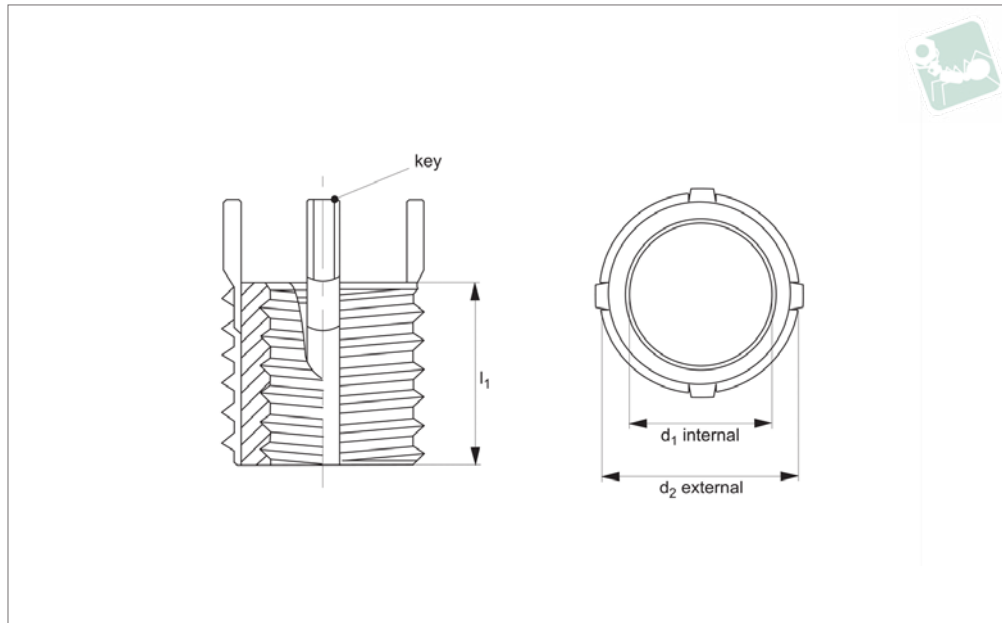
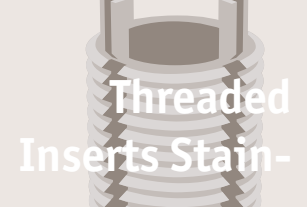




# Threaded Insert - Metric

heavy duty - stainless steel



**TR1515**

THREADED INSERTS STAINLESS

### Material

Inserts: stainless steel (AISI 303) or equivalent. Passivated.

Keys: stainless steel (302 CRES) or equivalent. Passivated.

### Technical Notes

#### General tolerances:

±0,25, unless specified.

### Tap drill hole tolerances:

6,9 to 10,8 = +0,10/-0,025.

12,8 and over = +0,13/-0,025.

### Tips

Order installation tool separately, as identified by „Inst. tool ref.“ in table.

### Important Notes

Four locking keys on internal threads M 8 and over. Two locking keys on internal threads smaller than M 8.

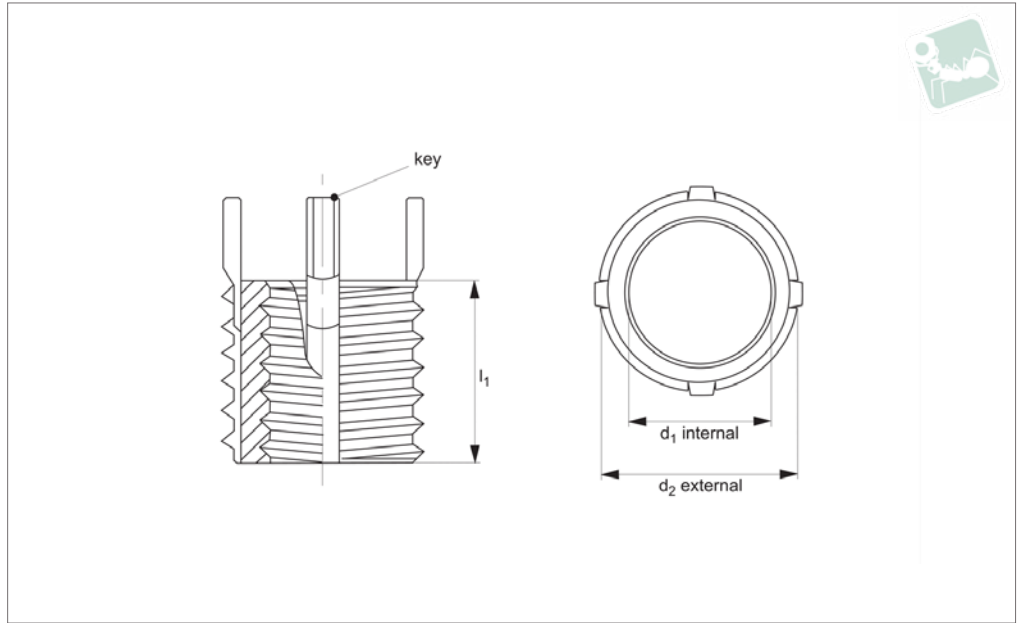
Installation (Inst.) drill size, countersink, thread tap and thread depth as specified in table.

