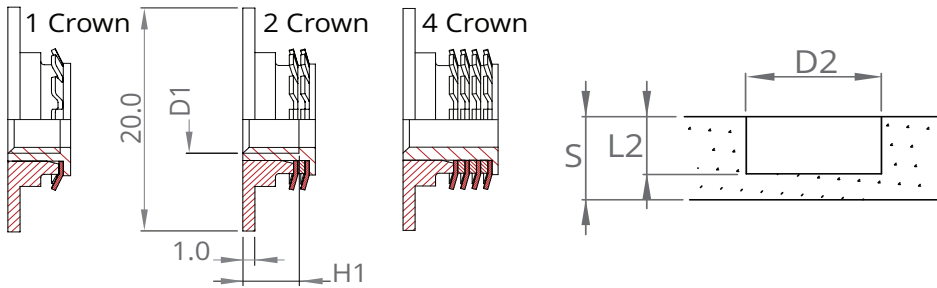
For example:
SPE-IM2S/1.4-20/H6

SPE-(IM 2 Crown S Version) 1/4-20 Thread) (6mm Height)

Dimensional

(Type) (Thread) (Height Code)	D1 Thread	S Min. Thickness**	H1 Thread Depth	D2 Hole O±0.2	L2 Hole Depth +1.0	No. of Crowns	Installation Force (kN)*	Pull-Out Force (kN)*
SPE-IM1S/**/H5	M4	8.0 mm 0.32"	4.5 mm 0.18"	12	5.5 mm 0.22"	1	0.2 kN 45 lbs	0.9 kN 202 lbs
	M5							
	M6							
	10/24							
	1/4-20							
SPE-IM2S/**/H6	M4	8.5 mm 0.34"	5.5 mm 0.22"	12	6.5 mm 0.26"	2	0.4 kN 90 lbs	2.5 kN 562 lbs
	M5							
	M6							
	10/24							
	1/4-20							
SPE-IM4S/**/H8	M4	11.0 mm 0.43"	7.5 mm 0.30"	12	9.0 mm 0.36"	4	1.0 kN 225 lbs	3.5 kN 787 lbs
	M5							
	M6							
	10/24							
	1/4-20							
SPE-IM4T/**/H15	M6	17.5 mm 0.69"	14.0 mm 0.55"	12	15.5 mm 0.61"	4	1.0 kN 225 lbs	4.2 kN 944 lbs

*Figures are indicative only and are offered for guidance purposes. **Minimum material thickness is related to parent material characteristics. It is recommended that you undertake your own tests in the actual application panel material.



Material & Finish

Bush: Stainleds Steel
Crown: Stainless Steel
Body: Plastic

Part Number Examples

Part number is made up as follows:
SPE (Type code)-(Thread)-(Height)

For example:
SPE-IM2T/1.4-20/H6

SPE-(IM 2 Crown T Version) 1/4-20 Thread) (6mm Height)

Dimensional

(Type) (Thread) (Height Code)	D1 Thread	S Min. Thickness**	H1 Thread Depth	D2 Hole O±0.2	L2 Hole Depth +1.0	No. of Crowns	Installation Force (kN)*	Pull-Out Force (kN)*
SPE-IM1T/**/H5	M4	7.0 mm 0.28"	4.5 mm 0.18"	12"	4.5 mm 0.18"	1	0.2 kN 45 lbs	0.5 kN 112 lbs
	M5							
	M6							
	10/24							
	1/4-20							
SPE-IM2T/**/H6	M4	7.5 mm 0.30"	5.5 mm 0.22"	12"	5.5 mm 0.22"	2	0.4 kN 90 lbs	1.7 kN 382 lbs
	M5							
	M6							
	10/24							
	1/4-20							
SPE-IM4T/**/H8	M4	10.0 mm 0.39"	7.5 mm 0.30"	12"	8.0 mm 0.31"	4	1.0 kN 225 lbs	2.9 kN 652 lbs
	M5							
	M6							
	10/24							
	1/4-20							

*Figures are indicative only and are offered for guidance purposes. **Minimum material thickness is related to parent material characteristics. It is recommended that you undertake your own tests in the actual application panel material.



