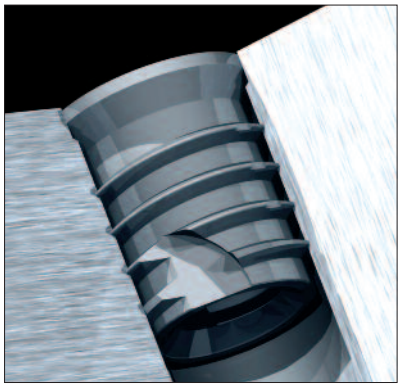
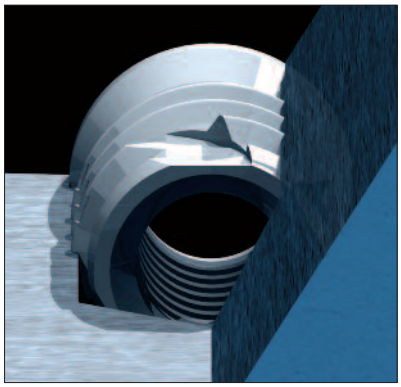
TRISERT-3 REDUCED HEADED





The concept of the Trisert-3 design is to provide a reliable, strong and wear resistant thread in applications, environments and materials that would be unsuitable for brass inserts.

Product Features

The design combines three cutting facets with three shallow flutes offering balanced cutting and enhanced back out performance.

The internal thread is not interrupted by cutting features and therefore will guarantee a free running internal thread without the risk of swarf jamming the screw.

The Steel variant is case hardened and is offered with a zinc nickel trivalent passivated finish to meet the requirements of RoHS and provide good corrosion resistance.

Installation may be by hand tool or Tappex FlexiArm complete with air tool and Tappex Production Driver. Additionally the installation torque can be controlled and monitored for increased reliability.

In the case of metal alloys, the use of cutting fluid is necessary to enhance the cutting action of the insert and ease installation. Alufluid supplied by Tapmatic has proven very effective.

As with the brass insert, the internal thread is used for installation. Every insert is therefore automatically checked for the presence of a good thread.

The reduced head design offers greater surface area over which application loads can be taken without increasing the receiving hole diameter.

The head diameter is designed to fit the counter bore in the receiving hole and therefore provide a flush finish.

Material Grades for Trisert-3

A key feature of this type of insert is its ability to withstand harsh environments and corrosive atmospheres whilst retaining good wear resistance and strength.

Steel

Case Hardened Zinc Nickel and Trivalent Passivate

- RoHS Compliant
- Corrosion resistance up to 720hrs to red rust
- Coating is hard and wear resistant
- Low sensitivity to temperature and temperature cycling - up to 140°C
- When passivate layer breaks down the white corrosion product is not excessive

STAINLESS Steel

Conventional stainless steel has at least 12% chromium to provide corrosion resistance via the formation of a thin coating of chromium oxide, known as the passivity film, which forms spontaneously upon contact with an oxidising agent. Generally the higher the chromium content, the better the corrosion resistance.

Trisert-3 is available in two grades of Stainless Steel which are passivated to remove impurities from the surface left by the machining process. These impurities, if left, would interrupt the passivity film and create sites where corrosion could start.

Grade 303

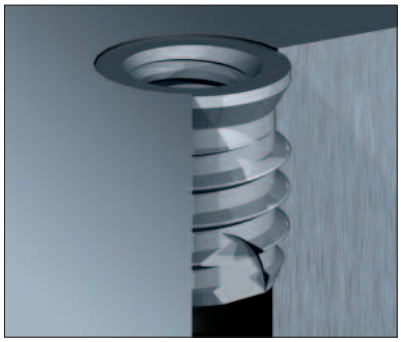
This grade offers a good combination of machinability, corrosion resistance and toughness. In general, 303 has good resistance to mildly corrosive atmospheres but the sulphide inclusions act as pit initiation sites. It should not be exposed to marine or other similar environments, as these will result in rapid pitting corrosion. It is also subject to stress corrosion cracking in chloride containing environments above about 60°C.

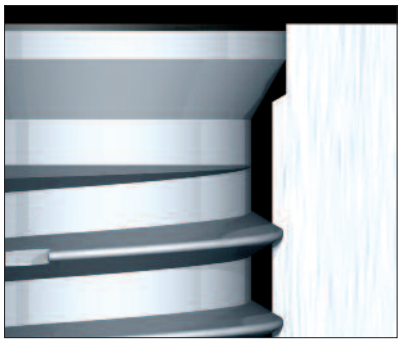
Grade 316

This is the standard grade of austenitic stainless steel containing molybdenum. The molybdenum gives 316 better overall corrosion resistance, and its austenitic structure provides excellent toughness, even down to cryogenic temperatures.

It has excellent corrosion resistance in a range of atmospheric environments and many corrosive media. It is regarded as the standard “marine grade stainless steel”, but it is not resistant to warm sea water. In many marine environments 316 does exhibit surface corrosion, usually visible by brown staining. This is particularly associated with crevices and rough surface finish.