Removal drill size and drill depth as speci-

Order No.	Int. d <sub>1</sub> tol. 6H	Int. thread type d <sub>1</sub>	Ext. d <sub>2</sub> tol. 6g	Ext. thread type d <sub>2</sub>	l <sub>1</sub>	Inst. tool ref. 22062	Inst. tap drill size	Inst. c'sink dia. ±0.25   ± 0.000	Inst. thread tap tol. 6H	Inst. thread depth min.	Removal drill size	Removal drill depth
TR1515.66363	M 4x0,70	Coarse	M 8x1,25	Coarse	8	.W0630	6,9	8,3	M 8x1,25	9,5	5,5	4,0
TR1515.66364	M 5x0,80	Coarse	M10x1,25	Fine	10	.W0640	8,8	10,3	M10x1,25	12,5	7,5	4,8
TR1515.66365	M 6x1,00	Coarse	M12x1,25	Fine	12	.W0650	10,8	12,3	M12x1,25	14,5	9,5	4,8
TR1515.66366	M 8x1,25	Coarse	M14x1,50	Fine	14	.W0660	12,8	14,3	M14x1,50	16,5	11,5	4,8
TR1515.66566	M 8x1,00	Fine	M14x1,50	Fine	14	.W0660	12,8	14,3	M14x1,50	16,5	11,5	4,8
TR1515.66367	M10x1,50	Coarse	M16x1,50	Fine	16	.W0670	14,8	16,3	M16x1,50	18,5	13,5	4,8
TR1515.66567	M10x1,25	Fine	M16x1,50	Fine	16	.W0670	14,8	16,3	M16x1,50	18,5	13,5	4,8
TR1515.66369	M12x1,75	Coarse	M18x1,50	Fine	18	.W0690	16,8	18,3	M18x1,50	20,5	15,5	4,8
TR1515.66569	M12x1,25	Fine	M18x1,50	Fine	18	.W0690	16,8	18,3	M18x1,50	20,5	15,5	4,8
TR1515.66370	M14x2,00	Coarse	M20x1,50	Fine	20	.W0700	18,8	20,3	M20x1,50	22,5	17,5	4,8
TR1515.66570	M14x1,50	Fine	M20x1,50	Fine	20	.W0700	18,8	20,3	M20x1,50	22,5	17,5	4,8
TR1515.66371	M16x2,00	Coarse	M22x1,50	Fine	22	.W0710	20,5	22,3	M22x1,50	24,5	17,8	6,4
TR1515.66571	M16x1,50	Fine	M22x1,50	Fine	22	.W0710	20,5	22,3	M22x1,50	24,5	17,8	6,4
TR1515.66572	M18x1,50	Fine	M24x1,50	Fine	24	.W0720	22,5	24,3	M24x1,50	26,5	19,8	6,4
TR1515.66373	M20x2,50	Coarse	M30x2,00	Non-Std	30	.W0730	28,0	30,3	M30x2,00	34,5	25,8	6,4
TR1515.66573	M20x1,50	Fine	M30x2,00	Non-Std	30	.W0730	28,0	30,3	M30x2,00	34,5	25,8	6,4
TR1515.66574	M22x1,50	Fine	M32x2,00	Non-Std	32	.W0740	30,0	32,3	M32x2,00	36,5	27,8	6,4
TR1515.66375	M24x3,00	Coarse	M33x2,00	Non-Std	33	.W0750	31,0	33,3	M33x2,00	37,5	28,8	6,4
TR1515.66575	M24x2,00	Fine	M33x2,00	Non-Std	33	.W0750	31,0	33,3	M33x2,00	37,5	28,8	6,4



## TR1530



### Material

Inserts: stainless steel (AISI 303) or equivalent. Passivated.

Keys: stainless steel (302 CRES) or equivalent. Passivated.

### Technical Notes

#### General tolerances:

±0,010" unless specified.

#### Tap drill hole tolerances:

0,234 to 0,500 = +0,004/-0,001"  
0,500 and over = +0,005/-0,001"

### Tips

Order installation tool separately, as identified by „Inst. Tool ref.“ in table.

### Important Notes

Four locking keys on internal threads M8 and over. Two locking keys on internal

threads smaller than M8.

Installation (Inst.) drill size, countersink, thread tap and thread depth as specified in table.

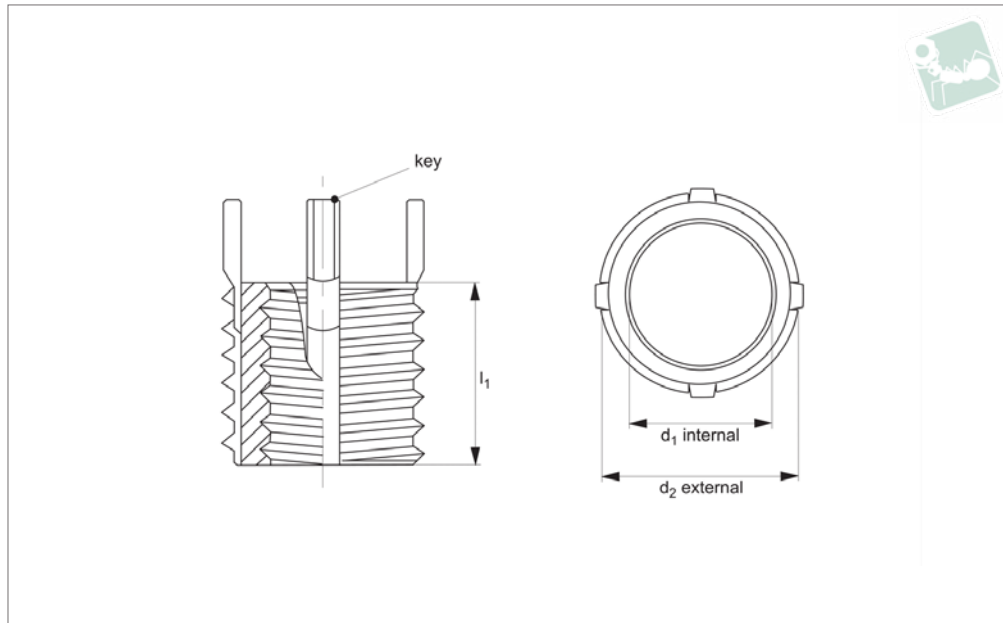
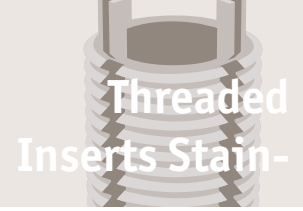
Removal drill size and drill depth as specified in table.

**Internal thread in metric. External thread in inches.**

Order No.	Int. d <sub>1</sub> tol. 6H	Int. thread type d <sub>1</sub>	Ext. d <sub>2</sub> tol. 2A	Ext. thread type d <sub>2</sub>	l <sub>1</sub>	Inst. tool ref. 22064	Inst. tap drill size	Inst. c'sink dia. +0.010 - 0.000	Inst. thread tap tol. 2B	Inst. thread depth min.	Removal drill size	Removal drill depth
TR1530.66643	M 6x1,00	Coarse	3/8"-16	UNC	0,3	.W0430	21/64"	0,38	3/8"-16	0,37	9/32"	1/8"
TR1530.66644	M 8x1,25	Coarse	1/2"-13	UNC	0,4	.W0440	29/64"	0,51	1/2"-13	0,50	13/32"	3/16"
TR1530.66645	M10x1,50	Coarse	5/8"-11	UNC	0,5	.W0450	37/64"	0,63	5/8"-11	0,56	17/32"	3/16"
TR1530.66647	M12x1,75	Coarse	3/4"-16	UNF	0,6	.W0470	45/64"	0,76	3/4"-16	0,68	21/32"	3/16"
TR1530.66648	M14x2,00	Coarse	7/8"-14	UNF	0,8	.W0480	53/64"	0,88	7/8"-14	0,94	25/32"	5/16"
TR1530.66649	M16x2,00	Coarse	1"-12	UNF	0,9	.W0490	15/16"	1,02	1"-12	1,00	27/32"	5/16"



# Threaded Insert - Inch heavy duty - stainless steel



## TR1565

THREADED INSERTS STAINLESS

### Material

Inserts: stainless steel (AISI 303) or equivalent. Passivated.

Keys: stainless steel (302 CRES) or equivalent. Passivated.

### Technical Notes

#### General tolerances:

± 0,010" unless specified.

