

## THREADED INSERTS FOR PLASTICS

When selecting the insert the prime consideration will be the type of plastic used. The installation methods will also be a deciding factor in the choice of insert style.

Our range covers inserts which can be cold installed or installed by heat generated either by direct heat or ultrasonic vibrations. The majority of threaded inserts and studs are designed for installation after moulding, but we also offer a mould-in type.

If your design calls for a threaded insert or stud to be installed into plastic, Headland has a fastener to suit your application.

Click relevant picture for type variations and specifications



Sonic-Sert



Tec-Sert



Press-Sert



Fin-Sert



Heat-Sert



Thread-Sert



Spirol-Sert



Expan-Sert



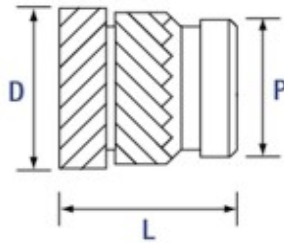
Flow-Sert

Click for inserts Characteristics Chart

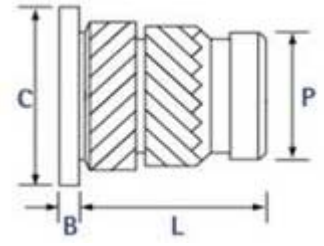
## SONIC-SERT – heat/ultrasonic installation



Version: unheaded Sonic-Sert



Version: headed Sonic-Sert



General Info: Designed for installation into Thermoplastics.

Versions: Unheaded and Headed versions as standard.  
Unheaded studded and Headed studded versions – please contact our Sales Dept.

Materials: Brass (steel or stainless steel are non-standards – please contact our Sales Dept.)

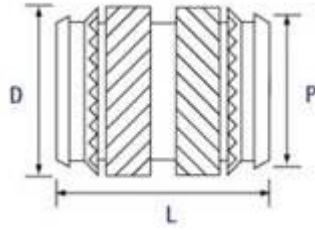
Advantages: Permits thin boss walls allowing compact boss design.  
Provides high torque and pull out performance.  
Rapid installation using heat or ultrasonics.  
Self-aligning – assists installation.

When ordering: Please state: Version + Thread size + Material

All data is correct to the best of our knowledge, however Headland cannot be held responsible for any errors or omissions.

Thread Size	L mm	B mm	C mm	D mm	P mm	Recommended hole size -0.00 / + 0.10 mm	Boss Wall Thickness mm	Note!
M2	4.0	0.53	4.8	3.6	3.1	3.2	1.3	
M2.5	5.7	0.61	5.5	4.6	3.9	4.0	1.6	
M3	5.7	0.61	5.5	4.6	3.9	4.0	1.6	
M3.5	7.1	0.76	6.4	5.4	4.7	4.8	1.8	
M4	8.2	0.91	7.1	6.3	5.5	5.6	2.1	
M5	9.5	1.09	7.9	7.1	6.3	6.4	2.6	
M6	12.7	1.35	9.5	8.7	7.9	8.0	3.3	
M8	12.7	1.35	11.1	10.2	9.5	9.6	4.5	Non-standard
M10	12.7	1.60	14.0	12.6	11.8	11.9	6.0	Non-standard

## TEC-SERT – heat installation



Version: Tec-Sert

General Info: Designed for installation into Thermoplastics.

Versions: Unheaded version only.

Materials: Brass (steel or stainless steel are non-standards – please contact our Sales Dept.)

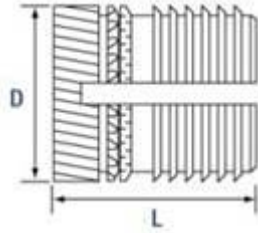
Advantages: Symmetrical (duo-orientation) assisting automatic feeding.  
Provides high torque and pull out performance.  
Permits thin boss walls allowing compact boss design.

