

# TR FASTENINGS

## Fasteners for Plastics



TR Fastenings is recognised throughout the industry for world-class products and services. We manufacture, stock and distribute a vast range of industrial fasteners and associated components.

**SPECIFY • MANUFACTURE • DELIVER • INTERNATIONALLY**

[www.trfastenings.com](http://www.trfastenings.com)

Edition 4

# Fasteners for Plastics

## Contents

		Page			Page
	<b>Tech-Sert™</b> Unheaded (UHBRTE)	3		<b>Countersunk Plas-Tech® 30</b> CR(Z) (KR30)	14
	<b>Sonic-Sert™</b> Unheaded (UHBRSO) Headed (HEBRSO)	4		<b>Pan Plas-Tech® 30</b> T-Drive (PT30)	15
	<b>Press-Sert™</b> Unheaded (UHBRPR)	5		<b>Flange Plas-Tech® 30</b> T-Drive (FT30)	16
	<b>Fin-Sert™</b> Unheaded (UHBRFI) Headed (HEBRFI)	6		<b>Pan Plas-Fix® 45</b> CR(Z)	17
	<b>Heat-Sert™</b> Unheaded (UHBRHE) Headed (HEBRHE)	7		<b>Countersunk Plas-Fix® 45</b> CR(Z)	18
	<b>Thread-Sert™</b> Unheaded (UHBRTH) Headed (HEBRTH)	8		<b>Flange Plas-Fix® 45</b> CR(Z)	19
	<b>Broaching-Sert™</b> Unheaded (UHBRSP) Headed (HEBRSP)	9		<b>Pan Plas-Fix® 45</b> T-Drive	20
	<b>Expansion-Sert™</b> Unheaded (UHBREX) Headed (HEBREX)	10		<b>Countersunk Plas-Fix® 45</b> T-Drive	21
	<b>Flow-Sert™</b> Unheaded (UHBRFL)	11		<b>Pan Plas-Fix® 45</b> CR(H)	22
	<b>Pan Plas-Tech® 30</b> CR(Z) (PR30)	12		<b>Countersunk Plas-Fix® 45</b> CR(H)	23
	<b>Flange Plas-Tech® 30</b> CR(Z) (FL30)	13		<b>Specials</b>	24-25

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

# Fasteners for Plastics Conversion Table



Old TR Insert range		New TR Insert range		PSM Insert range	
Part No	Description	Part No	Description	Part No	Description
I1HEBR	TR1 Inva-Sert	UHBRHE	Heat Sert	HL	Heat Lok
I1HHBR	TR1 Headed Inva-Sert	HEBRHE	Headed Heat Sert	HLH	Headed Heat Lok
I2PSBR	TR2 Broach-Sert	UHBRSP	Broaching Sert	SP	Spiro
I2HPBR	TR2 Headed Broach-Sert	HEBRSP	Headed Broaching Sert	HSR	Headed Spiro
I3TSBR	TR3 Rota-Sert	UHBRTH	Thread Sert	SCT	Screw Sert
		HEBRTH	Headed Thread Sert	HSCT	Headed Screw Sert
I4ESBR	TR4 Expan-Sert	UHBREX	Expansion Sert	N41	Banc Lok
I4EHBR	TR4 Headed Expan-Sert	HEBREX	Headed Expansion Sert	N42	Headed Bank Lok
I4ERBR	TR4 R/Headed Expan-Sert	RHBREX	R/Headed Expansion Sert	N42R	R/Headed Bank Lok
I5SSBR	TR5 Uni-Sert	UHBRSO	Sonic Sert	SL	Sonic Lok
I5SKBR	TR5 Headed Uni-Sert	HEBRSO	Headed Sonic Sert	SHK	Headed Sonic Lok
16TTBR	TR6 Duo-Sert	UHBRTE	Tec Sert	TEC	Tech-Sonic
17CBBR	TR7 Combi-Sert	UHBRFI	Fin Sert	FL	Fin-Lok
I7CHBR	TR7 Headed Combi-Sert	HEBRFI	Headed Fin Sert	FLH	Headed Fin-Lok
		UHBRTM	Mini Sert	MTEC	Mini Tech
		HEBRTM	Headed Mini Sert	MTH	Headed Mini Tech
		UHBRFL	Flow Sert	FTC	Flo Tech

**Note: PSM codes are made up of Product 1st, Material type 2nd and Diameter 3rd**

Example: Customer asks for an alternative to a PSM Headed Sonic Lok, M3 in Brass. Or they may quote a PSM code for this which would be SHK-B-M3.

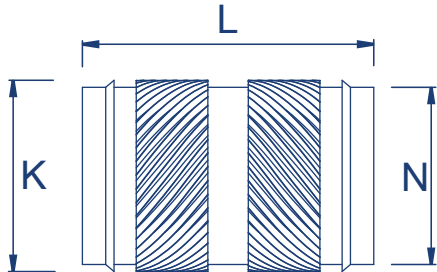
Our TR alternative would be M3 - HEBRSO

# Tech-Sert™

## Unheaded (UHB RTE)



Brass/Self Colour



### Unheaded (UHB RTE) Metric and Unified Dimensions

Thread size	Metric	M2*	M2.5*	M3	M3.5	M4	M5	M6	M8*	M10*
	Unified	2*	-	4*	6*	8*	10*	¼**	5/16**	3/8**
L mm		4.0	5.7	5.7	7.1	8.1	9.5	12.7	12.7	12.7
K mm		3.5	4.4	4.4	5.2	6.1	6.8	8.5	10.0	12.3
N mm		3.1	3.9	3.9	4.7	5.5	6.3	7.9	9.5	11.8
Recommended Hole Size mm (-0.0/+0.1)		3.2	4.0	4.0	4.8	5.6	6.4	8.0	9.6	11.9
Minimum Wall Thickness mm		1.3	1.6	1.6	1.8	2.1	2.6	3.3	4.5	6.0

\*Non preferred - Please enquire for availability

Non standard lengths and stud versions available on request

### Tech-Sert™ Information for designers

The Tech-Sert™ has been designed for post mould installation into thermoplastics using heat or ultrasonics with the opposing knurls and vanes providing high levels of pull out and torque resistance. The symmetrical design means the insert can be installed either way round which allows for automated installation.

#### Advantages:

- Rapid installation
- Symmetrical design for automated installation
- Allows for thin walls in the boss
- High pull out and torque resistance

#### Installation Data

The Tech-Sert™ is installed using either heat or ultrasonics.

#### Heat Installation

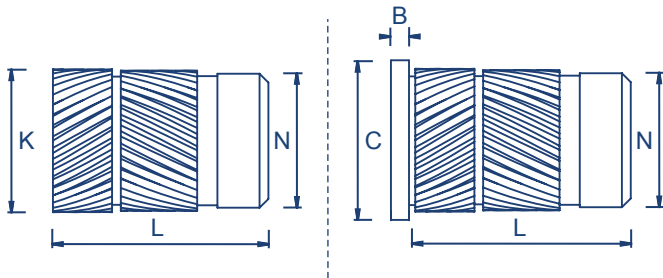
Where heat is used you must ensure that the insert softens, but does not melt the plastic, which helps avoid flash forming around the top of the insert.

#### Ultrasonic Installation

Ultrasonic installation works best with low amplitude vibrations and enough power to soften the surrounding plastic.

Care should be taken to avoid excessive downward pressure being applied during installation which can result in the insert being forced into the hole rather than allowing the plastic to soften around it.