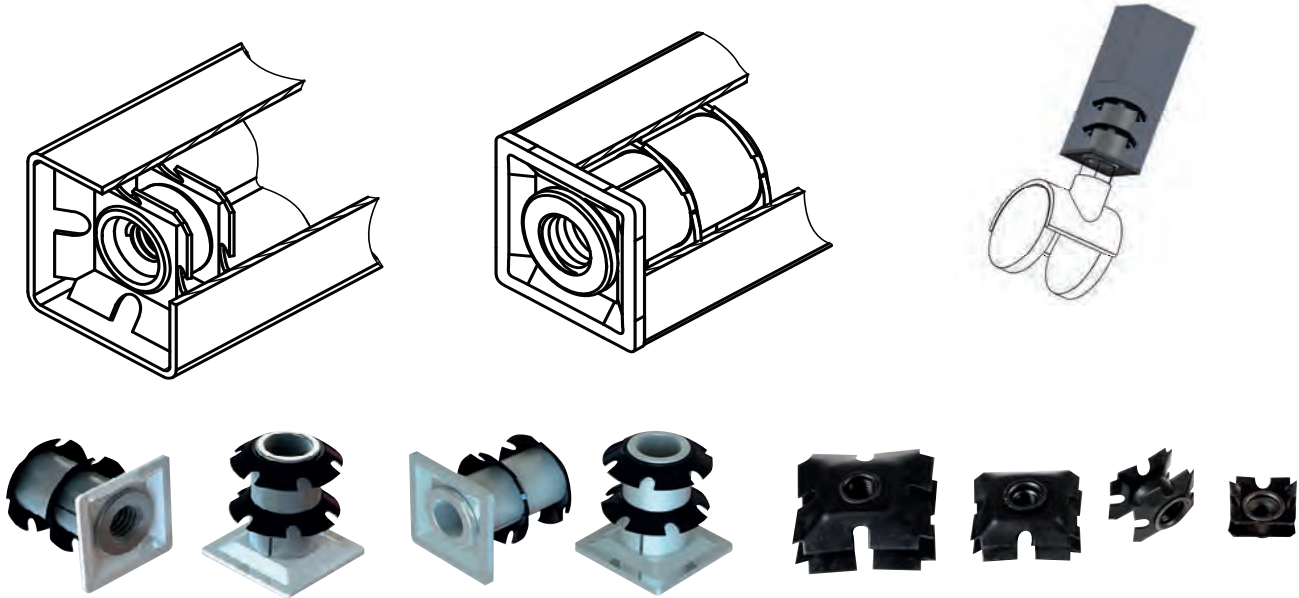
CROWN NUTS

Crown nuts are a simple way of installing a thread into round tubes and square box sections. Available in M8 - M10, in the headed version, and M6 - M10 in the un-headed version. They are also available with an 11.3mm internal hole to accept a standard castor wheel.

Crown nuts are simply pressed into the end of the tube or box section and provide a strong re-usable female thread.

Available for tubes I/D 11.8mm - 58mm.

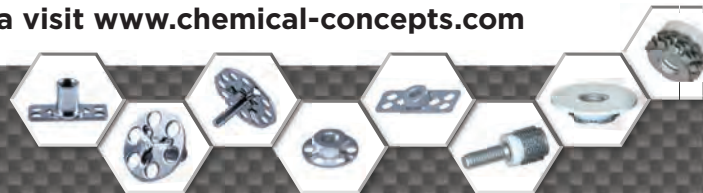
Square Box Section



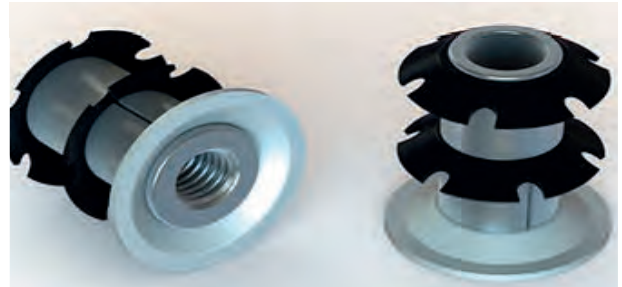
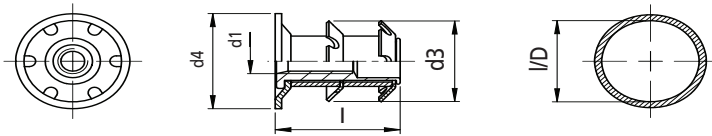
Round Tube Section