When ordering: Please state: Version + Thread size + Material

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Thread Size	L mm	D mm	P mm	Recommended hole size -0.00 / + 0.10 mm	Boss Wall Thickness mm	Note!
M2	3.9	3.5	3.1	3.2	1.3	Non-standard
M2.5	5.7	4.4	3.9	4.0	1.6	
M3	5.7	4.4	3.9	4.0	1.6	
M3.5	7.1	5.2	4.7	4.8	1.8	
M4	8.1	6.1	5.5	5.6	2.1	
M5	9.5	6.8	6.3	6.4	2.6	
M6	12.7	8.5	7.9	8.0	3.3	
M8	12.7	10.0	9.5	9.6	4.5	Non-standard
M10	12.7	12.3	11.8	11.9	6.0	Non-standard

## PRESS-SERT – cold press installation



Version: Press-Sert

General Info: Designed for installation into Thermoplastics.

Versions: Unheaded version only.

Materials: Brass (steel or stainless steel are non-standards – please contact our Sales Dept.)

Advantages: Degree of self locking action on screw.  
Provides high torque and pull out performance.  
Easy press-in insertion.  
Low screw installation torque.

When ordering: Please state: Version + Thread size + Material

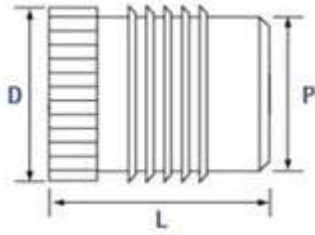
All data is correct to the best of our knowledge, however Headland cannot be held responsible for any errors or omissions.

Thread Size	L mm	D mm	Recommended hole size -0.00 / + 0.10 mm	Boss Wall Thickness mm	Note!
M2	4.0	3.7	3.2	1.6	Non-standard
M2.5	5.8	4.5	4.0	2.0	Non-standard
M3	5.8	4.5	4.0	2.0	
M3.5	7.2	5.3	4.8	2.4	
M4	8.2	6.2	5.6	2.8	
M5	9.5	6.9	6.4	3.2	
M6	12.7	8.5	8.0	4.0	
M8	12.7	10.1	9.6	4.8	Non-standard

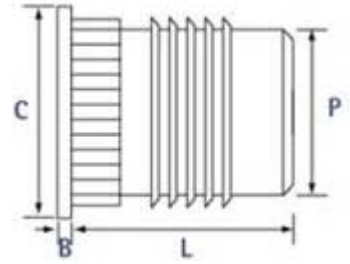
## FIN-SERT – cold press installation



Version: unheaded Fin-Sert



Version: headed Fin-Sert



General Info: Designed for installation into Thermoplastics.

Versions: Unheaded and Headed versions.

Materials: Brass (steel or stainless steel are non-standards – please contact our Sales Dept.)

Advantages: Easy press-in insertion.  
Free running thread.  
High pull-out performance.  
Self-aligning – assists installation.

When ordering: Please state: Version + Thread size + Material

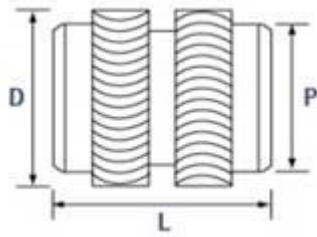
All data is correct to the best of our knowledge, however Headland cannot be held responsible for any errors or omissions.

Thread Size	L mm	B mm	C mm	D mm	P mm	Recommended hole size -0.00 / + 0.10 mm	Boss Wall Thickness mm	Note!
M2	4.0	0.45	4.8	3.7	3.1	3.2	1.6	Non-standard
M2.5	4.8	0.58	5.5	4.5	3.9	4.0	2.0	Non-standard
M3	4.8	0.58	5.5	4.5	3.9	4.0	2.0	
M3.5	6.4	0.74	6.4	5.3	4.7	4.8	2.4	
M4	7.9	0.89	7.1	6.1	5.5	5.6	2.8	
M5	9.5	1.07	7.9	7.0	6.3	6.4	3.2	
M6	12.7	1.32	9.5	8.6	7.9	8.0	4.0	
M8	12.7	1.32	11.0	10.2	9.5	9.6	4.8	Non-standard

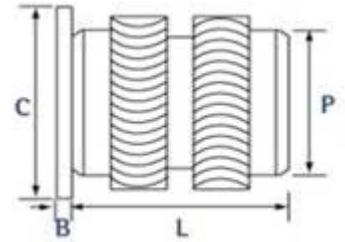
## HEAT-SERT – heat installation



Version: unheaded Heat-Sert



Version: headed Heat-Sert



General Info: Designed for installation into notch sensitive amorphous Thermoplastics.

