



INSERTS FOR PLASTICS

塑膠專用螺母

Wherever you are...

we have the solution!

ADVANTAGES

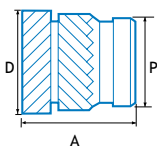
- Permits thin boss walls allowing compact boss design
- Provides high torque and pull out performance
- Rapid installation using heat or ultrasonic
- Choice of lengths available
- Self-aligning--Assists Installation

特點

- 可容許較少肉厚的設計。
- 可使用熱熔或超音波的方式快速裝置。
- 圓頭導引之設計，定位效果佳；不易歪斜。
- 階段性之外徑設計，漸進式入塑膠，母材塑膠不易龜裂。
- 相反方向之雙斜花紋設計，與塑膠緊密結合，扭拉力極強。

SELECTION OF INSERT OR STUD

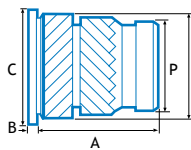
INSERTS



PRODUCT CODE (SL)

型號

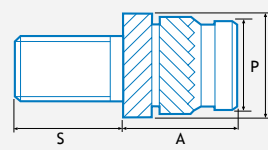
HEADED INSERTS



PRODUCT CODE (SHK)

型號

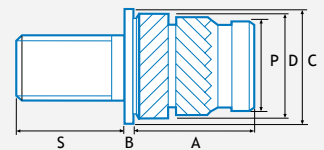
STUD



PRODUCT CODE (SLTS)

型號

HEADED STUD



PRODUCT CODE (SLHS)

型號

ISO METRIC (公制)

Unit: Millimetres

Product Code 型	Thread Size 螺牙	Insert Length A 標準長度	Preferred Shorter Lengths A* 特殊長度			Stud Lengths (For SLTS & SLHS only) S 公件長度										Head Height B 頭厚	Head Ø C 頭外徑	Insert Ø D 外徑	Pilot End Ø P 圓徑	Rec.Hole Size -0.00 +0.10 孔直徑	Min. Wall Thickness 最少肉厚
SL-B SHK-B SLTS-B SLHS-B	M2	4.0	2.5	3.0	-	5	6	8	10	12	14	16	18	20	25	0.53	4.8	3.6	3.1	3.2	1.3
	M2.5	5.7	4.0	-	-	5	6	8	10	12	14	16	18	20	25	0.61	5.5	4.6	3.9	4.0	1.6
	M3	5.7	4.0	4.8	-	5	6	8	10	12	14	16	18	20	25	0.61	5.5	4.6	3.9	4.0	1.6
	M3.5	7.1	5.0	-	-	5	6	8	10	12	14	16	18	20	25	0.76	6.4	5.4	4.7	4.8	1.8
	M4	8.1	4.0	4.8	5.8	5	6	8	10	12	14	16	18	20	25	0.91	7.1	6.3	5.5	5.6	2.1
	M5	9.5	5.8	-	-	5	6	8	10	12	14	16	18	20	25	1.09	7.9	7.1	6.3	6.4	2.6
	M6	12.7	6.8	9.5	-	5	6	8	10	12	14	16	18	20	25	1.35	9.5	8.7	7.9	8.0	3.3
	M8	12.7	-	-	-	5	6	8	10	12	14	16	18	20	25	1.35	11.1	10.2	9.5	9.6	4.5
	M10	12.7	-	-	-	5	6	8	10	12	14	16	18	20	25	1.60	14.0	12.6	11.8	11.9	6.0
M12	15.9	-	-	-	5	6	8	10	12	14	16	18	20	25	2.00	19.0	16.7	15.8	16.0	8.0	

Other lengths possible on quotation. 其它長度也可估價。

UNIFIED (英制)