For detailed installation guides and performance data visit www.chemical-concepts.com



CROWN NUTS



HEADED INSERT FOR THE INTERIOR OF ROUND TUBES

APPLICATION to install a strong reusable female thread into round tubes.

ASSEMBLY by pressure.

SPECIFICATION

PART NUMBER	d1	I/D	d3	l	d4
ITT2T M8 14.8	M8	14.8 - 16.1	17,0	26	19
ITT2T M8 16.4		16.4 - 17.7	18,7		19
ITT2T M8 17.9		17.9 - 19.3	19,7		22
ITT2T M8 18.9		18.9 - 20.2	21,0		22
ITT2T M8 19.5		19.5 - 20.9	21,6		22
ITT2T M8 21.4		21.4 - 22.4	23,5		25
ITT2T M8 22.1		22.1 - 23.4	24,6		25
ITT2T M8 22.7		22.7 - 24.0	25,4		25
ITT2T M8 24.6		24.6 - 25.6	26.5		28
ITT2T M8 25.3		25.3 - 26.6	27,6		29
ITT2T M8 26.0		26.0 - 28.0	28,9		30
ITT2T M8 28.4		28.4 - 29.8	30,8		32
ITT2T M8 31.7		31.7 - 32.9	33,7		35
ITT2T M8 34.8		34.8 - 36.1	37,1		38
ITT2T M8 56.0		56.0 - 58.0	59,9		60
ITT2T M10 18.9		M10	18.9 - 20.2		21,6
ITT2T M10 21.4	21.4 - 22.4		23,5	25	
ITT2T M10 22.7	22.7 - 24.0		25,4	25	
ITT2T M10 24.6	24.6 - 25.6		26.5	28	
ITT2T M10 26.0	26.0 - 28.0		28,9	30	
ITT2T M10 28.4	28.4 - 29.8		30,8	32	
ITT2T M10 31.7	31.7 - 32,9		33,7	35	
ITT2T M10 34.8	34.8 - 36.1		37,1	38	
ITT2T M10 36.0	36.0 - 38.0	39,0	40		

Non binding dimensions, expressed in mm.

* It is advisable to carry out some preliminary assembling tests in order to determine the best product. After the insertion of the Crow Nut avoid heat treatments, galvanization and other heating operations that might compromise the characteristics of the product.

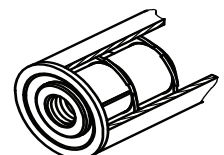
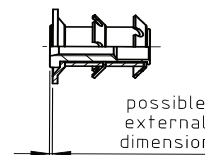
INFORMATION

MATERIAL

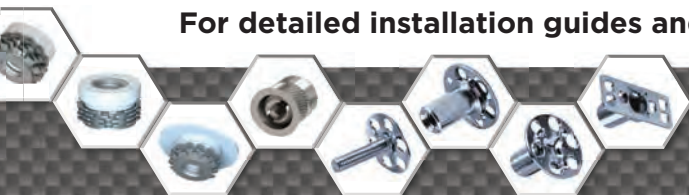
Steel

EXAMPLE

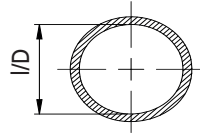
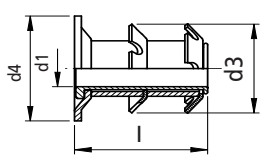
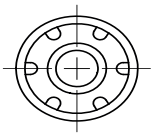
2 crowns headed insert for round tubes, M8 threaded, for tube I/D 19.5 - 20.9: ITT2T M8 19.5



For detailed installation guides and performance data visit www.chemical-concepts.com



CROWN NUTS



HEADED INSERT FOR THE INTERIOR OF ROUND TUBES QUICK PRESS-IN SOCKET FOR CASTORS

APPLICATION to install an 11.3mm internal socket to attach standard castors.
ASSEMBLY by pressure.

