

HiMOULD®

- TYPE A
- TYPE B
- TYPE C

The Tappex HiMould range of brass inserts has been designed as a technical improvement on the superseded Yardley style of insert, specifically for moulding-in during the cycle of the moulding machine. This is the traditional method of placing metal inserts in plastic mouldings, although normally the insert is laboriously screwed onto threaded pins located inside the mould tool. With the HiMould range, this costly and inefficient process becomes unnecessary, as the insert can be rapidly located on to plain pins giving higher productivity and reducing tool down time. Despite the use of plain pins the unique design of the HiMould insert still gives guaranteed flash free threads. By using sleeve ejectors around the pins to push off the moulding, this can simplify the mould tool design and also provide a faster and more reliable moulding process, thereby increasing productivity. Tappex HiMould inserts have become widely used in all types of thermoplastic and thermoset plastic mouldings.

The HiMould insert can be used in preference to post-mould installed inserts where the application of the insert is in a deep recess. In this type of situation, it is easier to locate inserts in the mould tool, where the recess in the moulding is reflected in a protruding portion in the tool, than to attempt to post-mould install in a difficult situation. The HiMould range of inserts has been designed as a standard item, which caters for all types of applications in the smallest possible insert diameter. This allows the designer to standardise and avoid the necessity of designing a special insert for each new application. In turn, this eliminates high costs for manufacturing specials and enables large stocks of standard components to be held, giving immediate delivery of small or large quantities.

The HiMould insert can be moulded-in very close to the edge of a component, or in situations where there are thin walls or bosses, which would be impractical for post-mould installed inserts.

Maximum performance is created by the external diamond knurl form combined with two undercuts. After moulding-in, a large number of shear points are created over the whole length of the insert. This gives better axial and radial performances than other mould-in inserts in relation to its diameter. The HiMould insert has proved most effective when used in rotational moulding where the fill is not pressurised, as the plastic can close around and grip the external form of the insert more easily without significantly impeding the flow, which provides excellent pull-out performance and resistance to rotation.

In addition to the environmental advantages of manufacturing all types of threaded insert in brass, there is another significant advantage for mould-in inserts. Brass is much softer than tool steel so the insert is unlikely to damage the mould tool surface if it becomes displaced during the mould cycle.

TYPE A



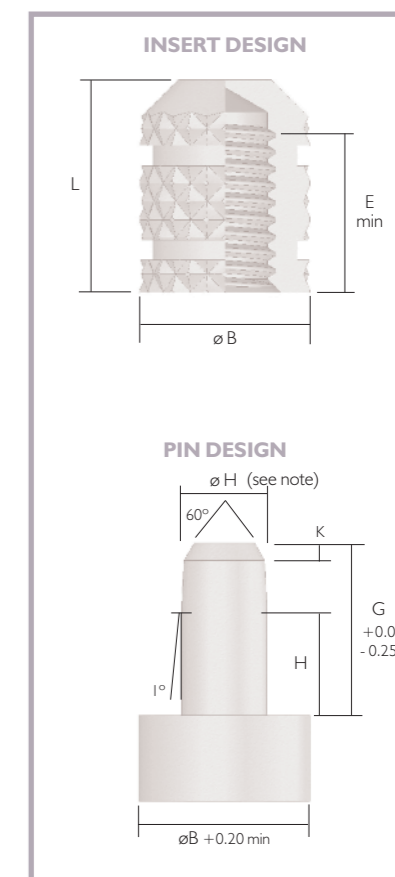
The HiMould Type A is a blind-ended design of insert specifically for moulding-in available in a range of thread sizes from M3 to M6.

Product Features

The Type A insert is designed to be installed on a plain pin in the mould tool. It has all of the advantages of the more popular Type C insert but is particularly suited for use in applications where space is restricted. The short length increases its versatility and whilst shortening the bolt engagement length still provides a similar number of full threads.

The HiMould Type A, part number 116-, replaces the original Yardley Type A part number 016- being identical, except for the addition of the two external undercuts which increase pull-out performance.

NOTE: Pin Design ϕH tolerances ± 0.0125



TYPE A - INSERT DESIGN

SIZE	PITCH INTERNAL	DIAMETER EXTERNAL B ± 0.25	LENGTH ± 0.25 L	BOLT ENGAGEMENT E min	No. of FULL THREADS **	PART NO.s
M3	0.50	4.15	6.40	3.70	6.8	116M3
M3.5	0.60	5.00	7.90	4.90	7.6	116M3.5
M4	0.70	5.90	8.70	5.45	7.0	116M4
M5	0.80	6.60	9.50	6.45	7.0	116M5
M6	1.00	10.00	12.50	8.30	7.5	116M6