Versions: Unheaded and Headed versions as standard.  
Unheaded studded and Headed studded versions – please contact our Sales Dept.

Materials: Brass (steel or stainless steel are non-standards – please contact our Sales Dept.)

Advantages: Low stress generating characteristics – ideal for amorphous thermoplastics.  
Double ended – assists automatic feeding (unheaded version).  
High torque resistance.  
Self-aligning – assists installation.

When ordering: Please state: Version + Thread size + Material

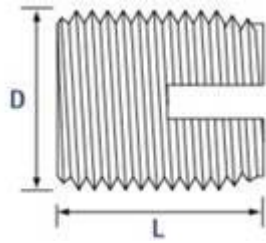
All data is correct to the best of our knowledge, however Headland cannot be held responsible for any errors or omissions.

Thread Size	L mm	B mm	C mm	D mm	P mm	Recommended hole size -0.00 / + 0.10 mm	Boss Wall Thickness mm	Note!
M2	3.9	0.51	4.8	3.5	3.1	3.2	1.4	Non-standard
M2.5	5.8	0.58	5.5	4.4	3.9	4.0	1.8	Non-standard
M3	5.8	0.58	5.5	4.4	3.9	4.0	1.8	
M3.5	7.1	0.74	6.4	5.2	4.7	4.8	2.1	
M4	8.1	0.89	7.1	6.1	5.5	5.6	2.4	
M5	9.5	1.07	7.9	6.9	6.3	6.4	2.8	
M6	12.7	1.32	9.5	8.5	7.9	8.0	3.6	
M8	12.7	1.32	11.1	10.0	9.5	9.6	5.0	Non-standard

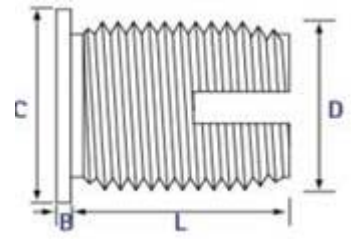
## THREAD-SERT – cold screw installation



Version: unheaded Thread-Sert



Version: headed Thread-Sert



General Info: Designed for installation into Thermoplastics and Thermosetting plastics.

Versions: Unheaded and Headed versions.

Materials: Brass (steel or stainless steel are non-standards – please contact our Sales Dept.)

Advantages: High pull-out resistance.  
Ideal where jack-out loading is unavoidable.  
Can carry high loads in weak plastics.

When ordering: Please state: Version + Thread size + Material

All data is correct to the best of our knowledge, however Headland cannot be held responsible for any errors or omissions.

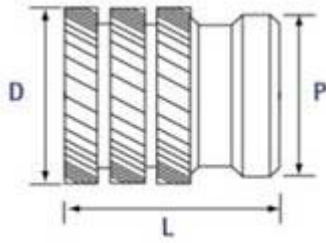
Thread Size	L mm	B mm	C mm	D mm	Recommended hole size Thermoplastics mm	Recommended hole size Thermosetting mm	Boss Wall Thickness mm	Note!
M2.5	6.0	0.58	6.0	4.5	4.0 - 4.1	4.1 - 4.3	pre-testing	Non-standard
M3	6.0	0.58	6.5	5.0	4.5 - 4.6	4.6 - 4.8	pre-testing	
M3.5	8.0	0.73	7.5	6.0	5.3 - 5.4	5.5 - 5.7	pre-testing	
M4	8.0	0.89	8.0	6.5	5.8 - 5.9	6.0 - 6.2	pre-testing	
M5	10.0	1.06	9.5	8.0	7.1 - 7.2	7.3 - 7.6	pre-testing	
M6	14.0	1.32	12.0	10.0	8.6 - 8.8	9.0 - 9.4	pre-testing	
M8	15.0	1.32	14.0	12.0	10.6 - 10.8	11.0 - 11.4	pre-testing	Non-standard
M10	18.0	1.57	16.0	14.0	12.6 - 12.8	13.0 - 13.4	pre-testing	Non-standard



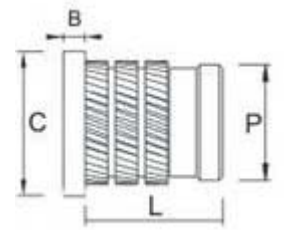
## SPIROL-SERT – cold press installation



Version: unheaded Spirol-Sert



Version: headed Spirol-Sert



General Info: Designed for installation into Thermosetting plastics.