### Brass/Self Colour



### Unheaded (UHBRSO) Headed (HEBRSO) Metric and Unified Dimensions

Thread size	Metric	M2*	M2.5*	M3	M3.5	M4	M5	M6	M8*	M10*
	Unified	2*	-	4*	6*	8*	10*	¼**	5/16**	3/8**
L mm		4.0	5.7	5.7	7.1	8.1	9.5	12.7	12.7	12.7
K mm		3.6	4.6	4.6	5.4	6.3	7.1	8.7	10.2	12.6
B mm		0.53	0.61	0.61	0.76	0.91	1.09	1.35	1.35	1.60
C mm		4.8	5.5	5.5	6.4	7.1	7.9	9.5	11.1	14.0
N mm		3.1	3.9	3.9	4.7	5.5	6.3	7.9	9.5	11.8
Recommended Hole Size mm (-0.0/+0.1)		3.2	4.0	4.0	4.8	5.6	6.4	8.0	9.6	11.9
Minimum Wall Thickness mm		1.3	1.6	1.6	1.8	2.1	2.6	3.3	4.5	6.0

\*Non preferred - Please enquire for availability  
 Non standard lengths and stud versions available on request

### Sonic-Sert™ Information for designers

The Sonic-Sert™ has been designed for post mould installation into thermoplastics using heat or ultrasonics with the opposing knurls providing a combination of high pull out and torque resistance.

#### Advantages:

- Rapid installation
- Allows for thin walls in the boss
- High pull out and torque resistance

#### Installation Data

The Sonic-Sert™ is installed using either heat or ultrasonics.

#### Heat Installation

Where heat is used you must ensure that the insert softens, but does not melt the plastic, which helps avoid flash forming around the top of the insert.

#### Ultrasonic Installation

Ultrasonic installation works best with low amplitude vibrations and enough power to soften the surrounding plastic.

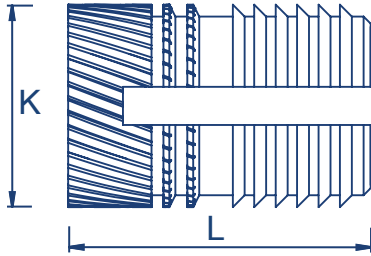
Care should be taken to avoid excessive downward pressure being applied during installation which can result in the insert being forced into the hole rather than allowing the plastic to soften around it.

# Press-Sert™

## Unheaded (UHBRPR)



### Brass/Self Colour



### Unheaded (UHBRPR) Metric and Unified Dimensions

Thread size	Metric	M2*	M2.5*	M3	M3.5	M4	M5	M6	M8*
	Unified	2*	-	4*	6*	8*	10*	¼**	5/16**
L mm		4.0	5.8	5.8	7.2	8.2	9.5	12.7	12.7
K mm		3.7	4.5	4.5	5.3	6.2	6.9	8.5	10.1
Recommended Hole Size mm (-0.0/+0.1)		3.2	4.0	4.0	4.8	5.6	6.4	8.0	9.6
Minimum Wall Thickness mm		1.6	2.0	2.0	2.4	2.8	3.2	4.0	4.8

\*Non preferred - Please enquire for availability

Non standard lengths are available on request

### Press-Sert™ Information for designers

The Press-Sert™ is a press-in insert, designed for post mould installation into thermoplastics. The combination of plain and knurled vanes provides good levels of pull out and torque resistance.

#### Advantages:

- Simple, press-in installation
- Provides self-locking action on mating screw
- Good pull out and torque resistance

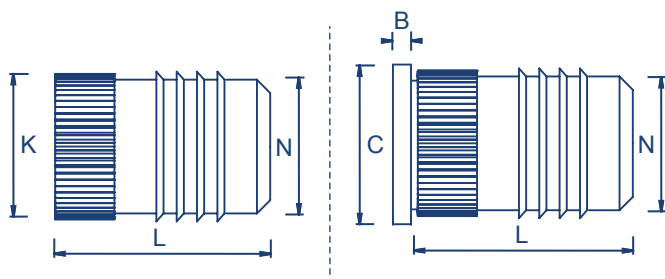
#### Installation Data

The Press-Sert™ should be installed with a press that can provide a steady squeezing action to prevent damage to the mating boss.

The mating screw should always be installed into the knurled end of the insert to allow it to expand. It is important that the screw fully penetrates the insert to achieve full expansion and optimum pull-out resistance.

Press-Sert™ inserts should not be used in notch-sensitive plastics.

### Brass/Self Colour



### Unheaded (UHBRFI) Headed (HEBRFI)\* Metric and Unified Dimensions

Thread size	Metric	M2*	M2.5*	M3	M3.5	M4	M5	M6	M8*
	Unified	2*	-	4*	6*	8*	10*	¼**	5/16**
L mm		4.0	4.8	4.8	6.4	7.9	9.5	12.7	12.7
K mm		3.7	4.5	4.5	5.3	6.1	7.0	8.6	10.2
B mm		0.45	0.58	0.58	0.74	0.89	1.07	1.32	1.32
C mm		4.8	5.5	5.5	6.4	7.1	7.9	9.5	11.1
N mm		3.1	3.9	3.9	4.7	5.5	6.3	7.9	9.5
Recommended Hole Size mm (-0.0/+0.1)		3.2	4.0	4.0	4.8	5.6	6.4	8.0	9.6
Minimum Wall Thickness mm		1.6	2.0	2.0	2.4	2.8	3.2	4.0	4.8

\*Non preferred - Please enquire for availability

Non standard lengths are available on request

### Fin-Sert™ Information for designers

The Fin-Sert™ is a press-in insert, designed for post mould installation into thermoplastics. The combination of fins and knurls provides good levels of pull out and torque resistance.

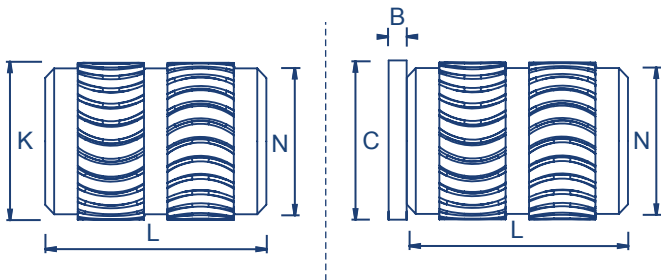
#### Advantages:

- Simple, press-in installation
- Free running female thread
- Good pull out and torque resistance

#### Installation Data

The Fin-Sert™ should be installed with a press that can provide a steady squeezing action to prevent damage to the mating boss.

### Brass/Self Colour



### Unheaded (UHBRHE) Headed (HEBRHE) Metric and Unified Dimensions

Thread size	Metric	M2*	M2.5*	M3	M3.5	M4	M5	M6	M8*
	Unified	2*	-	4*	6*	8*	10*	¼**	5/16**
L mm		3.9	5.8	5.8	7.1	8.1	9.5	12.7	12.7
K mm		3.5	4.4	4.4	5.2	6.1	6.9	8.5	10.0
B mm		0.51	0.58	0.58	0.74	0.89	1.07	1.32	1.32
C mm		4.8	5.5	5.5	6.4	7.1	7.9	9.5	11.1
N mm		3.1	3.9	3.9	4.7	5.5	6.3	7.9	9.5
Recommended Hole Size mm (-0.0/+0.1)		3.2	4.0	4.0	4.8	5.6	6.4	8.0	9.6
Minimum Wall Thickness mm		1.4	1.8	1.8	2.1	2.4	2.8	3.6	5.0

\*Non preferred - Please enquire for availability

Non standard lengths are available on request

### Heat-Sert™ Information for designers

The Heat-Sert™ has been designed for post mould installation into notch-sensitive thermoplastics using heat. The rounded knurls alleviate stress in the mating boss.