#### Tap drill hole tolerances:

0,234 to 0,500 = +0,004/-0,001".

0,500 and over = +0,005/-0,001".

### Tips

Order installation tool separately, as identified by „Inst. tool ref.“ in table.

### Important Notes

Four locking keys on internal threads 5/16" and over. Two locking keys on internal

threads smaller than 5/16".

Installation (Inst.) drill size, countersink, thread tap and thread depth as specified in table.

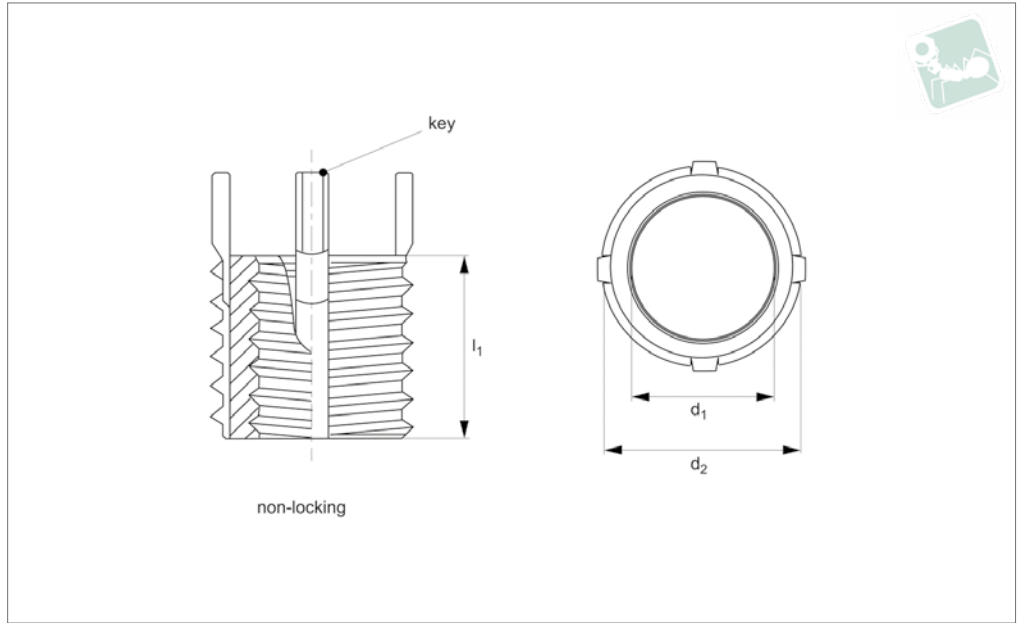
Removal drill size and drill depth as specified in table.

**All dimensions in inches.**

Order No.	Int. d <sub>1</sub> tol. 2B	Int. thread type d <sub>1</sub>	Ext. d <sub>2</sub> tol. 2A	Ext. thread type d <sub>2</sub>	l <sub>1</sub>	Inst. tool ref. 22056	Inst. tap drill size	Inst. c'sink dia. +0.010 - 0.000	Inst. thread tap tol. 2B	Inst. thread depth min.	Removal drill size	Removal drill depth
TR1565.66300	8-32	UNC	5/16"-18	UNC	0,31	.W0000	17/64"	0,32	5/16"-18	0,37	7/32"	1/8"
TR1565.66301	10-24	UNC	3/8"-16	UNC	0,31	.W0010	21/64"	0,38	3/8"-16	0,37	9/32"	1/8"
TR1565.66501	10-32	UNF	3/8"-16	UNC	0,31	.W0010	21/64"	0,38	3/8"-16	0,37	9/32"	1/8"
TR1565.66302	1/4"-20	UNC	7/16"-14	UNC	0,37	.W0020	25/64"	0,44	7/16"-14	0,43	11/32"	3/16"
TR1565.66502	1/4"-28	UNF	7/16"-14	UNC	0,37	.W0020	25/64"	0,44	7/16"-14	0,43	11/32"	3/16"
TR1565.66303	5/16"-18	UNC	1/2"-13	UNC	0,43	.W0030	29/64"	0,51	1/2"-13	0,50	13/32"	3/16"
TR1565.66503	5/16"-24	UNF	1/2"-13	UNC	0,43	.W0030	29/64"	0,51	1/2"-13	0,50	13/32"	3/16"
TR1565.66304	3/8"-16	UNC	9/16"-12	UNC	0,50	.W0040	33/64"	0,57	9/16"-12	0,56	15/32"	3/16"
TR1565.66504	3/8"-24	UNF	9/16"-12	UNC	0,50	.W0040	33/64"	0,57	9/16"-12	0,56	15/32"	3/16"
TR1565.66305	7/16"-14	UNC	5/8"-11	UNC	0,62	.W0050	37/64"	0,63	5/8"-11	0,68	17/32"	3/16"
TR1565.66505	7/16"-20	UNF	5/8"-11	UNC	0,62	.W0050	37/64"	0,63	5/8"-11	0,68	17/32"	3/16"
TR1565.66306	1/2"-13	UNC	3/4"-16	UNF	0,62	.W0060	45/64"	0,76	3/4"-16	0,68	21/32"	3/16"
TR1565.66506	1/2"-20	UNF	3/4"-16	UNF	0,62	.W0060	45/64"	0,76	3/4"-16	0,68	21/32"	3/16"
TR1565.66307	9/16"-12	UNC	3/4"-16	UNF	0,81	.W0070	45-64"	0,76	3/4"-16	0,94	21/32"	3/16"
TR1565.66507	9/16"-18	UNF	3/4"-16	UNF	0,81	.W0070	45-64"	0,76	3/4"-16	0,94	21/32"	3/16"
TR1565.66308	5/8"-11	UNC	7/8"-14	UNF	0,87	.W0080	53/64"	0,88	7/8"-14	1,00	25/32"	5/16"
TR1565.66508	5/8"-18	UNF	7/8"-14	UNF	0,87	.W0080	53/64"	0,88	7/8"-14	1,00	25/32"	5/16"
TR1565.66309	3/4"-10	UNC	1-1/8"-12	UNF	1,12	.W0090	1-1/16"	1,14	1-1/8"-12	1,31	31/32"	5/16"
TR1565.66509	3/4"-16	UNF	1-1/8"-12	UNF	1,12	.W0090	1-1/16"	1,14	1-1/8"-12	1,31	31/32"	5/16"
TR1565.66310	7/8"-9	UNC	1-1/4"-12	UNF	1,25	.W0100	1-3/16"	1,27	1-1/4"-12	1,44	1-3/32"	5/16"
TR1565.66510	7/8"-14	UNF	1-1/4"-12	UNF	1,25	.W0100	1-3/16"	1,27	1-1/4"-12	1,44	1-3/32"	5/16"
TR1565.66311	1"-8	UNC	1-3/8"-12	UNF	1,37	.W0110	1-5/16"	1,39	1-3/8"-12	1,56	1-7/32"	5/16"
TR1565.66511	1"-12	UNF	1-3/8"-12	UNF	1,37	.W0110	1-5/16"	1,39	1-3/8"-12	1,56	1-7/32"	5/16"



TR1604



**Material**

Inserts - 303 CRES.  
Keys - 302 CRES.  
Passivated. Dry film lubrication on self-locking inserts only.