SPECIFICATION

PART NUMBER	d1	I/D	d3	l	l4
ITT2T D11.3 18.9	11,3	18.9 - 20.2	21,0	38,1	22
ITT2T D11.3 21.4		21.4 - 22.4	23,5		25
ITT2T D11.3 22.1		22.1 - 23.4	24,6		25
ITT2T D11.3 22.7		22.7 - 24.0	25,4		25
ITT2T D11.3 24.6		24.6 - 25.6	26,5		28
ITT2T D11.3 25.3		25.3 - 26.6	27,6		28
ITT2T D11.3 28.4		28.4 - 29.8	30,8		32
ITT2T D11.3 31.7		31.7 - 32.9	33,7		35
ITT2T D11.3 34.8		34.8 - 36.1	37,1		38
ITT2T D11.3 37.3		37.3 - 39.3	40,2		42
ITT2T D11.3 41.4		41.4 - 42.4	43,5		45
ITT2T D11.3 47.5		47.5 - 48.8	50		51

Non binding dimensions, expressed in mm.

* It is advisable to carry out some preliminary assembling tests in order to determine the best product.

After the insertion of the Crown Nut avoid heat treatments, galvanization and other heating operations that might compromise the characteristics of the product.

INFORMATION

MATERIAL

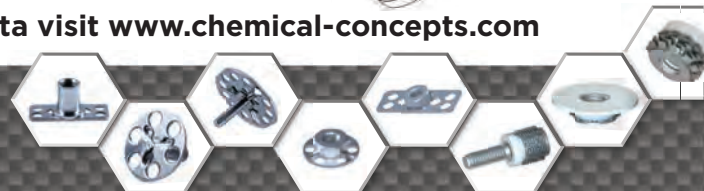
Steel

EXAMPLE

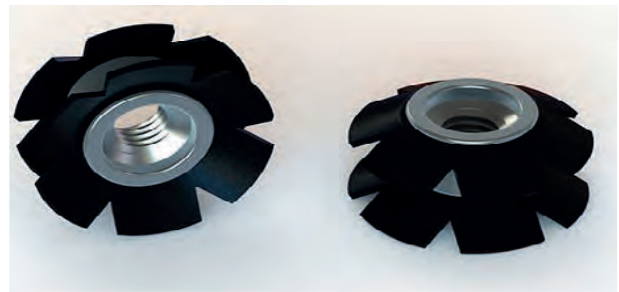
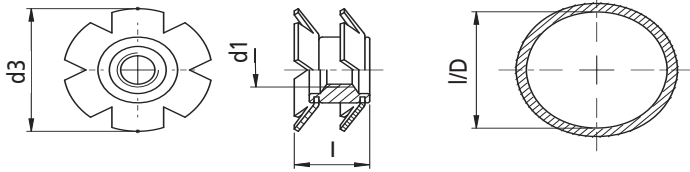
2 crowns headed insert for round tubes, quick press-in socket for castors,
for tube I/D 18.9 - 20.2: ITT2T D11.3 18.9



For detailed installation guides and performance data visit www.chemical-concepts.com



CROWN NUTS



ROUND INSERT FOR THE INTERIOR OF ROUND TUBES

APPLICATION to install a strong reusable female thread into round tubes.
ASSEMBLY by pressure.