TRISERT-3 REDUCED HEADED





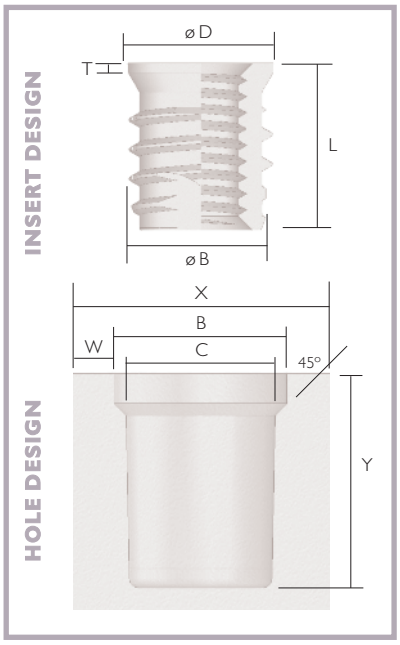
Due to the various mechanical characteristics, a precise hole size specification is imperative.

A minimum hole depth of 1.2 x the insert length would normally be specified, with the insert installed to a maximum of 0.3mm sub flush to the surface.

Stainless steel threaded fasteners generally should not be assembled using very high speed equipment, as mating surfaces will be subject to galling and may cold-weld together leaving a falsely tightened joint.

It is therefore recommended that when a stainless steel screw is assembled to a stainless steel Trisert-3, a suitable lubricant containing Molybdenum Di-sulphide and PTFE is used.

However, although lubricants can assist on the assembly of a joint, they will dramatically lower the torque resistance and could cause the thread to fail if tightening torques are not adjusted.



New for 2010 - M12 versions in both insert types

TRISERT-3 REDUCED HEADED

SIZE	PITCH INTERNAL	DIA. EXTERNAL B	LENGTH L	HEAD THICKNESS T	HEAD DIA. D	HOLE DIA. C PLASTICS	HOLE DIA. C ALLOYS	HOLE DEPTH Y	BOSS DIA. X	WALL THICKNESS W
M3	0.50	4.73	5.25	0.38	4.70	4.10 - 4.40	4.35 - 4.55	5.80	7.70	1.65
M3	0.50	4.73	6.25	0.38	4.70	4.10 - 4.40	4.35 - 4.55	6.90	7.70	1.65
M4	0.70	6.31	7.10	0.38	6.30	5.80 - 6.10	5.95 - 6.15	7.90	10.70	2.30
M4	0.70	6.31	8.40	0.38	6.30	5.80 - 6.10	5.95 - 6.15	9.30	10.70	2.30
M5	0.80	7.50	8.40	0.40	7.50	6.90 - 7.20	7.15 - 7.35	9.30	12.60	2.70
M5	0.80	7.50	10.00	0.40	7.50	6.90 - 7.20	7.15 - 7.35	11.00	12.60	2.70
M6	1.00	8.69	9.80	0.45	8.60	8.00 - 8.40	8.35 - 8.55	10.80	14.70	3.15
M6	1.00	8.69	12.00	0.45	8.60	8.00 - 8.40	8.35 - 8.55	13.20	14.70	3.15
M8	1.25	11.06	12.40	0.50	11.10	10.10 - 10.60	10.55 - 10.85	13.70	18.60	4.00
M8	1.25	11.06	14.00	0.50	11.10	10.10 - 10.60	10.55 - 10.85	15.40	18.60	4.00
M10	1.50	13.95	12.00	0.75	14.10	13.00 - 13.50	13.45 - 13.65	13.20	23.70	5.10
M10	1.50	13.95	16.00	0.75	14.10	13.00 - 13.50	13.45 - 13.65	17.60	23.70	5.10
M10	1.50	13.95	18.00	0.75	14.10	13.00 - 13.50	13.45 - 13.65	19.80	23.70	5.10

These materials and coatings are RoHS compliant

NOTE - all dimensions in mm

TRISERT-3 BLIND ENDED

SIZE	PITCH INTERNAL	DIA. EXTERNAL B	LENGTH L	BOLT ENGAGEMENT E	HEAD THICKNESS T	HEAD DIA. D	HOLE DIA. C PLASTICS	HOLE DIA. C ALLOYS	HOLE DEPTH Y	BOSS DIA. X	WALL THICKNESS W
M10	1.50	13.95	16.00	8.30	0.75	14.10	13.00 - 13.50	13.45 - 13.65	17.60	23.70	5.10
M10	1.50	13.95	18.00	10.30	0.75	14.10	13.00 - 13.50	13.45 - 13.65	19.80	23.70	5.10

HOLE DIAMETER TOLERANCE INFORMATION
The information given under hole diameter 'C' are suggested dimensions for a range of grades of materials and applications. The hole diameter for ALLOYS is determined by considering the ductility of the material. In most cases Cast alloys (low ductility) require a smaller hole; Extruded alloys (high ductility) require a larger hole. The hole diameter for PLASTICS is determined by considering the hardness of the material. Generally the softer grades of plastic require the smaller hole while harder grades or those with a filler require a larger hole.
We would recommend testing the suitability of a particular hole size for the specific grade of material to be used.

DETAILED HOLE INFORMATION IS AVAILABLE FOR SPECIFIC APPLICATIONS AND MATERIALS
Information given under the hole design section above is intended to indicate approximate dimensional requirements for satisfactory installation of the insert, it is not intended for production tooling.