**Technical Notes**

All dimensions in millimetres.  
Internal threads: to Fed. Std. H28/21, MJ Form

**General tolerances -**

+/- 0,25mm, unless specified.  
Tap drill hole tolerances -  
6,9 to 10,8 = +0,100/-0,025  
12,8 and over = +0,130/-0,025  
**NL** = Non-Locking type.

**Tips**

Order installation tool separately, as identified by „Inst. Tool ref.“ in table.

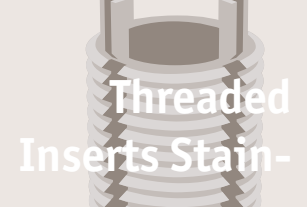
**Important Notes**

Four locking keys on internal threads M6 and over. Two locking keys on internal threads smaller than M6.  
Installation (Inst.) drill size, counter sink, thread tap and thread depth as specified in table.  
Removal (Rem.) drill size and drill depth as specified in table.

Order No.	Type	d <sub>1</sub> tol. 4H type 5H	Thread d <sub>1</sub> type	d <sub>2</sub> tol. 4h type	Thread d <sub>2</sub> type	l <sub>1</sub>	l <sub>4</sub> c'bore depth	C'bore hole dia. +0.25  -0.00	Inst. tap drill size	Inst. thread tap tol. 6H	Inst. thread tap depth min.	Inst. tool ref. TR1715	Removal drill size	Removal drill depth
TR1604.76363	NL	M 4x0, 7	Coars e	M 8x1, 25	Coars e	8.0	1.27	8.25	6.90	M 8x1,25	9.5	.0630	5.50	4.00
TR1604.76364	NL	M 5x0, 8	Coars e	M10 x1,2 5	Fine	10.0	1.27	10.25	8.80	M10x1 ,25	12.5	.0640	7.50	4.75
TR1604.76365	NL	M 6x1, 0	Coars e	M12 x1,2 5	Fine	12.0	1.78	12.25	10.80	M12x1 ,25	14.5	.0650	9.50	4.75
TR1604.76366	NL	M 8x1, 25	Coars e	M14 x1,5	Fine	14.0	1.78	14.25	12.80	M14x1 ,5	16.5	.0660	11.50	4.75
TR1604.76566	NL	M 8x1, 0	Fine	M14 x1,5	Fine	14.0	1.78	14.25	12.80	M14x1 ,5	16.5	.0660	11.50	4.75
TR1604.76367	NL	M10 x1,5	Coars e	M16 x1,5	Fine	16.0	2.29	16.25	14.75	M16x1 ,5	18.5	.0670	13.50	4.75
TR1604.76567	NL	M10 x1,2 5	Fine	M16 x1,5	Fine	16.0	2.29	16.25	14.75	M16x1 ,5	18.5	.0670	13.50	4.75
TR1604.76369	NL	M12 x1,7 5	Coars e	M18 x1,5	Fine	18.0	2.29	18.25	16.75	M18x1 ,5	20.5	.0690	15.50	4.75