SPECIFICATION					SPECIFICATION					SPECIFICATION				
PART NUMBER	d1	I/D	d3	l	PART NUMBER	d1	I/D	d3	l	PART NUMBER	d1	I/D	d3	l
ITT2S M6 11.8	M6	11.8 - 12.2	12.8	12.5	ITT2S M8 15.2	M8	15.2 - 16.1	17	12.5	ITT2S M10 17.9	M10	17.9 - 19.3	20.3	13
ITT2S M6 12.6		12.6 - 13.2	13.6	10	ITT2S M8 15.7		15.7 - 17.1	18.1	12.5	ITT2S M10 18.9		18.9 - 20.2	21	12.5
ITT2S M6 13.2		13.2 - 13.8	14.7	12.5	ITT2S M8 16.4		16.4 - 17.7	18.7	12.4	ITT2S M10 19.5		19.5 - 20.9	21.7	12.5
ITT2S M6 13.8		13.8 - 14.2	14.7	12.5	ITT2S M8 17.9		17.9 - 19.3	20	13	ITT2S M10 21.4		21.4 - 22.4	23.2	13.5
ITT2S M6 15.2		15.2 - 16.1	17	10	ITT2S M8 19.5		19.5 - 20.9	21.5	14.5	ITT2S M10 22.1		22.1 - 23.4	25	14
ITT2S M6 15.7		15.7 - 17.1	18.1	9.4	ITT2S M8 21.4		21.4 - 22.4	23.4	13	ITT2S M10 24.6		24.6 - 25.6	26.2	13.8
ITT2S M6 16.4		16.4 - 17.7	18.7	9.5	ITT2S M8 22.7		22.7 - 24.0	25.4	14	ITT2S M10 26.0		26.0 - 28.0	28.9	15
ITT2S M6 17.9		17.9 - 19.3	19.7	9.5	ITT2S M8 24.6		24.6 - 25.6	26.5	13.3	ITT2S M10 28.4		28.4 - 29.8	30.7	13.5
ITT2S M6 18.9		18.9 - 20.2	21	9.5	ITT2S M8 25.3		25.3 - 26.6	27.6	13.5	ITT2S M10 31.7		31.7 - 32.9	33.8	14.3
ITT2S M6 19.5		19.5 - 20.9	21.7	11	ITT2S M8 26.0		26.0 - 28.0	28.4	13	ITT2S M10 34.8		34.8 - 36.1	37.3	16.5
ITT2S M6 21.4		21.4 - 22.4	23.2	10	ITT2S M8 28.4		28.4 - 29.8	30.6	15	ITT2S M10 36.0		36.0 - 38.0	39	15.2
ITT2S M6 22.1		22.1 - 23.4	24.6	10	ITT2S M8 29.8		29.8 - 30.8	31.8	14	ITT2S M10 38.4		38.4 - 40.4	41.6	16
ITT2S M6 22.7		22.7 - 24.0	25.4	10.5	ITT2S M8 31.7		31.7 - 32.9	33.6	15	ITT2S M10 47.5		47.5 - 48.8	50	17
ITT2S M6 24.6		24.6 - 25.6	26.6	9.5	ITT2S M8 34.8		34.8 - 36.1	37	16	ITT2S M10 56.0		56.0 - 58.0	60	16.8
ITT2S M6 25.3		25.3 - 26.6	27.6	10	ITT2S M8 36.0		36.0 - 38.0	39	15.3					
ITT2S M6 26.0		26.0 - 28.0	28.4	10	ITT2S M8 38.4		38.4 - 40.4	41.3	15.5					
ITT2S M6 28.4		28.4 - 29.8	30.6	11.5	ITT2S M8 41.4		41.4 - 42.4	43.5	16.4					
ITT2S M6 29.8		29.8 - 30.8	31.8	10										
ITT2S M6 31.7		31.7 - 32.9	33.8	13										

Non binding dimensions, expressed in mm.

* It is advisable to carry out some preliminary assembling tests in order to determine the best product.
 After the insertion of the Crown Nut avoid heat treatments, galvanization and other heating operations that might compromise the characteristics of the product.