MATERIAL: Brass - to BSEN 12164 CW 614N This material is RoHS compliant

** Number of full turns measured with a thread gauge

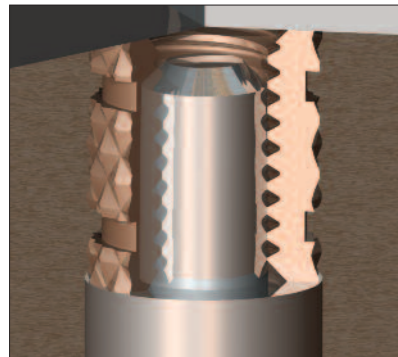
NOTE - all dimensions in mm

TYPE A - PIN DESIGN

SIZE	LENGTH ± 0.0125 G	DIAMETER H	PIN LEAD K
M3	4.80	2.50	0.75
M3.5	5.40	2.90	0.80
M4	5.80	3.30	0.85
M5	6.70	4.20	0.90
M6	7.50	5.00	0.95

PIN DESIGN: The pin design and tolerance information is intended to indicate the dimensional requirements for satisfactory installation of the insert. They should not be specified for production tooling without prior consultation with our Application Engineering Department - we accept no responsibility should the use of this information without consultation result in product failure.

TYPE B



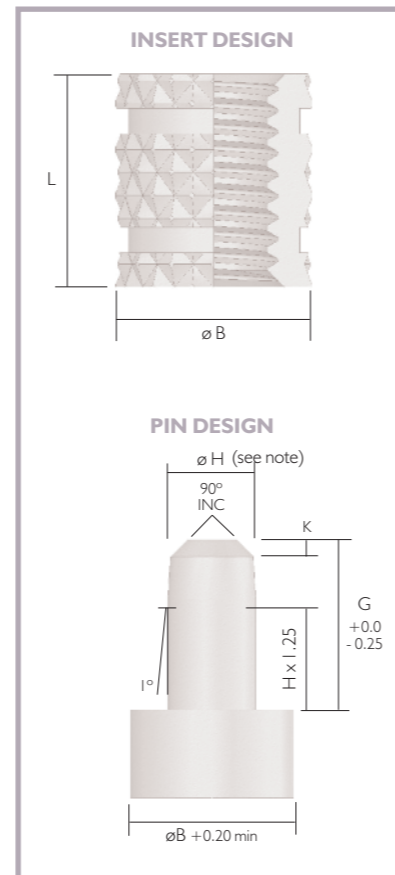
The HiMould Type B insert is an open ended design for moulding-in available in a range of thread sizes from M2 to M12.

Product Features

The Type B insert provides a low cost option where a through hole in a moulding is acceptable. The Type B insert is engineered to close tolerances enabling a guaranteed flash free thread when using fixed shouldered pins in the mould tool. Also as it offers the shortest standard length for a given thread size in the HiMould range it is ideally suited for use in thin section applications.

NOTE: For thread sizes M2 and M2.5 where the undercuts are impractical to include, the superseded Yardley part number 017- without undercuts, is specified.

NOTE: Pin Design ϕH tolerances: up to 5mm ϕ -0.05 to -0.075 over 5mm ϕ -0.1 to -0.125



TYPE B - INSERT DESIGN

SIZE	PITCH INTERNAL	DIAMETER EXTERNAL B +/- 0.25	LENGTH +/- 0.05 L	PART NO.s
M2	0.40	3.40	3.925	017M2
M2.5	0.45	4.15	4.725	017M2.5
M3	0.50	4.15	4.725	117M3
M3.5	0.60	5.00	5.875	117M3.5
M4	0.70	5.90	7.125	117M4
M5	0.80	6.60	7.825	117M5
M6	1.00	9.25	9.925	117M6
M8	1.25	11.50	12.475	117M8
M10	1.50	13.90	13.975	117M10
M12	1.75	16.30	13.975	117M12
1/8"BSP	28 T.P.I.	13.90	11.000	017125BSP
1/4"BSP	19 T.P.I.	18.00	13.950	017250BSP

NOTE - all dimensions in mm

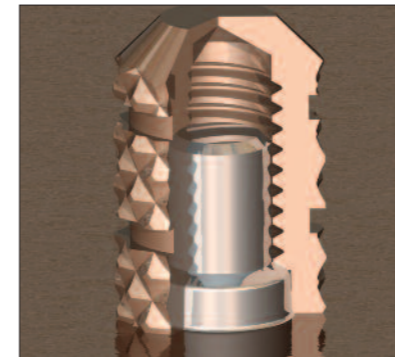
MATERIAL: Brass - to BS EN 12164 CW 614N This material is RoHS compliant

TYPE B - PIN DESIGN

SIZE	LENGTH +0.0/-0.25 G	DIAMETER H	PIN LEAD K
M2	3.60	1.60	0.70
M2.5	4.40	2.05	0.70
M3	4.40	2.50	0.75
M3.5	5.85	2.90	0.80
M4	6.80	3.30	0.85
M5	7.50	4.20	0.90
M6	9.60	5.00	0.95
M8	12.15	6.80	1.00
M10	13.65	8.50	1.00
M12	13.65	10.25	1.00

PIN DESIGN: The pin design and tolerance information is intended to indicate the dimensional requirements for satisfactory installation of the insert. They should not be specified for production tooling without prior consultation with our Application Engineering Department - we accept no responsibility should the use of this information without consultation result in product failure.