#### Advantages:

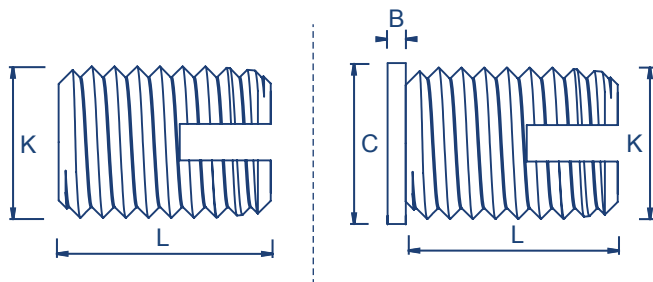
- Designed specifically for notch-sensitive plastics
- Symmetrical design for automated installation
- High pull out and torque resistance

#### Installation Data

The Heat-Sert™ is installed using heat and you must ensure that the insert softens, but does not melt the plastic which helps avoid flash forming around the top of the insert.



### Brass/Self Colour



### Unheaded (UHBRTH) Headed (HEBRTH)\* Metric and Unified Dimensions

Thread size	Metric	M2.5*	M3	M3.5	M4	M5	M6	M8*	M10*
	Unified	-	4*	6*	8*	10*	1/4" *	5/16" *	3/8" *
L mm		6.0	6.0	8.0	8.0	10.0	14.0	15.0	18.0
B mm		0.58	0.58	0.73	0.89	1.06	1.32	1.32	1.57
C mm		6.0	6.5	7.5	8.0	9.5	12.0	14.0	16.0
K max mm		4.5	5.0	6.0	6.5	8.0	10.0	12.0	14.0
Recommended Hole Size Thermoplastics mm		4.0-4.1	4.5-4.6	5.3-5.4	5.8-5.9	7.1-7.2	8.6-8.8	10.6-10.8	12.6-12.8
Recommended Hole Size Thermosets mm		4.1-4.3	4.6-4.8	5.5-5.7	6.0-6.2	7.3-7.6	9.0-9.4	11.0-11.4	13.0-13.4

\*Non preferred - Please enquire for availability  
Minimum wall thickness can only be advised by pre-production evaluation.

### Thread-Sert™ Information for designers

The Thread-Sert™ is a self-tapping insert, designed for post mould installation into thermoplastics and thermosets. They are ideally suited to applications which may involve high jack-out loading.

#### Advantages:

- Simple, self-tapping installation
- Helps prevent jack-out
- High torque resistance

#### Installation Data

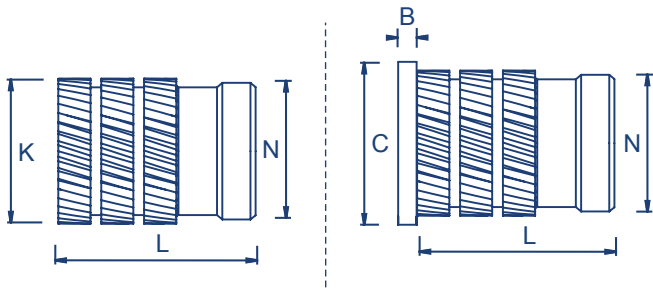
The Thread-Sert™ is installed by tapping using a hand tool, vertical drill with tapping attachment or standard tapping machine. Max RPM 35-40. Mandrel must not go past slot.

# Broaching-Sert™

## Unheaded (UHBRSP) Headed (HEBRSP)



Brass/Self Colour



### Unheaded (UHBRSP) Headed (HEBRSP) Metric and Unified Dimensions

Thread size	Metric	M2*	M2.5*	M3	M3.5	M4	M5	M6	M8*	M10*
	Unified	2*	-	4*	6*	8*	10*	¼**	5/16**	3/8**
L mm		4.1	5.3	5.3	6.3	7.4	8.3	9.2	9.2	9.2
B mm		0.51	0.58	0.58	0.74	0.89	1.07	1.32	1.32	1.57
C mm		4.8	5.5	5.5	6.4	7.1	7.9	9.5	11.1	14.0
K mm		3.3	4.2	4.2	5.0	5.8	6.6	8.2	9.7	12.7
N mm		3.0	3.7	3.7	4.5	5.3	6.1	7.7	9.3	12.3
Recommended Hole Size mm (-0.0/+0.1)		3.1	3.8	3.8	4.6	5.4	6.2	7.8	9.3	12.3
Minimum Wall Thickness mm		1.6	2.0	2.0	2.5	2.5	2.5	2.8	3.8	5.0

\*Non preferred - Please enquire for availability

### Broaching-Sert™ Information for designers

The Broaching-Sert™ is a press-in insert, designed for post mould installation into thermosets. The sharp knurls of the insert cut into the mating material during installation thereby reducing stress in brittle thermosets.

#### Advantages:

- Simple, press-in installation
- Allows for thin walls in the boss
- Good pull out and torque resistance

#### Installation Data

The Broaching-Sert™ should be installed with a press that can provide a steady squeezing action to prevent damage to the mating boss.

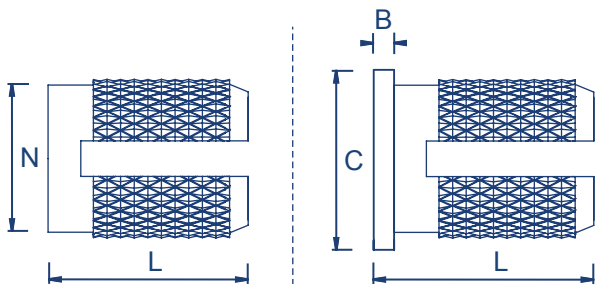
The insert should be allowed to freely rotate during installation.

# Expansion-Sert™

## Unheaded (UHBREX) Headed (HEBREX)



Brass/Self Colour



### Unheaded (UHBREX) Headed (HEBREX)\* Metric and Unified Dimensions

Thread size	Metric	M2*	M2.5*	M3	M3.5	M4	M5	M6	M8*
	Unified	2*	-	4*	6*	8*	10*	¼**	5/16**
L mm		3.9	4.7	4.7	6.3	7.9	9.4	12.6	12.6
B mm		0.43	0.51	0.51	0.66	0.82	0.99	1.25	1.25
C mm		4.8	5.5	5.5	6.4	7.1	7.9	9.5	11.1
N max mm		3.2	4.0	4.0	4.7	5.5	6.3	7.9	9.5
Recommended Hole Size mm (-0.0/+0.1)		3.2	4.0	4.0	4.8	5.6	6.4	8.0	9.6
Minimum Wall Thickness mm		2.4	3.2	3.2	3.6	4.0	4.8	6.0	7.0

\*Non preferred - Please enquire for availability

Non standard lengths are available on request - Reverse headed also available on request.

### Expansion-Sert™ Information for designers

The Expansion-Sert™ is a press-in insert, designed for post mould installation into thermosets. The knurl pattern makes this insert ideal for hard thermosets.

#### Advantages:

- Simple, press-in installation
- Provides self-locking action on mating screw
- Good pull out and torque resistance

#### Installation Data

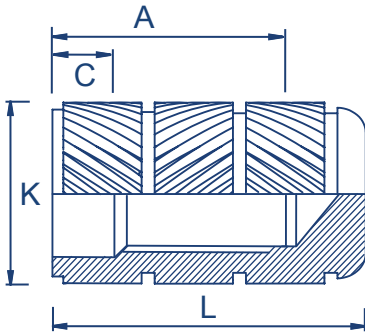
The Expansion-Sert™ should be installed with a press that can provide a steady squeezing action to prevent damage to the mating boss. It is important that the mating screw fully penetrates the insert to achieve full expansion and optimum pull-out resistance.