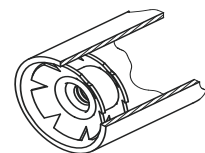
INFORMATION

MATERIAL

Steel

EXAMPLE

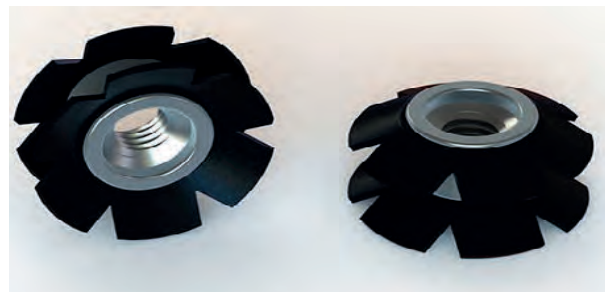
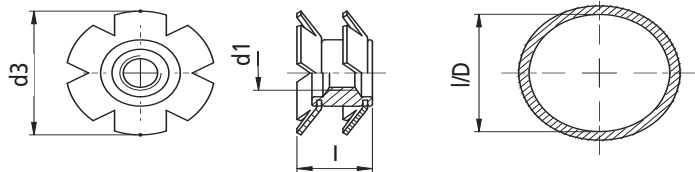
2 crowns un-headed insert for round tubes,
 M6 threaded, for tube I/D 19.5 - 20.9: ITT2S M6 19.5



For detailed installation guides and performance data visit www.chemical-concepts.com



CROWN NUTS



ROUND INSERT FOR THE INTERIOR OF ROUND TUBES

APPLICATION to install a strong reusable female thread into round tubes.
ASSEMBLY by pressure.

SPECIFICATION					SPECIFICATION					SPECIFICATION				
PART NUMBER	d1	I/D	d3	I	PART NUMBER	d1	I/D	d3	I	PART NUMBER	d1	I/D	d3	I
ITT2S M6 11.8	M6	11.8 - 12.2	12.8	12.5	ITT2S M8 15.2	M8	15.2 - 16.1	17	12.5	ITT2S M10 17.9	M10	17.9 - 19.3	20.3	13
ITT2S M6 12.6		12.6 - 13.2	13.6	10	ITT2S M8 15.7		15.7 - 17.1	18.1	12.5	ITT2S M10 18.9		18.9 - 20.2	21	12.5
ITT2S M6 13.2		13.2 - 13.8	14.7	12.5	ITT2S M8 16.4		16.4 - 17.7	18.7	12.4	ITT2S M10 19.5		19.5 - 20.9	21.7	12.5
ITT2S M6 13.8		13.8 - 14.2	14.7	12.5	ITT2S M8 17.9		17.9 - 19.3	20	13	ITT2S M10 21.4		21.4 - 22.4	23.2	13.5
ITT2S M6 15.2		15.2 - 16.1	17	10	ITT2S M8 19.5		19.5 - 20.9	21.5	14.5	ITT2S M10 22.1		22.1 - 23.4	25	14
ITT2S M6 15.7		15.7 - 17.1	18.1	9.4	ITT2S M8 21.4		21.4 - 22.4	23.4	13	ITT2S M10 24.6		24.6 - 25.6	26.2	13.8
ITT2S M6 16.4		16.4 - 17.7	18.7	9.5	ITT2S M8 22.7		22.7 - 24.0	25.4	14	ITT2S M10 26.0		26.0 - 28.0	28.9	15
ITT2S M6 17.9		17.9 - 19.3	19.7	9.5	ITT2S M8 24.6		24.6 - 25.6	26.5	13.3	ITT2S M10 28.4		28.4 - 29.8	30.7	13.5
ITT2S M6 18.9		18.9 - 20.2	21	9.5	ITT2S M8 25.3		25.3 - 26.6	27.6	13.5	ITT2S M10 31.7		31.7 - 32.9	33.8	14.3
ITT2S M6 19.5		19.5 - 20.9	21.7	11	ITT2S M8 26.0		26.0 - 28.0	28.4	13	ITT2S M10 34.8		34.8 - 36.1	37.3	16.5
ITT2S M6 21.4		21.4 - 22.4	23.2	10	ITT2S M8 28.4		28.4 - 29.8	30.6	15	ITT2S M10 36.0		36.0 - 38.0	39	15.2
ITT2S M6 22.1		22.1 - 23.4	24.6	10	ITT2S M8 29.8		29.8 - 30.8	31.8	14	ITT2S M10 38.4		38.4 - 40.4	41.6	16
ITT2S M6 22.7		22.7 - 24.0	25.4	10.5	ITT2S M8 31.7		31.7 - 32.9	33.6	15	ITT2S M10 47.5		47.5 - 48.8	50	17
ITT2S M6 24.6		24.6 - 25.6	26.6	9.5	ITT2S M8 34.8		34.8 - 36.1	37	16	ITT2S M10 56.0		56.0 - 58.0	60	16.8
ITT2S M6 25.3		25.3 - 26.6	27.6	10	ITT2S M8 36.0		36.0 - 38.0	39	15.3					
ITT2S M6 26.0		26.0 - 28.0	28.4	10	ITT2S M8 38.4		38.4 - 40.4	41.3	15.5					
ITT2S M6 28.4		28.4 - 29.8	30.6	11.5	ITT2S M8 41.4		41.4 - 42.4	43.5	16.4					
ITT2S M6 29.8		29.8 - 30.8	31.8	10										
ITT2S M6 31.7		31.7 - 32.9	33.8	13										