Versions: Unheaded and Headed versions as standard.  
Unheaded studded and Headed studded versions – please contact our Sales Dept.

Materials: Brass (steel or stainless steel are non-standards – please contact our Sales Dept.)

Advantages: Easy press-in insertion.  
Provides high torque resistance.  
Low bursting stress allows the use of thinner wall bosses reducing the risk of sink marks.  
Self-aligning – assists installation.

When ordering: Please state: Version + Thread size + Material

All data is correct to the best of our knowledge, however Headland cannot be held responsible for any errors or omissions.

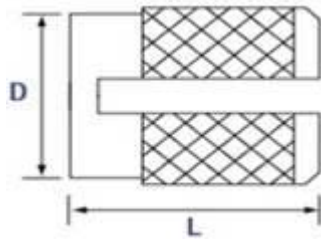
Thread Size	L mm	B mm	C mm	D mm	P mm	Recommended hole size -0.00 / + 0.10 mm	Boss Wall Thickness mm	Note!
M2	4.1	0.51	4.8	3.3	3.0	3.1	1.6	Non-standard
M2.5	5.3	0.58	5.5	4.2	3.7	3.8	2.0	Non-standard
M3	5.3	0.58	5.5	4.2	3.7	3.8	2.0	
M3.5	6.3	0.74	6.4	5.0	4.5	4.6	2.5	
M4	7.4	0.89	7.1	5.8	5.3	5.4	2.5	
M5	8.3	1.07	7.9	6.6	6.1	6.2	2.5	
M6	9.2	1.32	9.5	8.2	7.7	7.8	2.8	
M8	9.2	1.32	11.1	9.7	9.3	9.3	3.8	Non-standard
M10	9.2	1.57	14.0	12.7	12.2	12.3	5.0	Non-standard



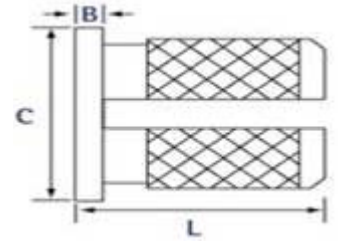
## EXPAN-SERT – cold press installation



Version: unheaded Expan-Sert



Version: headed Expan-Sert



General Info: Designed for installation into Thermosetting plastics.

Versions: Unheaded, Headed, Reverse Headed versions as standard.

Materials: Brass (steel or stainless steel are non-standards – please contact our Sales Dept.)

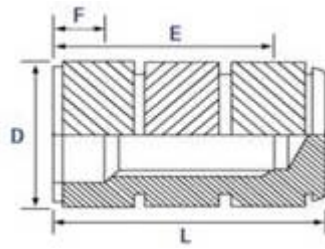
Advantages: Easy press-in insertion.  
Self-locking action on the screw – ideal where vibration is present.

When ordering: Please state: Version + Thread size + Material

All data is correct to the best of our knowledge, however Headland cannot be held responsible for any errors or omissions.

Thread Size	L mm	B mm	C mm	D mm	Recommended hole size -0.00 / + 0.10 mm	Boss Wall Thickness mm	Note!
M2	3.9	0.43	4.8	3.2	3.2	2.4	Non-standard
M2.5	4.7	0.51	5.5	4.0	4.0	3.2	Non-standard
M3	4.7	0.51	5.5	4.0	4.0	3.2	
M3.5	6.3	0.66	6.4	4.7	4.8	3.6	
M4	7.9	0.82	7.1	5.5	5.6	4.0	
M5	9.4	0.99	7.9	6.3	6.4	4.8	
M6	12.6	1.25	9.5	7.9	8.0	6.0	
M8	12.6	1.25	11.1	9.5	9.6	7.0	Non-standard

## FLOW-SERT – mould-in installation



Version: Flow-Sert

General Info: Designed for mould-in installation.

Versions: Unheaded version only.

Materials: Brass.