# Flow-Sert™

## Unheaded (UHBRFL)



Brass/Self Colour



### Unheaded (UHBRFL) Metric and Unified Dimensions

Thread size	Metric	M2*	M2.5*	M3	M3.5	M4	M5	M6	M8*	M10*
	Unified	2*	-	4*	6*	8*	10*	¼**	5/16**	3/8**
L mm		5.5	6.4	7.3	9.2	10.2	11.2	14.4	16.5	17.9
K mm		3.4	4.3	4.7	5.5	6.3	7.3	9.8	11.4	13.8
A min. mm		3.6	4.0	4.6	6.0	6.7	7.4	8.1	11.1	11.9
C mm		1.0	1.2	1.3	1.6	1.8	2.0	2.0	2.3	2.4

\*Non preferred - Please enquire for availability

### Flow-Sert™ Information for designers

The Flow-Sert™ is a blind insert, designed to be installed during the moulding process.

#### Advantages:

- The blind end prevents plastic ingress during moulding
- Very high pull out and torque resistance

#### Installation Data

The Flow-Sert™ is designed to be installed during moulding. It is critical that the mould pin used is designed to locate the Flow-Sert™ and prevent plastic ingress.

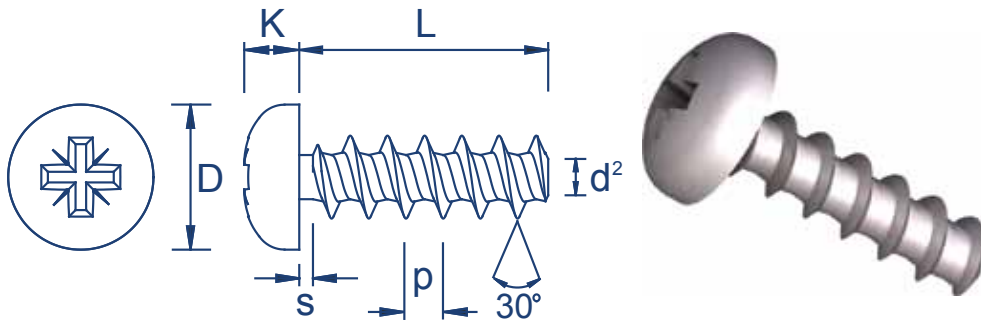
Please contact your nearest TR location for mould pin design assistance.

# Plas-Tech® 30

## Pan CR (Z) (PR30)



Steel/Zinc & Clear (CR3) | Stainless Steel 303/Self Colour (SF)



### Dimensions

Thread Dimensions	Screw Size	2.2	2.5	3.0	3.5	4.0	5.0	6.0
	d2 nom.	1.25	1.40	1.66	1.91	2.17	2.68	3.19
	p	0.98	1.12	1.34	1.57	1.79	2.24	2.69
	s (L > 3 x d1)	2.2	2.5	3.0	3.5	4.0	5.0	6.0
	s (L < 3 x d1)	1.1	1.3	1.5	1.8	2.0	2.5	3.0
Head Dimensions	D	3.9	4.4	5.3	6.1	7.0	8.8	10.5
	K	1.5	1.7	2.0	2.5	2.7	3.4	4.0
	Recess No.	1	1	1	2	2	2	3

### Preferred Lengths

		Length (L)										
		5	6	8	10	12	14	16	18	20	25	30
Screw Size	2.2	ST	ST	ST	ST							
	2.5	ST	ST	ST	ST	ST	ST	ST	ST			
	3.0		ST	ST	ST	ST	ST	ST	ST	ST	ST	ST
	3.5			ST	ST	ST	ST	ST	ST	ST	ST	ST
	4.0			ST	ST	ST	ST	ST	ST	ST	ST	ST
	5.0				ST	ST	ST	ST	ST	ST	ST	ST
	6.0					ST		ST		ST	ST	ST

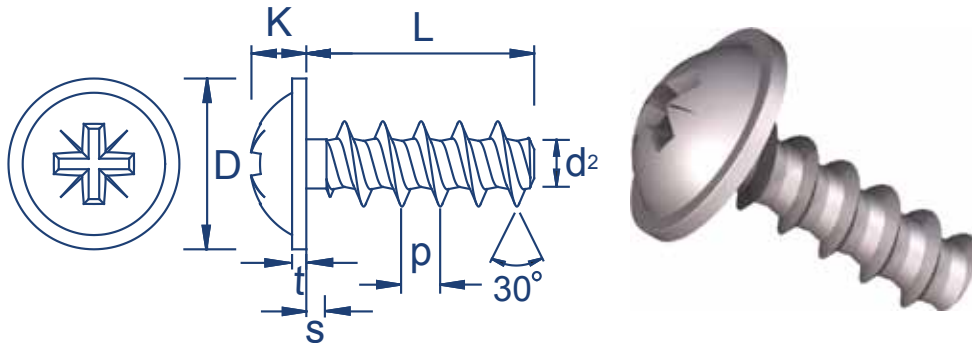
ST = Steel  
Stainless Steel - please enquire for availability

# Plas-Tech® 30

## Flange CR (Z) (FL30)



Steel/Zinc & Clear (CR3) | Stainless Steel 303/Self Colour (SF)



### Dimensions

Thread Dimensions	Screw Size	2.2	2.5	3.0	3.5	4.0	5.0	6.0
	d2 nom.	1.25	1.40	1.66	1.91	2.17	2.68	3.19
	p	0.98	1.12	1.34	1.57	1.79	2.24	2.69
	s (L > 3 x d1)	2.2	2.5	3.0	3.5	4.0	5.0	6.0
	s (L < 3 x d1)	1.1	1.3	1.5	1.8	2.0	2.5	3.0
Head Dimensions	D	4.4	5.0	6.0	7.0	8.0	10.0	12.0
	K	1.6	1.8	2.1	2.4	2.5	3.2	4.0
	t	0.5	0.6	0.7	0.8	0.9	1.1	1.3
	Recess No.	1	1	1	2	2	2	3

### Preferred Lengths

		Length (L)										
		5	6	8	10	12	14	16	18	20	25	30
Screw Size	2.2	ST	ST	ST	ST							
	2.5	ST	ST	ST	ST	ST						
	3.0		ST	ST	ST	ST	ST	ST	ST	ST		
	3.5			ST	ST	ST	ST	ST	ST	ST		
	4.0			ST	ST	ST	ST	ST	ST	ST	ST	ST
	5.0					ST	ST	ST	ST	ST	ST	ST
	6.0					ST		ST		ST	ST	ST

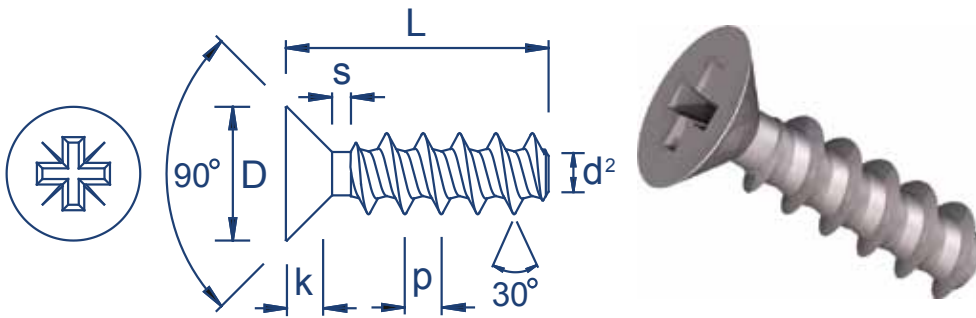
ST = Steel  
Stainless Steel - please enquire for availability

# Plas-Tech® 30

## Countersunk CR (Z) (KR30)



Steel/Zinc & Clear (CR3) | Stainless Steel 303/Self Colour (SF)