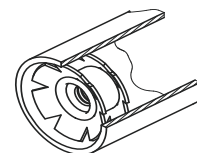
Non binding dimensions, expressed in mm.

* It is advisable to carry out some preliminary assembling tests in order to determine the best product.
 After the insertion of the Crown Nut avoid heat treatments, galvanization and other heating operations that might compromise the characteristics of the product.

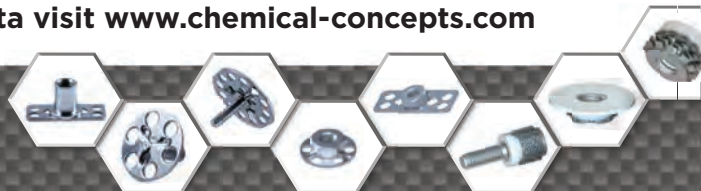
INFORMATION

MATERIAL
Steel

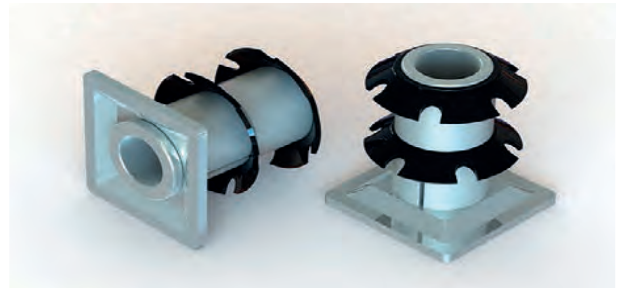
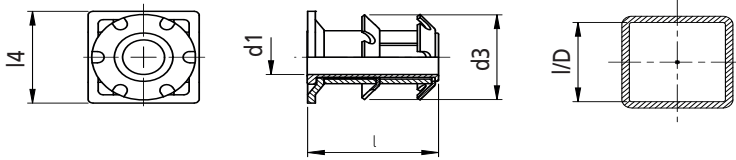
EXAMPLE
2 crowns un-headed insert for round tubes,
M6 threaded, for tube I/D 19.5 - 20.9: ITT2S M6 19.5



For detailed installation guides and performance data visit www.chemical-concepts.com



CROWN NUTS



HEADED INSERT FOR THE INTERIOR OF SQUARE BOX SECTION QUICK PRESS-IN SOCKET FOR CASTORS

APPLICATION to install an 11.3mm internal socket to attach standard castors.
ASSEMBLY by pressure.

SPECIFICATION					
PART NUMBER	d1	I/D	d3	l	l4
ITT2Q D11.3 18.9	11,3	18.9 - 20.2	21	38,1	22
ITT2Q D11.3 22.1		22.1 - 23.4	24,6		25
ITT2Q D11.3 25.3		25.3 - 26.6	27,6		28
ITT2Q D11.3 26.4		26.4 - 27.8	28,8		30
ITT2Q D11.3 28.4		28.4 - 29.8	30,6		32
ITT2Q D11.3 34.8		34.8 - 36.1	37		38
ITT2Q D11.3 41.4		41.4 - 42.4	43,5		45
ITT2Q D11.3 47.5		47.5 - 48.8	50		50

Non binding dimensions, expressed in mm.