# Threaded Insert MS/NAS - H Duty - 303 stainless steel - non-locking - MS/NAS grade



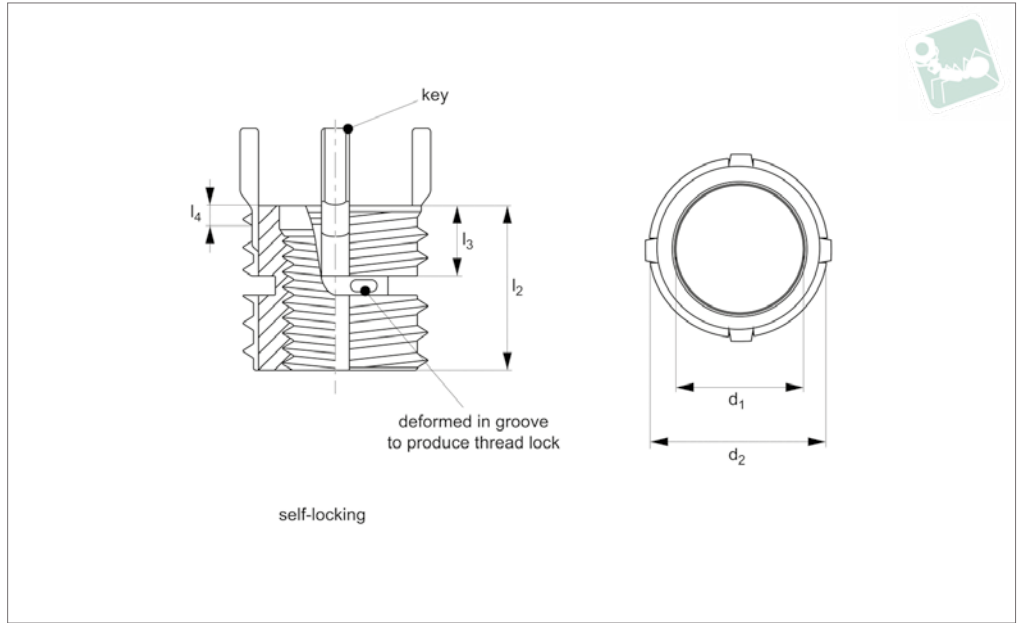
Threaded  
Inserts Stain-

Order No.	Type	d <sub>1</sub> tol. 4H 5H	Thread type d <sub>1</sub>	d <sub>2</sub> tol. 4h	Thread type d <sub>2</sub>	l <sub>1</sub>	l <sub>4</sub> c'bore depth	C'bore hole dia. +0.25  -0.00	Inst. tap drill size	Inst. thread tap tol. 6H	Inst. thread tap depth min.	Inst. tool ref. TR1715	Removal drill size	Removal drill depth
TR1604.76569	NL	M12 x1,2 5	Fine	M18 x1,5	Fine	18.0	2.29	18.25	16.75	M18x1 ,5	20.5	.0690	15.50	4.75
TR1604.76370	NL	M14 x2,0	Coars e	M20 x1,5	Fine	20.0	2.79	20.25	18.75	M20x1 ,5	22.5	.0700	17.50	4.75
TR1604.76570	NL	M14 x1,5	Fine	M20 x1,5	Fine	20.0	2.79	20.25	18.75	M20x1 ,5	22.5	.0700	17.50	4.75
TR1604.76371	NL	M16 x2,0	Coars e	M22 x1,5	Fine	22.0	2.79	22.25	20.50	M22x1 ,5	24.5	.0710	17.75	6.35
TR1604.76571	NL	M16 x1,5	Fine	M22 x1,5	Fine	22.0	2.79	22.25	20.50	M22x1 ,5	24.5	.0710	17.75	6.35
TR1604.76572	NL	M18 x1,5	Fine	M24 x2,0	Fine	24.0	2.79	24.25	22.50	M24x2 ,0	28.5	.0720	19.75	6.35
TR1604.76373	NL	M20 x2,5	Coars e	M30 x2,0	Fine	30.0	2.79	30.25	28.00	M30x2 ,0	34.5	.0730	25.75	6.35
TR1604.76573	NL	M20 x1,5	Fine	M30 x2,0	Fine	30.0	2.79	30.25	28.00	M30x2 ,0	34.5	.0730	25.75	6.35
TR1604.76574	NL	M22 x1,5	Fine	M32 x2,0	Non- Std	32.0	2.79	32.25	30.00	M32x2 ,0	36.5	.0740	27.75	6.35
TR1604.76375	NL	M24 x3,0	Coars e	M33 x2,0	Non- Std	33.0	3.81	33.25	31.00	M33x2 ,0	37.5	.0750	28.75	6.35
TR1604.76575	NL	M24 x2,0	Fine	M33 x2,0	Non- Std	33.0	3.81	33.25	31.00	M33x2 ,0	37.5	.0750	28.75	6.35

THREADED INSERTS STAINLESS



## TR1605



### Material

Inserts - 303 CRES.

Keys - 302 CRES.

Passivated. Dry film lubrication on self-locking inserts only.

### Technical Notes

All dimensions in millimetres.

Internal threads: to Fed. Std. H28/21, MJ

Form

General tolerances -

+/- 0,25mm, unless specified.

Tap drill hole tolerances -

6,9 to 10,8 = +0,100/-0,025

12,8 and over = +0,130/-0,025

**SL** = Self-Locking type, deliberate deformity in thread produces self-affect once installed (see technical diagram).

### Tips

Order installation tool separately, as identified by „Inst. Tool ref.“ in table.

### Important Notes

Four locking keys on internal threads M6 and over. Two locking keys on internal threads smaller than M6.

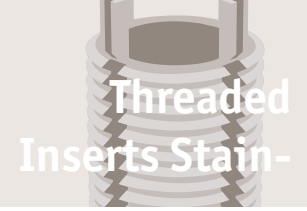
Installation (Inst.) drill size, counter sink, thread tap and thread depth as specified in table.

Removal (Rem.) drill size and drill depth as specified in table.

Order No.	Type	d <sub>1</sub> tol. 4H type 5H	Thread d <sub>1</sub> type	d <sub>2</sub> tol. 4h type	Thread d <sub>2</sub> type	l <sub>1</sub>	l <sub>3</sub> ±0.76	l <sub>4</sub> c'bor dept h	C'bore hole dia. +0.25 -0.00	Inst. tap drill size	Inst. thread tap tol. 6H	Inst. thread tap depth min.	Inst. tool ref. TR1715	Removal drill size	Removal drill depth
TR1605.77363	SL	M 4x0,7	Coars e	M 8x1,25	Coars e	8.0	5.00	1.27	8.25	6.90	M 8x1,25	9.5	.0630	5.50	4.00
TR1605.77364	SL	M 5x0,8	Coars e	M10 x1,25	Fine	10.0	5.50	1.27	10.25	8.80	M10x 1,25	12.5	.0640	7.50	4.75
TR1605.77365	SL	M 6x1,0	Coars e	M12 x1,25	Fine	12.0	6.46	1.78	12.25	10.80	M 2x1,25	14.5	.0650	9.50	4.75
TR1605.77366	SL	M 8x1,25	Coars e	M14 x1,5	Fine	14.0	6.46	1.78	14.25	12.80	M14x 1,5	16.5	.0660	11.50	4.75
TR1605.77566	SL	M 8x1,0	Fine	M14 x1,5	Fine	14.0	6.46	1.78	14.25	12.80	M14x 1,5	16.5	.0660	11.50	4.75
TR1605.77367	SL	M10 x1,5	Coars e	M16 x1,5	Fine	16.0	6.46	2.29	16.25	14.75	M16x 1,5	18.5	.0670	13.50	4.75
TR1605.77567	SL	M10 x1,25	Fine	M16 x1,5	Fine	16.0	6.46	2.29	16.25	14.75	M16x 1,5	18.5	.0670	13.50	4.75
TR1605.77369	SL	M12 x1,75	Coars e	M18 x1,5	Fine	18.0	7.23	2.29	18.25	16.75	M18x 1,5	20.5	.0690	15.50	4.75