### Dimensions

Thread Dimensions	Screw Size	2.2	2.5	3.0	3.5	4.0	5.0	6.0
	d2 nom.	1.25	1.40	1.66	1.91	2.17	2.68	3.19
	p	0.98	1.12	1.34	1.57	1.79	2.24	2.69
	s (L > 3 x d1)	2.2	2.5	3.0	3.5	4.0	5.0	6.0
	s (L < 3 x d1)	1.1	1.3	1.5	1.8	2.0	2.5	3.0
Head Dimensions	D	3.8	4.7	5.5	7.3	8.4	9.3	11.3
	K	0.45	0.35	0.35	0.40	0.45	0.50	0.55
	Recess No.	1	1	1	2	2	2	3

### Preferred Lengths

		Length (L)										
		5	6	8	10	12	14	16	18	20	25	30
Screw Size	2.2	ST	ST	ST	ST							
	2.5	ST	ST	ST	ST	ST	ST	ST	ST			
	3.0		ST	ST	ST	ST	ST	ST	ST	ST	ST	
	3.5			ST	ST	ST	ST	ST	ST	ST	ST	
	4.0				ST	ST	ST	ST	ST	ST	ST	ST
	5.0					ST	ST	ST	ST	ST	ST	ST
	6.0						ST	ST		ST	ST	ST

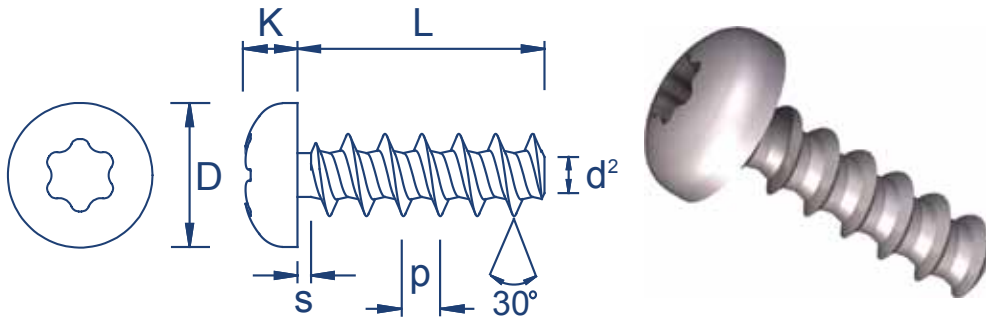
ST = Steel  
Stainless Steel - please enquire for availability

# Plas-Tech® 30

## Pan T-Drive (PT30)



Steel/Zinc & Clear (CR3) | Stainless Steel 303/Self Colour (SF)



### Dimensions

Thread Dimensions	Screw Size	1.8	2.2	2.5	3.0	3.5	4.0	5.0	6.0
	d2 nom.	1.04	1.25	1.40	1.66	1.91	2.17	2.68	3.19
	p	0.80	0.98	1.12	1.34	1.57	1.79	2.24	2.69
	s (L > 3 x d1)	1.8	2.2	2.5	3.0	3.5	4.0	5.0	6.0
	s (L < 3 x d1)	0.9	1.1	1.3	1.5	1.8	2.0	2.5	3.0
Head Dimensions	D	3.6	4.0	4.2	5.6	6.9	7.5	8.2	10.8
	K	1.3	1.5	1.6	2.1	2.3	2.6	2.9	3.8
	Recess No.	T6	T6	T8	T10	T10	T20	T20	T25

### Preferred Lengths

Screw Size	Length (L)	Length (L)										
		4	5	6	8	10	12	14	16	18	20	25
Screw Size	1.8	ST	ST	ST	ST	ST						
	2.2	ST	ST	ST	ST	ST	ST		ST			
	2.5		ST	ST	ST	ST	ST	ST	ST			
	3.0				ST	ST	ST	ST	ST	ST	ST	
	3.5				ST	ST	ST	ST	ST	ST	ST	ST
	4.0				ST	ST	ST	ST	ST	ST	ST	ST
	5.0											

ST = Steel  
Stainless Steel - please enquire for availability

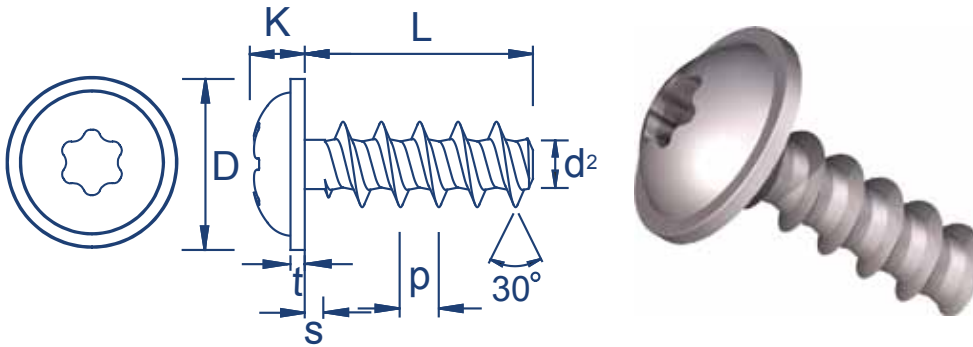


# Plas-Tech® 30

## Flange T-Drive (FT30)



Steel/Zinc & Clear (CR3) | Stainless Steel 303/Self Colour (SF)



### Dimensions

Thread Dimensions	Screw Size	2.2	2.5	3.0	3.5	4.0	5.0	6.0
	d2 nom.	1.25	1.40	1.66	1.91	2.17	2.68	3.19
	p	0.98	1.12	1.34	1.57	1.79	2.24	2.69
	s (L > 3 x d1)	2.2	2.5	3.0	3.5	4.0	5.0	6.0
	s (L < 3 x d1)	1.1	1.3	1.5	1.8	2.0	2.5	3.0
Head Dimensions	D	4.5	5.0	6.0	7.0	8.0	10.0	12.0
	K	1.4	1.5	2.1	2.4	2.6	3.3	3.6
	t	0.5	0.5	0.6	0.7	0.8	1.0	1.2
	Recess No.	T6	T6	T10	T10	T20	T20	T25

### Preferred Lengths

		Length (L)										
		4	5	6	8	10	12	14	16	18	20	25
Screw Size	2.2											
	2.5		ST	ST								
	3.0				ST	ST	ST					
	3.5				ST	ST	ST					
	4.0				ST	ST						
	5.0											

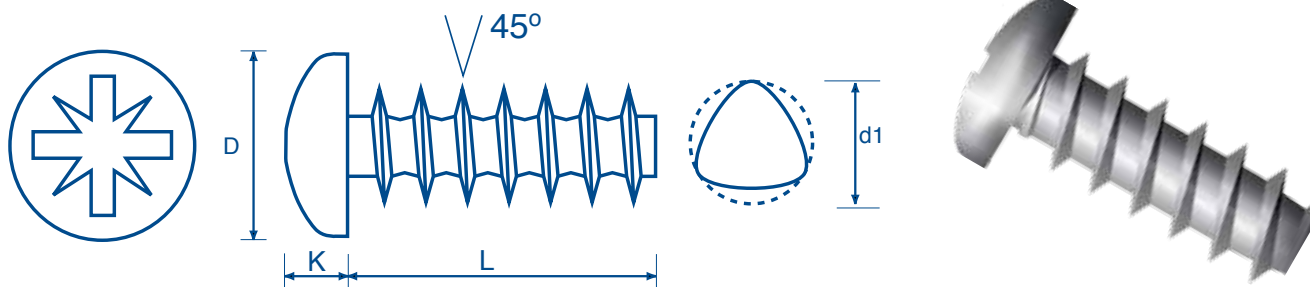
ST = Steel  
Stainless Steel - please enquire for availability

# Plas-Fix® 45

## Pan CR (Z)



Steel/Zinc & Clear (CR3) | Stainless Steel 303/Self Colour (SF)