* It is advisable to carry out some preliminary assembling tests in order to determine the best product.
After the insertion of the Crown Nut avoid heat treatments, galvanization and other heating operations that might compromise the characteristics of the product.

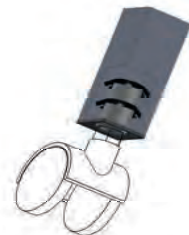
INFORMATION

MATERIAL

Steel

EXAMPLE

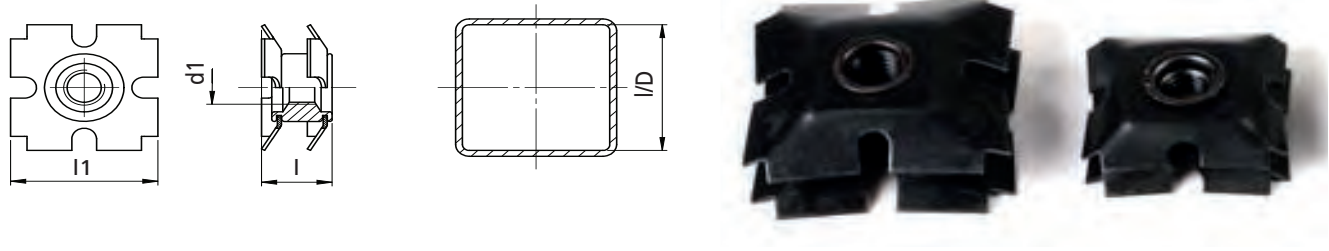
2 crowns headed insert for square box section, quick press-in socket for castors, for box section I/D 22.1 - 23.4: ITT2Q D11.1 22.1



For detailed installation guides and performance data visit www.chemical-concepts.com



CROWN NUTS



SQUARE INSERT FOR THE INTERIOR OF SQUARE BOX SECTION

APPLICATION to install a strong reusable female thread into box section.

ASSEMBLY by pressure.

SPECIFICATION

PART NUMBER	d1	I/D	l1	l
ITQ2S M6 15.7	M6	15.7 - 17.1	18.3	11
ITQ2S M6 17.6		17.6 - 18.1	19.3	10
ITQ2S M6 18.9		18.9 - 20.2	21.6	10
ITQ2S M6 22.1		22.1 - 23.4	24.3	14.2
ITQ2S M6 26.0		26.0 - 28.0	29.2	12
ITQ2S M8 15.7	M8	15.7 - 17.1	18	15
ITQ2S M8 18.9		18.9 - 20.2	21.4	14
ITQ2S M8 22.1		22.1 - 23.4	24.3	13.8
ITQ2S M8 26.0		26.0 - 28.0	29.1	16.2
ITQ2S M8 34.8		34.8 - 36.1	37.4	17.3

Non binding dimensions, expressed in mm.

* It is advisable to carry out some preliminary assembling tests in order to determine the best product.

After the insertion of the Crown Nut avoid heat treatments, galvanization and other heating operations that might compromise the characteristics of the product.

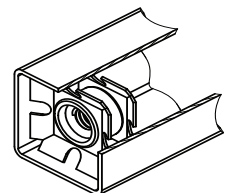
INFORMATION

MATERIAL

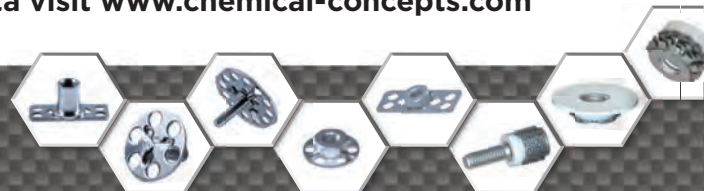
Steel

EXAMPLE

2 crowns un-headed insert for square box section, M6 threaded, for box section I/D 18.9 - 20.2: ITQ2S M6 18.9



For detailed installation guides and performance data visit www.chemical-concepts.com



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