# Threaded Insert MS/NAS - H Duty - 303 stainless steel - self-locking - MS/NAS grade

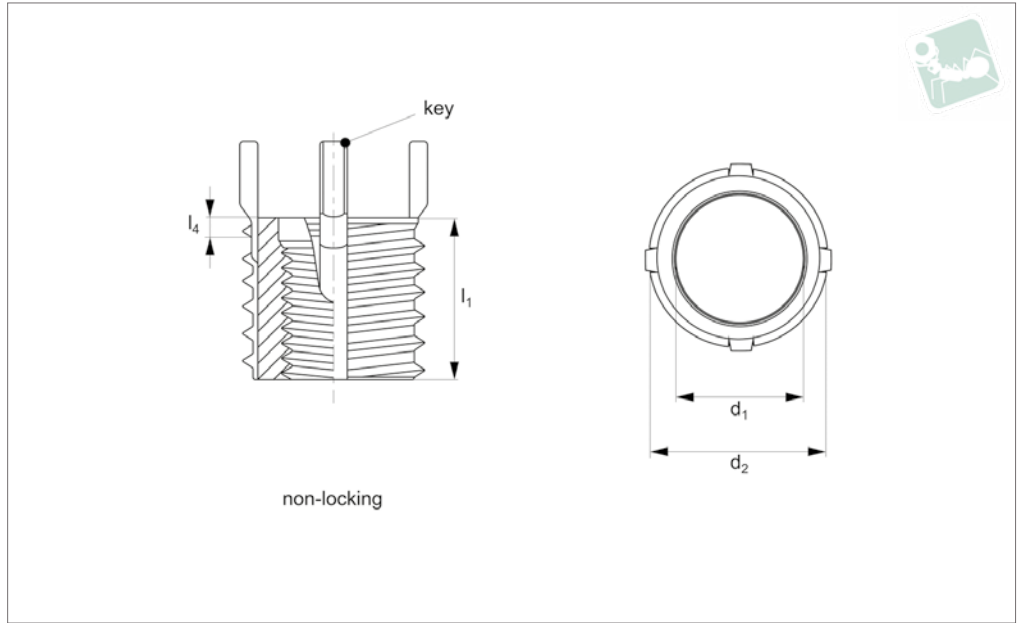


Order No.	Type	d <sub>1</sub> tol. 4H 5H	Thread type d <sub>1</sub>	d <sub>2</sub> tol. 4h	Thread type d <sub>2</sub>	l <sub>1</sub>	l <sub>3</sub> ±0.76	l <sub>4</sub> e	c'bor h	C'bore hole dia. +0.25 - 0.00	Inst. tap drill size	Inst. thread tap tol. 6H	Inst. thread tap depth min.	Inst. tool ref. TR1715	Removal drill size	Removal drill depth
TR1605.77569	SL	M12 x1,2 5	Fine	M18 x1,5	Fine	18.0	7.23	2.29	18.25	16.75	M18x 1,5	20.5	.0690	15.50	4.75	
TR1605.77370	SL	M14 x2,0	Coars e	M20 x1,5	Fine	20.0	7.73	2.79	20.25	18.75	M20x 1,5	22.5	.0700	17.50	4.75	
TR1605.77570	SL	M14 x1,5	Fine	M20 x1,5	Fine	20.0	7.73	2.79	20.25	18.75	M20x 1,5	22.5	.0700	17.50	4.75	
TR1605.77371	SL	M16 x2,0	Coars e	M22 x1,5	Fine	22.0	8.50	2.79	22.25	20.50	M22x 1,5	24.5	.0710	17.75	6.35	
TR1605.77571	SL	M16 x1,5	Fine	M22 x1,5	Fine	22.0	8.50	2.79	22.25	20.50	M22x 1,5	24.5	.0710	17.75	6.35	
TR1605.77572	SL	M18 x1,5	Fine	M24 x2,0	Fine	24.0	9.25	2.79	24.25	22.50	M24x 2,0	28.5	.0720	19.75	6.35	
TR1605.77373	SL	M20 x2,5	Coars e	M30 x2,0	Fine	30.0	12.5 1	2.79	30.25	28.00	M30x 2,0	34.5	.0730	25.75	6.35	
TR1605.77573	SL	M20 x1,5	Fine	M30 x2,0	Fine	30.0	12.5 1	2.79	30.25	28.00	M30x 2,0	34.5	.0730	25.75	6.35	
TR1605.77574	SL	M22 x1,5	Fine	M32 x2,0	Non- Std	32.0	12.5 1	2.79	32.25	30.00	M32x 2,0	36.5	.0740	27.75	6.35	
TR1605.77375	SL	M24 x3,0	Coars e	M33 x2,0	Non- Std	33.0	13.9 7	3.81	33.25	31.00	M33x 2,0	37.5	.0750	28.75	6.35	
TR1605.77575	SL	M24 x2,0	Fine	M33 x2,0	Non- Std	33.0	13.9 7	3.81	33.25	31.00	M33x 2,0	37.5	.0750	28.75	6.35	

THREADED INSERTS STAINLESS



**TR1654**



**Material**

Inserts - 303 CRES.  
Keys - 302 CRES.  
Passivated. Dry film lubrication on self-locking inserts only.

**Technical Notes**

All dimensions in inches.  
Internal threads: to SAE AS8879.  
General tolerances -  
+/- 0,010 unless specified.

Tap drill hole tolerances -  
0,234 to 0,500 = +0,004/-0,001  
0,500 and over = +0,005/-0,001  
**NL** = Non-Locking type.

**Tips**

Order installation tool separately, as identified by „Inst. Tool ref.“ in table.

**Important Notes**

Four locking keys on internal threads 5/16

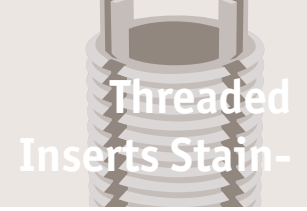
and over. Two locking keys on internal threads smaller than 5/16.  
Installation (Inst.) drill size, counter sink, thread tap and thread depth as specified in table.  
Removal (Rem.) drill size and drill depth as specified in table.  
Perform to standards: MIL-I-45914A (MS51830 & NAS1394)

Order No.	Type	d <sub>1</sub> tol. 3B	Thread type d <sub>1</sub>	d <sub>2</sub> (mod.) class 2A	Thread type d <sub>2</sub>	I <sub>1</sub>	I <sub>4</sub> c'bore depth	Inst. c'sink hole size +0.010 -0.000	Inst. tap drill size	Inst. thread tap depth min.	Inst. thread tap size class B	Inst. tool ref. TR1705	Removal drill size	Removal drill depth
TR1654.76300	NL	8-32	UNC	5/16-18	UNC	.312	.04	.323	.272	.37	5/16-18	.0000	7/32	1/8
TR1654.76301	NL	10-24	UNC	3/8-16	UNC	.312	.07	.385	.332	.37	3/8-16	.0010	9/32	1/8
TR1654.76501	NL	10-32	UNF	3/8-16	UNC	.312	.07	.385	.332	.37	3/8-16	.0011	9/32	1/8
TR1654.76302	NL	1/4-20	UNC	7/16-14	UNC	.375	.07	.447	.397	.43	7/16-14	.0020	11/32	3/16
TR1654.76502	NL	1/4-28	UNF	7/16-14	UNC	.375	.07	.447	.397	.43	7/16-14	.0021	11/32	3/16
TR1654.76303	NL	5/16-18	UNC	1/2-13	UNC	.437	.07	.510	.453	.50	1/2-13	.0030	13/32	3/16
TR1654.76503	NL	5/16-24	UNF	1/2-13	UNC	.437	.07	.510	.453	.50	1/2-13	.0031	13/32	3/16
TR1654.76304	NL	3/8-16	UNC	9/16-12	UNC	.500	.07	.572	.516	.56	9-16-12	.0040	15/32	3/16
TR1654.76504	NL	3/8-24	UNF	9/16-12	UNC	.500	.07	.572	.516	.56	9-16-12	.0041	15/32	3/16
TR1654.76305	NL	7/16-14	UNC	5/8-11	UNC	.625	.10	.635	.578	.68	5/8-11	.0050	17/32	3/16