### Dimensions

Screw Size	1.8	2.2	2.5	3	3.5	4	5	6
Dia. d1 Max	1.85	2.25	2.55	3.05	3.55	4.06	5.06	6.06
D	3.60	4.24	4.00	5.00	6.00	7.00	8.00	10.00
K - Max	1.50	1.57	1.60	1.95	2.30	2.45	2.80	3.50
Recess	0	1	1	1	1	2	2	2

### Preferred Lengths

		Length (L)									
		4	5	6	8	10	12	16	20	25	30
Screw Size	1.8	ST	ST	ST	ST	ST					
	2.2		ST	ST	ST	ST	ST				
	2.5			ST	ST	ST					
	3.0			ST	ST	ST	ST	ST	ST	ST	
	3.5			ST	ST	ST	ST	ST	ST	ST	
	4.0			ST	ST	ST	ST	ST	ST	ST	
	5.0					ST	ST	ST	ST	ST	ST
	6.0							ST	ST	ST	

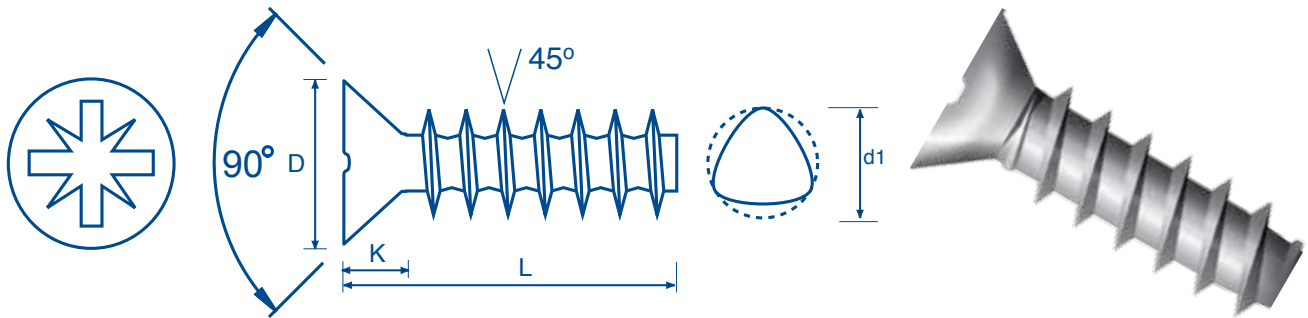
ST = Steel  
Stainless Steel - please enquire for availability

# Plas-Fix® 45

## Countersunk CR (Z)



Steel/Zinc & Clear (CR3) | Stainless Steel 303/Self colour (SF)



### Dimensions

Screw Size	2.5	3	3.5	4	5	6
Dia. d1 Max	2.55	3.05	3.55	4.06	5.06	6.06
D	4.40	5.50	6.30	7.35	8.40	10.00
K - Max	1.30	1.50	1.65	1.90	2.20	2.50
Recess	1	1	1	2	2	2

### Preferred Lengths

		Length (L)								
		4	6	8	10	12	16	20	25	30
Screw Size	2.5		ST	ST	ST					
	3.0		ST	ST	ST	ST	ST	ST	ST	
	3.5		ST	ST	ST	ST	ST	ST		
	4.0			ST	ST	ST	ST	ST	ST	
	5.0				ST	ST	ST	ST	ST	ST

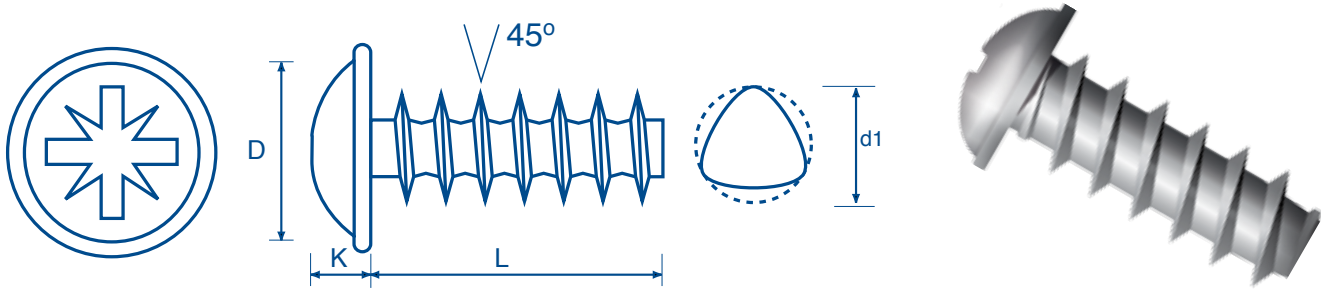
ST = Steel  
Stainless Steel - please enquire for availability

# Plas-Fix® 45

## Flange CR (Z)



Steel/Zinc & Clear (CR3) | Stainless Steel 303/Self Colour (SF)



### Dimensions

Screw Size	3.5	4	5	6
Dia. d1 Max	3.55	4.06	5.06	6.06
D	6.60	8.00	9.60	12.00
K - Max	1.60	2.00	2.30	2.90
Recess	1	2	2	2

### Preferred Lengths

		Length (L)						
		6	8	10	12	16	20	25
Screw Size	3.5	ST	ST	ST	ST	ST	ST	ST
	4.0		ST	ST	ST	ST	ST	ST
	5.0			ST	ST	ST	ST	ST

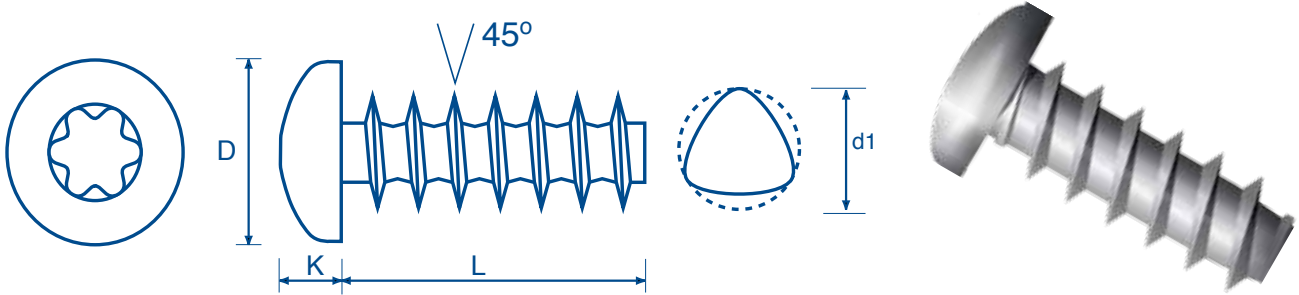
ST = Steel  
Stainless Steel - please enquire for availability

# Plas-Fix® 45

## Pan T-Drive



Steel/Zinc & Clear (CR3) | Stainless Steel 303/Self Colour (SF)



### Dimensions

Screw Size	2.5	3	3.5	4	5
Dia. d1 Max	2.55	3.05	3.55	4.06	5.06
D	4.00	5.00	6.00	7.00	8.00
K - Max	1.60	1.95	2.30	2.45	2.80
Recess	T6	T8	T10	T15	T20

### Preferred Lengths

		Length (L)							
		6	8	10	12	16	20	25	30
Screw Size	2.5	ST	ST	ST					
	3.0	ST	ST	ST	ST	ST	ST		
	3.5	ST	ST	ST	ST	ST	ST	ST	
	4.0	ST	ST	ST	ST	ST	ST	ST	
	5.0			ST	ST	ST	ST	ST	ST