Unit: Inches

Product Code	Thread Size	Insert Length A	Preferred Other Length A*				Stud Lengths (For SLTS & SLHS only) S											Head Height B	Head Ø C	Insert Ø D	Pilot End Ø P	Rec.Hole Size -0.00 +0.04	Min. Wall Thickness
型	螺牙	標準長度	特殊長度				公件長度											頭厚	頭外徑	外徑	圓徑	孔直徑	最少肉厚
SL-B SHK-B SLTS-B SLHS-B	0-80	.125	-	-	-	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	-	-	.116	.095	.100	.051	
	2-56	.157	.100	.125	-	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.021	.187	.141	.123	.126	.051	
	4-40	.226	.096	.140	.170	.250	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.024	.218	.181	.154	.157	.063	
	6-32	.281	.150	.226	.250	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.030	.250	.214	.185	.189	.071	
	8-32	.321	.185	.250	-	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.036	.281	.248	.218	.220	.083	
	10-24	.375	.250	-	-	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.043	.312	.278	.249	.252	.102	
	10-32	.375	.226	.250	-	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.043	.312	.278	.249	.252	.102	
	1/4-20	.500	.250	-	-	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.053	.375	.341	.312	.315	.130	
	1/4-28	.500	-	-	-	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.053	.375	.341	.312	.315	.130	
	5/16-18	.500	-	-	-	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.053	.437	.403	.374	.378	.177	
	5/16-24	.500	-	-	-	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.053	.437	.403	.374	.378	.177	
	3/8-16	.500	-	-	-	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.063	.551	.494	.465	.469	.236	
	3/8-24	.500	-	-	-	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.063	.551	.494	.465	.469	.236	
	1/8-NPT	.625	-	-	-	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	-	-	.479	.450	.453	.236	
	1/2	.625	-	-	-	-	3/16	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	.079	.748	.657	.622	.630	.315	

Other lengths possible on quotation. 其它長度也可估價。

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

標準材質: 黃銅 (B)
其它長度也可估價。

SPECIFYING AN INSERT & STUD / 特點

INSERTS (METRIC)								STUDS (METRIC)										
	SL	—	B	—	M3	x	4.0		SLTS	—	B	—	M3	x	4.0	—	5.0	
	PRODUCT CODE		MATERIAL		THREAD SIZE		PREFERRED SHORTER LENGTH		PRODUCT CODE		MATERIAL		THREAD SIZE		PREFERRED SHORTER LENGTH		STUD LENGTH	
		SHK		—		B		—		632		x		.157				SLHS
INSERTS (INCHES)								STUDS (INCHES)										

BOSS DESIGN SPECIFICATION

HOLE PREPARATION

Moulded holes are recommended wherever possible. 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. Drilled holes may be used but performance may be reduced when compared with a moulded hole. The top of the hole should not be chamfered or counterbored and care must be taken to avoid bell mouting. Hole diameter tolerance: $-0.00 + 0.10\text{mm}$.

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 Local Sales Office and pre-production testing is strongly advised.

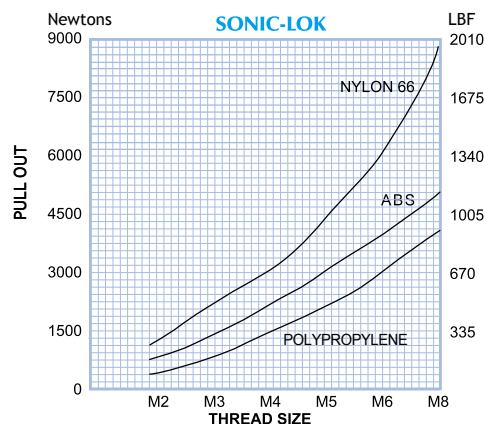
INSTALLATION

The fastener may be installed using either a pre-heating process or using heat generated by ultrasonic vibrations. Where preheating is used, 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. Ultrasonic installation is best carried out using low amplitude vibration and the minimum power consistent with satisfactory softening of the plastic material.

In either case 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.

PERFORMANCE DATA

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



塑膠孔徑之設計

1. 各規格螺母之塑膠建議孔徑，請參考規格表。
2. 塑膠孔徑內之脫模斜度應於 1 度以內。
3. 塑膠內孔徑之公差應設計在 $-0.00 + 0.10\text{mm}$ 的範圍。
4. 塑膠孔上方可以不設計導角。

塑膠孔肉厚

1. 建議肉厚，請參考規格表。
2. 肉厚可視不同塑膠材質，而略作調整，但請先與 P.S.M 技術人員聯系，必要時我們將協助測試及作最適當之建議。

裝置

1. 可使用熱熔；超音波或射出成型中埋入。
2. 熱熔溫度不可超過塑膠材質之熔點，應低於熔點 10-20 度。
3. 使用熱熔及超音波埋入螺母時，所設定之壓力、時間、速度，需視所使用之螺母規格及塑膠材料種類來調整理想值。
4. 射出成型中埋入時，請特別注意模具上所使用的套筒之尺寸，須配合螺母之內孔徑公差範圍，切勿大於公差之下限值，請於開模前洽詢 P.S.M 技術人員，以取得建議值。

測試數據

1. P.S.M 為服務客戶，非常歡迎客戶委托代作測試，我們將提供完整及詳盡之測試報告及必要之建議。
2. P.S.M 使用各種精密之測試儀器，針對常用之塑膠材料作出各類型螺母可承受之拉力的測試數據請參考。