TYPE C



The HiMould Type C is a blind-ended design of insert specifically for moulding-in available in a range of thread sizes from M2 to M10.

Product Features

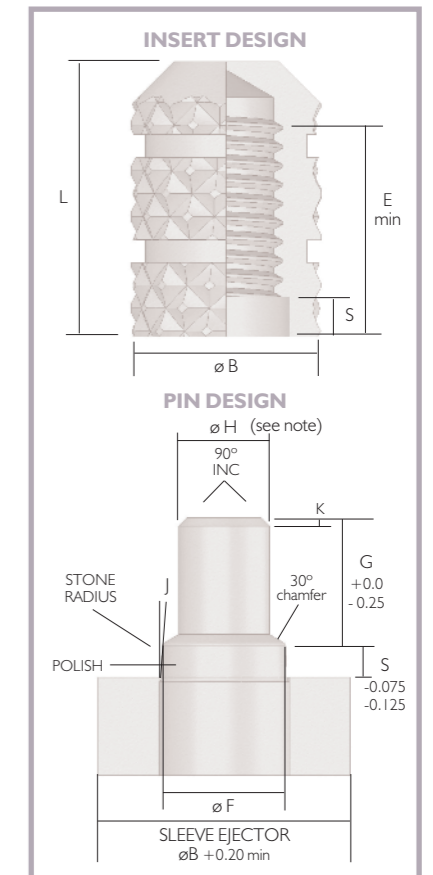
The Type C insert has been developed as a technical advance on the Type A by incorporating a counter-bore in the open end, which press fits on to a suitable design of tapered shouldered pin in the mould tool. This prevents any molten

plastic flashing into the insert threads, in both low and high pressure environments, whilst still allowing plain pins to be used in the mould tool.

This feature is particularly useful for high volume production where the moulding machine is fully automatic and the removal of the moulding is handled by a robotic arm, which can also be used for loading the inserts into the mould tool without interrupting the optimum mould cycle period. This is achieved by using small air cylinders to generate a percussive force to position each HiMould insert onto its shouldered pin. Sleeve ejectors are then used to push off the inserts with the moulding.

NOTE: For thread sizes M2 and M2.5 where the undercuts are impractical to include, the superseded Yardley part number 018- without undercuts, is specified.

NOTE: Pin Design ϕH tolerances: up to 5mm ϕ -0.05 to -0.075 over 5mm ϕ -0.1 to -0.125



TYPE C - INSERT DESIGN

SIZE	PITCH INTERNAL	DIAMETER EXTERNAL B +/- 0.25	LENGTH +/- 0.25 L	BOLT ENGAGEMENT E_min	No. of FULL THREADS **	COUNTER-BORE S	PART NO.s
M2	0.40	3.40	5.60	3.75	6.3	0.85	018M2
M2.5	0.45	4.15	6.50	4.10	6.0	0.95	018M2.5
M3	0.50	4.60	7.45	4.75	6.3	1.10	118M3
M3.5	0.60	5.00	9.30	6.25	7.2	1.35	118M3.5
M4	0.70	5.90	10.30	7.05	6.8	1.60	118M4
M5	0.80	6.60	11.30	8.35	6.7	1.75	118M5
M6	1.00	10.00	14.50	10.35	7.0	1.85	118M6
M8	1.25	11.50	16.60	12.00	7.0	2.05	118M8
M10	1.50	13.90	18.00	13.00	6.3	2.15	118M10

NOTE - all dimensions in mm

MATERIAL: Brass - to BS EN 12164 CW 614N This material is RoHS compliant

** Number of full turns measured with a thread gauge

TYPE C - PIN DESIGN

SIZE	LENGTH +0.0/-0.25 G	DIAMETER H	PIN LEAD K	TAPER ANGLE J°	TAPER DIAMETER F +/- 0.0125
M2	2.50	1.60	0.20	6.00	2.300
M2.5	3.00	2.05	0.20	5.00	2.800
M3	3.50	2.50	0.25	4.50	3.125
M3.5	4.50	2.90	0.30	4.50	3.750
M4	5.00	3.30	0.35	4.50	4.425
M5	5.75	4.20	0.40	5.00	5.125
M6	6.75	5.00	0.45	4.50	6.600
M8	9.00	6.80	0.50	4.50	8.500
M10	10.00	8.50	0.55	4.50	10.500

NOTE: Example, where J = 4.5° this means 2° 15' / 2° 30' or 4° 30' / 5° inclusive

PIN DESIGN: The pin design and tolerance information is intended to indicate the dimensional requirements for satisfactory installation of the insert. They should not be specified for production tooling without prior consultation with our Application Engineering Department - we accept no responsibility should the use of this information without consultation result in product failure.