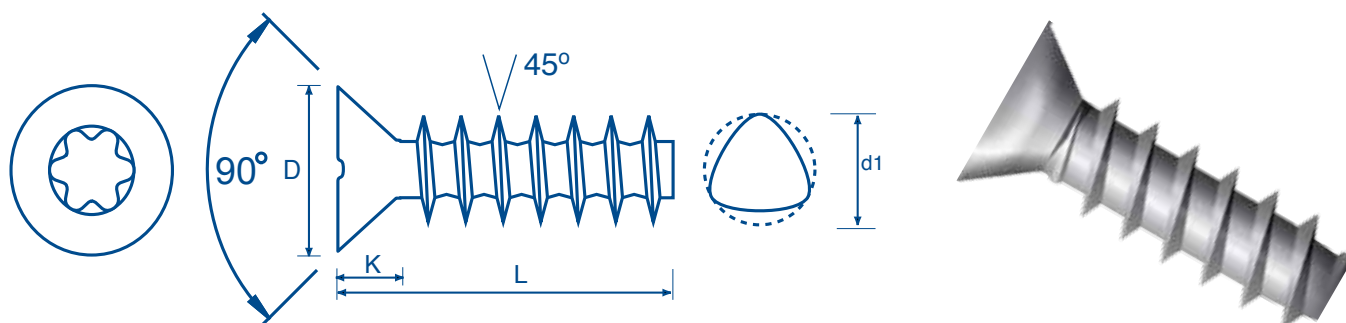
ST = Steel  
Stainless Steel - please enquire for availability

# Plas-Fix® 45

## Countersunk T-Drive



Steel/Zinc & Clear (CR3) | Stainless Steel 303/Self Colour (SF)



### Dimensions

Screw Size	2.5	3	3.5	4	5
Dia. d1 Max	2.55	3.05	3.55	4.06	5.06
D	4.40	5.50	6.30	7.35	8.40
K - Max	1.30	1.50	1.65	1.90	2.20
Recess	T6	T8	T10	T15	T20

### Preferred Lengths

		Length (L)							
		6	8	10	12	16	20	25	30
Screw Size	2.5	ST	ST	ST					
	3.0	ST	ST	ST	ST	ST	ST		
	3.5	ST	ST	ST	ST	ST	ST	ST	
	4.0		ST	ST	ST	ST	ST	ST	
	5.0			ST	ST	ST	ST	ST	ST

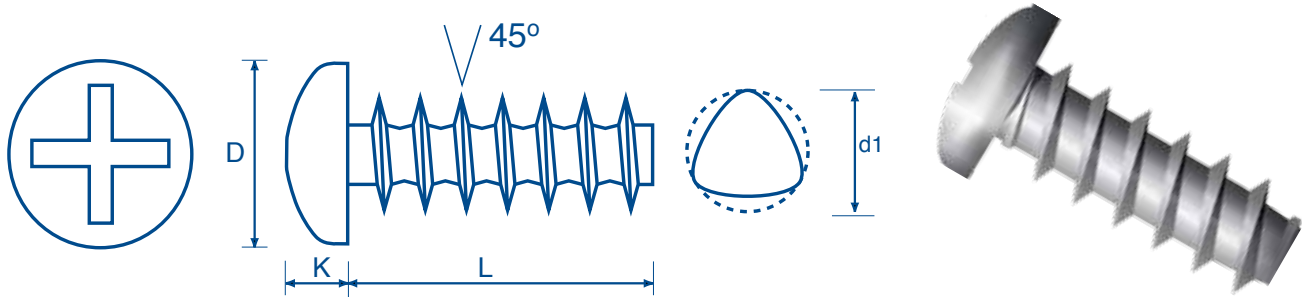
ST = Steel  
Stainless Steel - please enquire for availability

# Plas-Fix® 45

## Pan CR (H)



Steel/Zinc & Clear (CR3) | Stainless Steel 303/Self Colour (SF)



### Dimensions

Screw Size	1.4	1.6	2.0	2.3	2.6
Dia. d1 Max	1.45	1.65	2.05	2.35	2.65
D	2.0	2.4	3.0	3.5	4.0
K - Max	0.5	0.55	0.6	0.7	0.8
Recess	0	0	1	1	1

### Preferred Lengths

		Length (L)						
		3	4	5	6	8	10	12
Screw Size	1.4	ST	ST	ST	ST			
	1.6	ST	ST	ST	ST			
	2.0		ST	ST	ST	ST	ST	
	2.3			ST	ST	ST	ST	ST
	2.6			ST	ST	ST	ST	ST

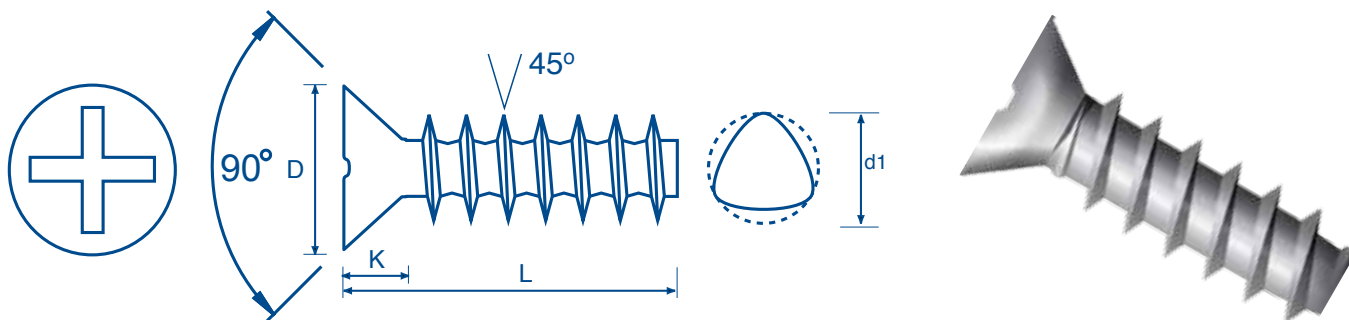
ST = Steel  
Stainless Steel - please enquire for availability

# Plas-Fix® 45

## Countersunk CR (H)



Steel/Zinc & Clear (CR3) | Stainless Steel 303/Self Colour (SF)



### Dimensions

Screw Size	1.4	1.6	2	2.3	2.6
Dia. d1 Max	1.45	1.65	2.05	2.35	2.65
D	2.0	2.4	3.0	3.5	4.0
K - Max	0.45	0.5	0.6	0.7	0.8
Recess	0	0	1	1	1

### Preferred Lengths

		Length (L)					
		3	4	5	6	8	10
Screw Size	1.4	ST	ST	ST	ST		
	1.6		ST	ST	ST		
	2.0		ST	ST	ST	ST	
	2.3			ST	ST	ST	ST
	2.6			ST	ST	ST	ST

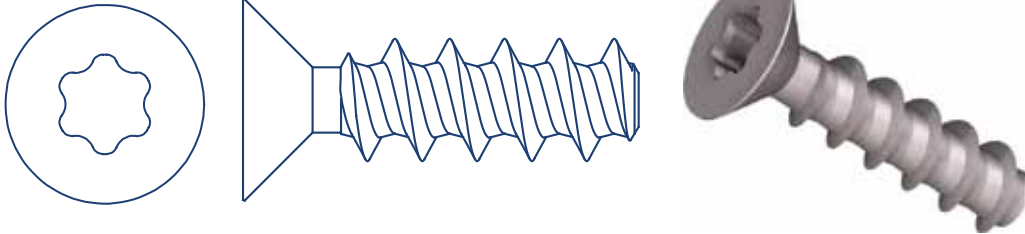
ST = Steel  
Stainless Steel - please enquire for availability