# Threaded Insert MS/NAS - H Duty - 303 stainless steel - non-locking - MS/NAS grade

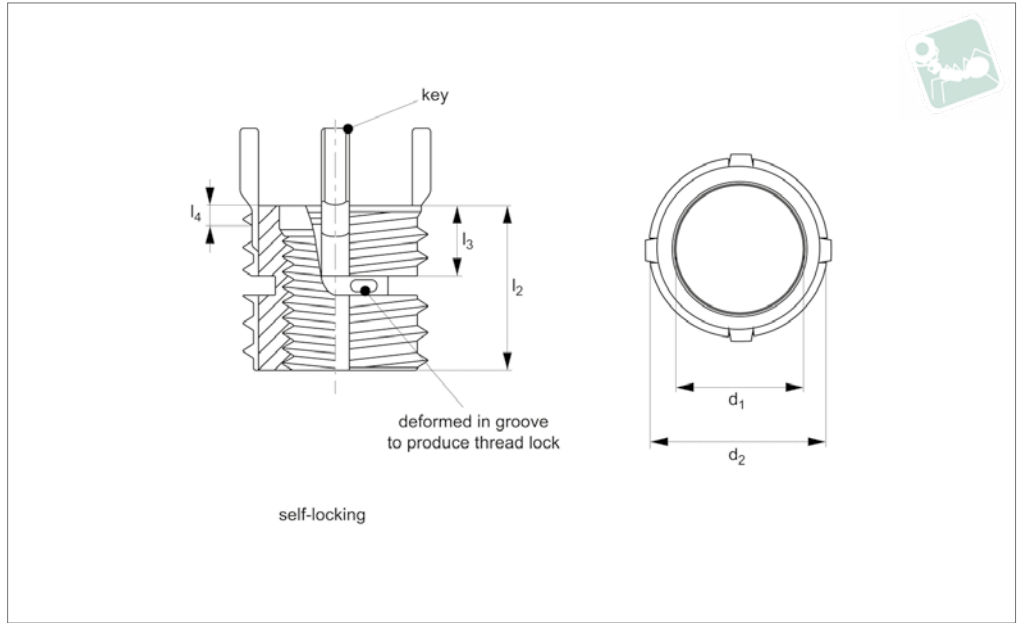


Order No.	Type	d <sub>1</sub> tol. 3B	Thread type d <sub>1</sub>	d <sub>2</sub> (mod.) class 2A	Thread type d <sub>2</sub>	l <sub>1</sub>	l <sub>4</sub> c'bore depth	Inst. c'sink hole size +0.010 - 0.000	Inst. tap drill size	Inst. thread tap depth min.	Inst. thread tap size class B	Inst. tool ref. TR1705	Removal drill size	Removal drill depth
TR1654.76505	NL	7/ 16- 20	UNF	5/8- 11	UNC	.625	.10	.635	.578	.68	5/8-11	.0051	17/32	3/16
TR1654.76306	NL	1/2- 13	UNC	11/ 16- 11NS	UNS	.688	.10	.700	.641	.75	11/16- 11NS	.0060	19/32	3/16
TR1654.76506	NL	1/2- 20	UNF	11/ 16- 11NS	UNS	.688	.10	.700	.641	.75	11/16- 11NS	.0061	19/32	3/16
TR1654.76307	NL	9/ 16- 12	UNC	13/ 16-16	UNF	.812	.10	.822	.766	.94	13/16-16	.0070	23/32	3/16
TR1654.76507	NL	9/ 16- 18	UNF	13/ 16-16	UNF	.812	.10	.822	.766	.94	13/16-16	.0071	23/32	3/16
TR1654.76308	NL	5/8- 11	UNC	7/8- 14	UNF	.875	.10	.885	.828	1.00	7/8-14	.0080	25/32	3/16
TR1654.76508	NL	5/8- 18	UNF	7/8- 14	UNF	.875	.10	.885	.828	1.00	7/8-14	.0081	25/32	3/16
TR1654.76309	NL	3/4- 10	UNC	1-1/ 8-12	UNF	1.12 5	.10	1.145	1.062	1.31	1-1/8-12	.0090	31/32	5/16
TR1654.76509	NL	3/4- 16	UNF	1-1/ 8-12	UNF	1.12 5	.10	1.145	1.062	1.31	1-1/8-12	.0091	31/32	5/16
TR1654.76310	NL	7/8- 9	UNC	1-1/ 4-12	UNF	1.25 0	.10	1.270	1.187	1.44	1-1/4-12	.0100	1-3/32	5/16
TR1654.76510	NL	7/8- 14	UNF	1-1/ 4-12	UNF	1.25 0	.10	1.270	1.187	1.44	1-1/4-12	.0101	1-3/32	5/16
TR1654.76311	NL	1-8	UNC	1-3/ 8-12	UNF	1.37 5	.10	1.395	1.312	1.56	1-3/8-12	.0110	1-7/32	5/16
TR1654.76511	NL	1-12	UNF	1-3/ 8-12	UNF	1.37 5	.10	1.395	1.312	1.56	1-3/8-12	.0111	1-7/32	5/16

THREADED INSERTS STAINLESS



**TR1655**



**Material**

Inserts - 303 CRES.  
 Keys - 302 CRES.  
 Passivated. Dry film lubrication on self-locking inserts only.

**Technical Notes**

All dimensions in inches.  
 Internal threads: to SAE AS8879.  
 General tolerances -  
 +/- 0,010 unless specified.  
 Tap drill hole tolerances -

0,234 to 0,500 = +0,004/-0,001  
 0,500 and over = +0,005/-0,001  
**SL** = Self-Locking type, deliberate deformity in thread produces self-affect once installed (see technical diagram).

**Tips**

Order installation tool separately, as identified by „Inst. Tool ref.“ in table.

**Important Notes**

Four locking keys on internal threads 5/16

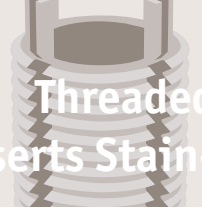
and over. Two locking keys on internal threads smaller than 5/16.  
 Installation (Inst.) drill size, counter sink, thread tap and thread depth as specified in table.  
 Removal (Rem.) drill size and drill depth as specified in table.  
 Perform to standards: MIL-I-45914A (MS51830 & NAS1394)

