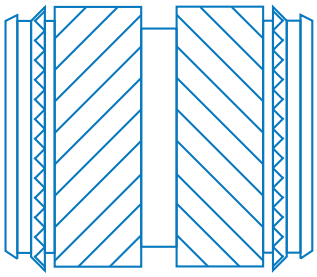
PSM International
GLOBAL FASTENING SOLUTIONS

TECH-SONIC©
INSERTS & STUDS



Features a unique combination of opposed knurls and knurled vanes providing increased performance levels, even over the Sonic-Lok insert. Installation is simplified by the symmetrical nature of the insert, eliminating the need for orientation during automated or hand feeding.

ADVANTAGES

- DOUBLE ENDED - ASSISTS AUTOMATIC FEEDING
- INCREASED PULL-OUT AND TORQUE PERFORMANCE
- SELF-ALIGNING - ASSISTS INSTALLATION
- PERMITS THIN BOSS WALLS ALLOWING COMPACT BOSS DESIGN
- CHOICE OF LENGTHS AVAILABLE

DESIGN GUIDE

HOLE PREPARATION

Molded holes are recommended wherever possible. The taper on a molded hole should be 0.5° inclusive and the hole diameter recommended should apply at the point reached by the bottom of the insert. The top of the hole should not be chamfered or counterbored and care must be taken to avoid bell mouthing. Hole diameter tolerance:-0.00 +0.10mm.

INSTALLATION

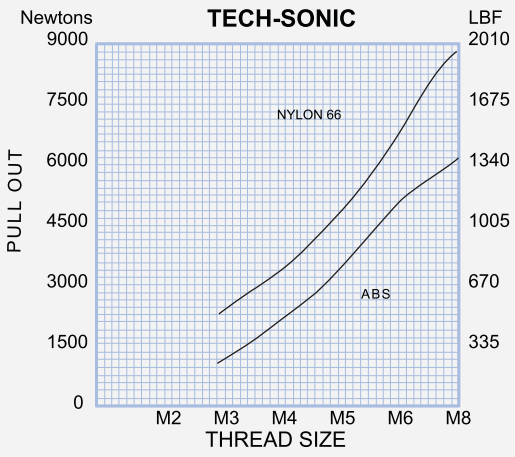
The fastener has been designed for installation using a pre-heating process. Care must be exercised to ensure that the fastener softens but does not melt the plastic. This will avoid any tendency to generate unsightly flash around the top of the insert and ensure optimum performance. Excessive pressure should be avoided since this may result in the insert being forced into the hole without allowing the plastic to soften and flow around the surface profile.

WALL THICKNESS

A general guide to minimum wall thickness is given in the technical data table but this will vary dependant upon the nature of the plastic. Where thinner walls are required these can often be accommodated, but consultation with PSM and pre-production testing is strongly advised.

PERFORMANCE DATA

The complexity of materials and variations in service conditions make it impossible to detail fastener performance for specific applications. The chart gives a general guide and shows the relative performance of the insert in the range.



UNI-BIS Sp. z o.o.
Dystrybutor
ul. Osiedle Leśne 1a
84-300 Lębork, Polska
tel/fax: +48 59 8631417
e-mail: biuro@uni-bis.com
www.uni-bis.com

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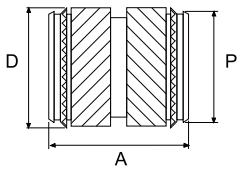
TECHNICAL DATA

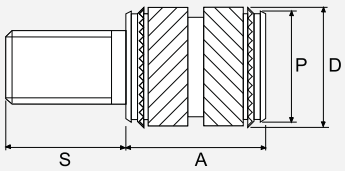
STANDARD MATERIAL: BRASS (B)
Other materials possible on quotation

INSERTS



PRODUCT CODE [TEC]

STUDS



PRODUCT CODE [TCTS]

DIMENSIONS

ISO METRIC

Unit: Millimetres

Thread Size	Insert Length A	Preferred Shorter Length A*			Stud Lengths (For TCTS only) S										Insert ø D	Pilot End ø P	Rec.Hole Size -0.00 +0.10	Min. Wall Thickness
2	4.0	3.0	-	-	5	6	8	10	12	14	16	18	20	25	3.5	3.1	3.2	1.3
2.5	5.7	4.0	-	-	5	6	8	10	12	14	16	18	20	25	4.4	3.9	4.0	1.6
3	5.7	4.0	4.8	-	5	6	8	10	12	14	16	18	20	25	4.4	3.9	4.0	1.6
3.5	7.1	5.0	-	-	5	6	8	10	12	14	16	18	20	25	5.2	4.7	4.8	1.8
4	8.1	4.0	4.8	5.8	5	6	8	10	12	14	16	18	20	25	6.1	5.5	5.6	2.1
5	9.5	5.8	-	-	5	6	8	10	12	14	16	18	20	25	6.8	6.3	6.4	2.6
6	12.7	6.8	9.5	-	5	6	8	10	12	14	16	18	20	25	8.5	7.9	8.0	3.3
8	12.7	-	-	-	5	6	8	10	12	14	16	18	20	25	10.0	9.5	9.6	4.5
10	12.7	-	-	-	5	6	8	10	12	14	16	18	20	25	12.3	11.8	11.9	6.0
12	15.9	-	-	-	5	6	8	10	12	14	16	18	20	25	16.3	15.8	16.0	8.0

Other lengths possible on quotation.

UNIFIED

Unit: Inches

Thread Size	Insert Length A	Preferred Other Length A*			Stud Lengths (For TCTS only) S										Insert ø D	Pilot End ø P	Rec.Hole Size -0.000 +0.004	Min. Wall Thickness
2-56	.155	.118	-	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.137	.123	.125	.051
4-40	.224	.157	.188	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.174	.154	.157	.063
6-32	.279	.197	-	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.205	.185	.189	.071
8-32	.319	.157	.188	.228	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.239	.218	.220	.083
10-24	.373	.228	-	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.269	.249	.252	.102
10-32	.373	.228	-	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.269	.249	.252	.102
1/4-20	.498	.269	.374	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.333	.312	.315	.130
1/4-28	.498	.269	.374	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.333	.312	.315	.130
5/16-18	.498	-	-	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.394	.374	.378	.177
5/16-24	.498	-	-	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.394	.374	.378	.177
3/8-16	.498	-	-	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.485	.465	.469	.236
3/8-24	.498	-	-	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.485	.465	.469	.236
1/2	.626	-	-	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.643	.622	.630	.315

Other lengths possible on quotation.

HOW TO SPECIFY

	TEC	TCTS
PRODUCT CODE	TEC-B-M3	TCTS-B-M3-5.0
MATERIAL CODE	TEC-B-M3	TCTS-B-M3-5.0
THREAD SIZE	TEC-B-M3	TCTS-B-M3-5.0
PREFERRED OTHER LENGTH	TEC-B-M3-4.8	TCTS-B-M3-4.8-5.0
STUD LENGTH		TCTS-B-M3-5.0