





SPIRO has been designed to cope with the difficulties presented by hard brittle thermoset materials. The sharp precision knurl pattern cuts into these materials reducing radial stresses and allowing thinner boss walls than many other inserts. Headed and stud versions also available.

ADVANTAGES

-  EASY PRESS-IN INSERTION
-  HIGH TORQUE RESISTANCE
-  LOW BURSTING STRESS ALLOWS THE USE OF THINNER WALL BOSSES REDUCING THE RISK OF SINK MARKS
-  SELF-ALIGNING - ASSISTS INSTALLATION



DESIGN GUIDE

HOLE PREPARATION

Holes for Spiro inserts should be moulded to remove the danger of drill induced stresses. The taper on a moulded hole should be 1° 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 mouching. Hole diameter tolerance -0.00 +0.10mm.

INSTALLATION

The insert must be installed using a squeeze action press, NEVER a hammer blow. The insert must be allowed to rotate in the direction of the knurl during installation. This is best achieved by the use of a punch having either a polished face or a thrust bearing. The insert must be kept axially square during installation, as any tilting will induce side loads on the boss wall. The recommended hole size must not be increased beyond the top tolerance limit since oversize holes reduce or remove the self aligning effects, producing side loads and consequent risk of boss cracking.

WALL THICKNESS

A general guide to minimum wall thickness is given in the data table but this will vary depending upon the nature of the plastic. Where thinner walls are required these can often be accommodated, but consultation with the P.S.M Technology Centre or your local Sales Office and pre-production testing is strongly advised.

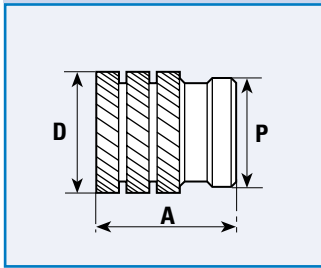
PERFORMANCE DATA

The complexity of materials and variations in service conditions make it impossible to detail fastener performance for specific applications. The charts on page 29 give a general guide.

TECHNICAL DATA

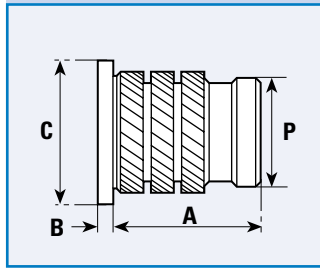
SPIRO

INSERTS



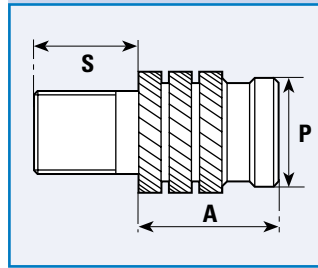
Product Code SP

HEADED INSERTS



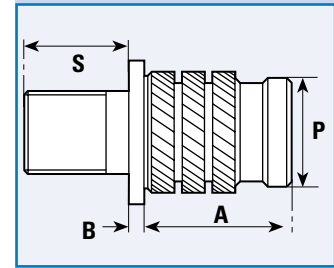
Product Code HSR

STUDS



Product Code SPTS

HEADED STUDS



Product Code SPHS

STANDARD MATERIAL - Brass (B) - Other materials possible on quotation

DIMENSIONS

INTERNAL THREAD SIZES		A	B	C	D	P	Rec. Hole Size	Min. Wall Thickness
Unified	ISO Metric	mm	mm	mm	mm	mm	-0.00 +0.10 mm	mm
2	2	4.1	0.51	4.8	3.3	3.0	3.1	1.6
-	2.5	5.3	0.58	5.5	4.2	3.7	3.8	2.0
4	3	5.3	0.58	5.5	4.2	3.7	3.8	2.0
6	3.5	6.3	0.74	6.4	5.0	4.5	4.6	2.5
8	4	7.4	0.89	7.1	5.8	5.3	5.4	2.5
10	5	8.3	1.07	7.9	6.6	6.1	6.2	2.5
1/4	6	9.2	1.32	9.5	8.2	7.7	7.8	2.8
5/16	8	9.2	1.32	11.1	9.7	9.3	9.3	3.8
3/8	10	9.2	1.57	14.0	12.7	12.2	12.3	5.0

A = Standard lengths.
Other lengths possible on quotation.

Standard Stud Lengths (Dimensions 'S')

MILLIMETRES	5	6	8	10	12	14	16	18	20	25
INCHES	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1

HOW TO SPECIFY

INSERTS

PRODUCT CODE	SP-B-M3
MATERIAL	SP-B-M3
THREAD SIZE	SP-B-M3

HEADED INSERTS

PRODUCT CODE	HSR-B-M3
MATERIAL	HSR-B-M3
THREAD SIZE	HSR-B-M3

STUDS

PRODUCT CODE	SPTS-B-M4-10mm
MATERIAL	SPTS-B-M4-10mm
THREAD SIZE	SPTS-B-M4-10mm
LENGTH (if applicable)	SPTS-B-M4-10mm

HEADED STUDS

PRODUCT CODE	SPHS-B-M5-12mm
MATERIAL	SPHS-B-M5-12mm
THREAD SIZE	SPHS-B-M5-12mm
LENGTH (if applicable)	SPHS-B-M5-12mm

SPIRO™ INSERTS & STUDS