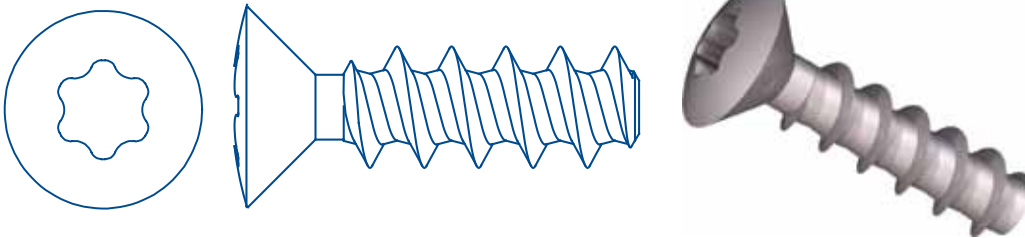
# Specials

## Plas-Tech® 30

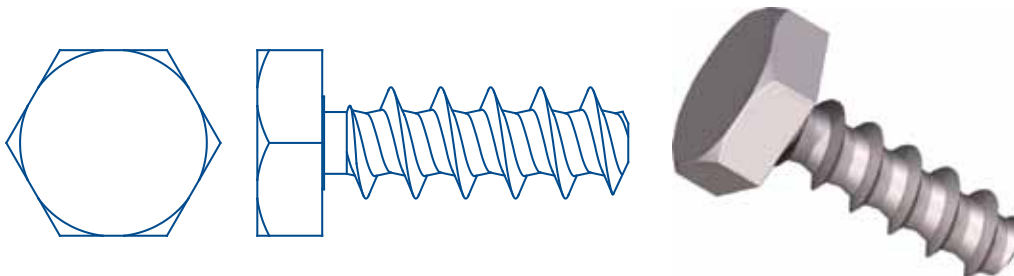
Countersunk - T-Drive: Steel/Zinc & Clear (CR3) | Stainless Steel 303/Self Colour (SF)



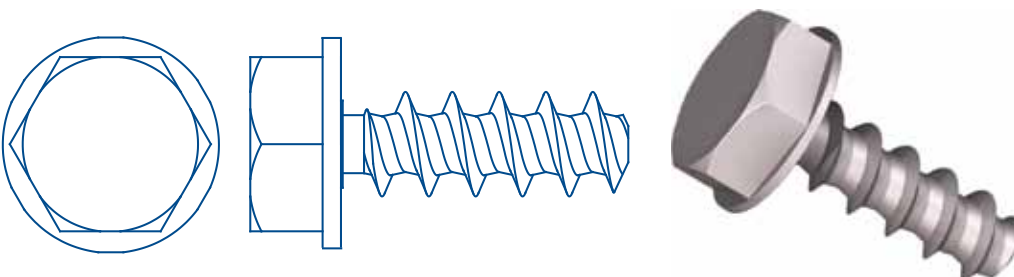
Raised Countersunk - T-Drive: Steel/Zinc & Clear (CR3) | Stainless Steel 303/Self Colour (SF)



Hexagon: Steel/Zinc & Clear (CR3) | Stainless Steel 303/Self Colour (SF)



Washer Hexagon: Steel/Zinc & Clear (CR3) | Stainless Steel 303/Self Colour (SF)



Please note - These products are specials - made to order.



**Plas-Fix®** with a 60 degree thread angle have been especially developed for thermoplastic materials.

Low driving torque and low bursting effect due to the special shape of the threads.

Suitable for a wide range of thermoplastics and some thermosets, they can also be used in soft metals like aluminium castings and extrusions.



**High-low** screws have two widely spaced threads. One, the high thread, shall have a 30° included angle whilst the second, the low thread, has a 60° included angle which is approximately 45% of the high thread. The unique thread form has three important advantages in plastic applications:

1. High pull out loads.
2. Wider differential between driving and stripping torque values.
3. Reduced radial pressure which minimises both cracking or busting.



**Type BT** thread cutting screws have spaced threads with a blunt point and tapered lead threads, as with Type F self tappers with a thread cutting edge and chip cavity.

These screws cut their mating thread form and are therefore more suited to applications in less ductile materials (which are unsuitable for the Type F screws) such as thermo-set plastics and cast aluminium.



**Type Y** thread cutting screws have spaced threads with a blunt point and tapered entering threads, as with Type F self tappers, with multi cutting flutes extended from point to underhead.

The screws cut their mating thread and are therefore suitable to less ductile materials such as thermo-set plastics and aluminium.

# TR FASTENINGS

## Product Range



### Standard Fasteners

We stock and supply a vast range of standard fasteners to DIN, ISO & ANSI standards including:

Machine screws, self-tapping screws, thread forming screws, socket products, nuts and washers.



### TR Branded Products

Our own range of fastener solutions for specific industries and applications, including:

Fasteners for sheet metal, fasteners for plastic, security fasteners, thread-locking nuts and micro-diameter fasteners from M0.6.



### Special Manufacture

Our factories in Europe and Asia produce bar turned and cold formed fasteners from 0.6mm diameter up to 12mm diameter specifically to customer drawings.

In addition, our global network of approved sub-contractors allows us to offer practically any size of turned, cold-formed, pressed or moulded components. We can supply components in steel, stainless steel, aluminium, brass and many exotic materials such as titanium.



### Other Components

For customers we supply via a Vendor Managed Inventory system such as Direct Line Feed, we can include non-fastener products as part of the supply agreement. We can supply practically any high-volume, low-cost components including:

Cables, clips, plastic parts, connectors, switches, springs, batteries, hinges, levers, handles, brackets, hooks, pins, keys, spacers and stays plus much more.

# TR FASTENINGS

## Contact Us



### UK

t: 08454 811 800 f: 0870 458 7851  
e-mail: [uk@trfastenings.com](mailto:uk@trfastenings.com)

### Ireland

t: +353 (0)22 22301 f: +353 (0)22 22056  
e-mail: [ireland@trfastenings.com](mailto:ireland@trfastenings.com)

### Netherlands

t: +31 (0)541 511515 f: +31 (0)541 517134  
e-mail: [netherlands@trfastenings.com](mailto:netherlands@trfastenings.com)

### Norway

t: +47 67 06 70 00 f: +47 67 06 70 10  
e-mail: [norway@trfastenings.com](mailto:norway@trfastenings.com)

### Sweden

t: +46 (0)8 578 44 900 f: +46 (0)8 578 44 950  
e-mail: [sweden@trfastenings.com](mailto:sweden@trfastenings.com)

### Hungary

t: +36 24 516 972 f: +36 24 516 961  
e-mail: [hungary@trfastenings.com](mailto:hungary@trfastenings.com)

### Poland

t: +48 (22) 402 36 14 f: +48 (22) 402 36 24  
e-mail: [poland@trfastenings.com](mailto:poland@trfastenings.com)

### Singapore

t: +65 6759 6033 f: +65 6759 6022  
e-mail: [singapore@trfastenings.com](mailto:singapore@trfastenings.com)

### China

t: +86 21 5032 5696 f: +86 21 5032 5775  
e-mail: [china@trfastenings.com](mailto:china@trfastenings.com)

### Taiwan

t: +866 7 552 5577 f: +886 7 552 7033  
e-mail: [taiwan@trfastenings.com](mailto:taiwan@trfastenings.com)

### Malaysia

t: +604 508 3931/2 f: +604 508 3942  
e-mail: [malaysia@trfastenings.com](mailto:malaysia@trfastenings.com)

### India

t: +91 967707 1807 m: +65 9684 1763  
e-mail: [india@trfastenings.com](mailto:india@trfastenings.com)

### Thailand

t: +66 38491 430 f: +66 38491 430  
e-mail: [thailand@trfastenings.com](mailto:thailand@trfastenings.com)

### USA

t: +1 (800) 280 2181 f: +1 (281) 807 0620  
e-mail: [usa@trfastenings.com](mailto:usa@trfastenings.com)

Master Distributor Details

[Info@trfastenings.com](mailto:Info@trfastenings.com)  
[sales@trfastenings.com](mailto:sales@trfastenings.com)  
[marketing@trfastenings.com](mailto:marketing@trfastenings.com)  
[www.trfastenings.com](http://www.trfastenings.com)