Advantages: Blind ended – prevents ingress of plastic.  
 Counterbore prevents ingress of plastic and eases assembly on locating pins.  
 Rolled threads reduce risk of contamination of mouldings due to metal swarf.  
 Absence of “pip” at blind end reduces risk of contamination and assists automatic insert loaders.

When ordering: Please state: Version + Thread size + Material

All data is correct to the best of our knowledge, however Headland cannot be held responsible for any errors or omissions.

Thread size	L mm	D mm	E Min. mm	F mm	Note!
M2	5.5	3.4	3.6	1.0	Non-standard
M2.5	6.4	4.3	4.0	1.2	Non-standard
M3	7.3	4.7	4.6	1.3	
M3.5	9.2	5.5	6.0	1.6	
M4	10.2	6.3	6.7	1.8	
M5	11.2	7.3	7.4	2.0	
M6	14.4	9.8	8.1	2.0	
M8	16.5	11.4	11.1	2.3	Non-standard
M10	17.9	13.8	11.9	2.4	Non-standard

## INSERT CHARACTERISTICS CHART

Recommended/Yes:   Possible:   High:  $\Delta\Delta$  Moderate:  $\Delta$   
 Not Recommended/No:  $\ominus$

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Material Characteristics	SONIC	TEC	HEAT	FIN	PRESS	THREAD	SPIROL	EXPAN	FLOW
Hard Thermoplastics				$\ominus$	$\ominus$		$\ominus$		
Medium Thermoplastics							$\ominus$		
Soft Thermoplastics			$\ominus$				$\ominus$	$\ominus$	
Amorphous Thermoplastics	$\ominus$	$\ominus$		$\ominus$	$\ominus$	$\ominus$	$\ominus$	$\ominus$	
Thermosetting Polyester	$\ominus$	$\ominus$	$\ominus$	$\ominus$	$\ominus$			$\ominus$	
Thermosetting (other)	$\ominus$	$\ominus$	$\ominus$	$\ominus$	$\ominus$				
Foams – Thermoplastics				$\ominus$	$\ominus$		$\ominus$	$\ominus$	
Foams - Thermosetting	$\ominus$	$\ominus$	$\ominus$	$\ominus$	$\ominus$		$\ominus$	$\ominus$	

Fastener Characteristics	SONIC	TEC	HEAT	FIN	PRESS	THREAD	SPIROL	EXPAN	FLOW
Pull out	$\Delta\Delta$	$\Delta\Delta$	$\Delta\Delta$	$\Delta$	$\Delta$	$\Delta\Delta$	$\Delta$	$\Delta$	$\Delta\Delta$
Direct Torque	$\Delta\Delta$	$\Delta\Delta$	$\Delta\Delta$	$\Delta$	$\Delta$	$\ominus$	$\Delta\Delta$	$\Delta$	$\Delta\Delta$
Jack Out	$\Delta\Delta$	$\Delta\Delta$	$\Delta\Delta$	$\Delta$	$\Delta$	$\Delta\Delta$	$\Delta$	$\Delta$	$\Delta\Delta$
Free Running Thread					$\ominus$			$\ominus$	
Thread Locking Effect	$\ominus$	$\ominus$	$\ominus$	$\ominus$		$\ominus$	$\ominus$		$\ominus$
Symmetrical	$\ominus$			$\ominus$	$\ominus$	$\ominus$	$\ominus$	$\ominus$	$\ominus$

Installation Methods	SONIC	TEC	HEAT	FIN	PRESS	THREAD	SPIROL	EXPAN	FLOW
Hand Tools	$\ominus$	$\ominus$	$\ominus$	$\ominus$			$\ominus$		$\ominus$
Simple Press	$\ominus$	$\ominus$	$\ominus$			$\ominus$			$\ominus$
Direct Heat				$\ominus$	$\ominus$	$\ominus$	$\ominus$	$\ominus$	$\ominus$
Ultrasonics		$\ominus$	$\ominus$	$\ominus$	$\ominus$	$\ominus$	$\ominus$	$\ominus$	$\ominus$
Tapping Machine	$\ominus$	$\ominus$	$\ominus$	$\ominus$	$\ominus$		$\ominus$	$\ominus$	$\ominus$
Moulded In				$\ominus$	$\ominus$	$\ominus$	$\ominus$	$\ominus$	
Fully Automated									$\ominus$