Order No.	Type	d <sub>1</sub> tol. 3B	Thread type d <sub>1</sub>	d <sub>2</sub> (mod.) class 2A	Thread type d <sub>2</sub>	l <sub>1</sub>	l <sub>3</sub> ±0.0 30	c'bore depth	c'sink hole size +0.010 - 0.000	Inst. drill size	Inst. thread tap depth min.	Inst. thread tap size class B	Inst. tool ref. TR1705	Removal drill size	Removal drill depth
TR1655.77300	SL	8-32	UNC	5/16-18	UNC	,312	,22	,04	,323	,272	,37	5/16-18	.0000	7/32	1/8
TR1655.77301	SL	10-24	UNC	3/8-16	UNC	,312	,22	,07	,385	,332	,37	3/8-16	.0010	9/32	1/8
TR1655.77501	SL	10-32	UNF	3/8-16	UNC	,312	,22	,07	,385	,332	,37	3/8-16	.0011	9/32	1/8
TR1655.77302	SL	1/4-20	UNC	7/16-14	UNC	,375	,22	,07	,447	,397	,43	7/16-14	.0020	11/32	3/16
TR1655.77502	SL	1/4-28	UNF	7/16-14	UNC	,375	,22	,07	,447	,397	,43	7/16-14	.0021	11/32	3/16
TR1655.77303	SL	5/16-18	UNC	1/2-13	UNC	,437	,22	,07	,510	,453	,50	1/2-13	.0030	13/32	3/16
TR1655.77503	SL	5/16-24	UNF	1/2-13	UNC	,437	,22	,07	,510	,453	,50	1/2-13	.0031	13/32	3/16
TR1655.77304	SL	3/8-16	UNC	9/16-12	UNC	,500	,25	,07	,572	,516	,56	9/16-12	.0040	15/32	3/16
TR1655.77504	SL	3/8-24	UNF	9/16-12	UNC	,500	,25	,07	,572	,516	,56	9/16-12	.0041	15/32	3/16
TR1655.77305	SL	7/16-14	UNC	5/8-11	UNC	,625	,28	,10	,635	,578	,68	5/8-11	.0050	17/32	3/16
TR1655.77505	SL	7/16-20	UNF	5/8-11	UNC	,625	,28	,10	,635	,578	,68	5/8-11	.0051	17/32	3/16
TR1655.77306	SL	1/2-13	UNC	11/16-11NS	UNS	,688	,28	,10	,700	,641	,75	11/16-11NS	.0060	19/32	3/16
TR1655.77506	SL	1/2-20	UNF	11/16-11NS	UNS	,688	,28	,10	,700	,641	,75	11/16-11NS	.0061	19/32	3/16
TR1655.77307	SL	9/16-12	UNC	13/16-16	UN	,812	,32	,10	,822	,766	,94	13/16-16	.0070	23/32	3/16
TR1655.77507	SL	9/16-18	UNF	13/16-16	UN	,812	,32	,10	,822	,766	,94	13/16-16	.0071	23/32	3/16
TR1655.77308	SL	5/8-11	UNC	7/8-14	UNF	,875	,33	,10	,885	,828	1,00	7/8-14	.0080	25/32	3/16
TR1655.77508	SL	5/8-18	UNF	7/8-14	UNF	,875	,33	,10	,885	,828	1,00	7/8-14	.0081	25/32	3/16
TR1655.77309	SL	3/4-10	UNC	1-1/8-12	UNF	1,250	,49	,10	1,145	1,062	1,44	1-1/8-12	.0090	31/32	5/16
TR1655.77509	SL	3/4-16	UNF	1-1/8-12	UNF	1,250	,49	,10	1,145	1,062	1,44	1-1/8-12	.0091	31/32	5/16
TR1655.77310	SL	7/8-9	UNC	1-1/4-12	UNF	1,375	,49	,10	1,270	1,187	1,56	1-1/4-12	.0100	1-3/32	5/16
TR1655.77510	SL	7/8-14	UNF	1-1/4-12	UNF	1,375	,49	,10	1,270	1,187	1,56	1-1/4-12	.0101	1-3/32	5/16
TR1655.77311	SL	1-8	UNC	1-3/8-12	UNF	1,500	,55	,10	1,395	1,312	1,68	1-3/8-12	.0110	1-7/32	5/16



# Threaded Insert MS/NAS - H Duty - 303 stainless steel - self-locking - MS/NAS grade

Threaded  
Inserts Stain-

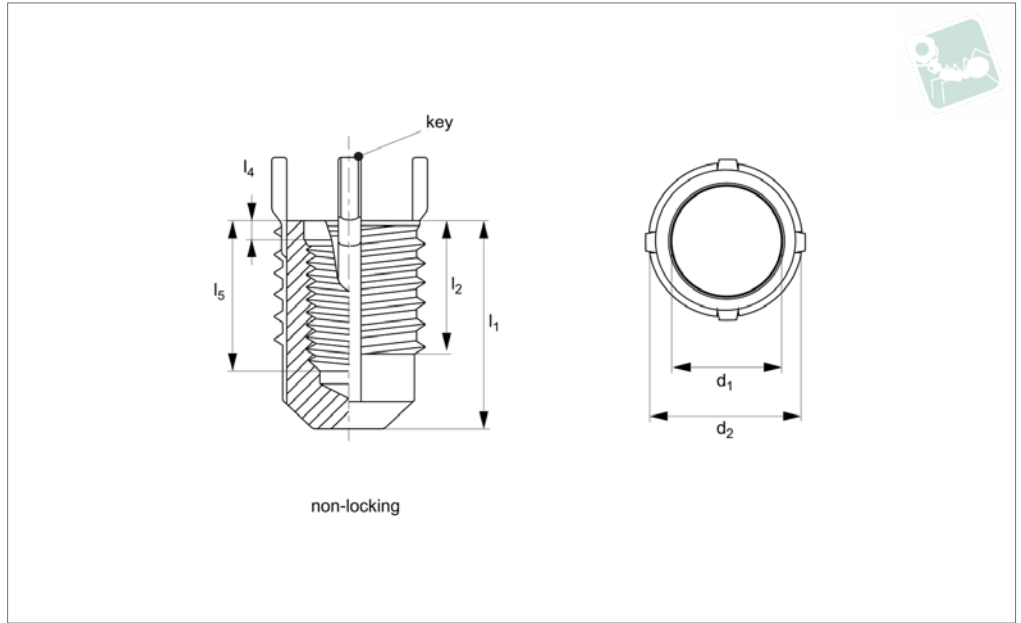


Order No.	Type	d <sub>1</sub> tol. 3B	Thread type d <sub>1</sub>	d <sub>2</sub> (mod.) class 2A	Thread type d <sub>2</sub>	l <sub>1</sub>	l <sub>3</sub> ±0.0 c'bore 30	l <sub>4</sub> depth	Inst. c'sink hole size +0.010 - 0.000	Inst. tap drill size	Inst. thread tap depth min.	Inst. thread tap size class B	Inst. tool ref. TR1705	Removal drill size	Removal drill depth
TR1655.77511	SL	1-12	UNF	1-3/8-12	UNF	1,500	,55	,10	1,395	1,312	1,68	1-3/8-12	.0111	1-7/32	5/16

THREADED INSERTS STAINLESS



TR1675



**Material**

Inserts - 303 CRES.  
Keys - 302 CRES.  
Passivated. Dry film lubrication on self-locking inserts only.

**Technical Notes**

All dimensions in inches.  
Internal threads: to SAE AS8879.  
General tolerances -  
+/- 0,010 unless specified.

**Tap drill hole tolerances -**

0,234 to 0,500 = +0,004/-0,001  
0,500 and over = +0,005/-0,001  
**NL** = Non-Locking type.

**Tips**

Order installation tool separately, as identified by „Inst. Tool ref.“ in table.

**Important Notes**

Four locking keys on internal threads 5/16

and over. Two locking keys on internal threads smaller than 5/16.

Installation (Inst.) drill size, counter sink, thread tap and thread depth as specified in table.

Removal (Rem.) drill size and drill depth as specified in table.

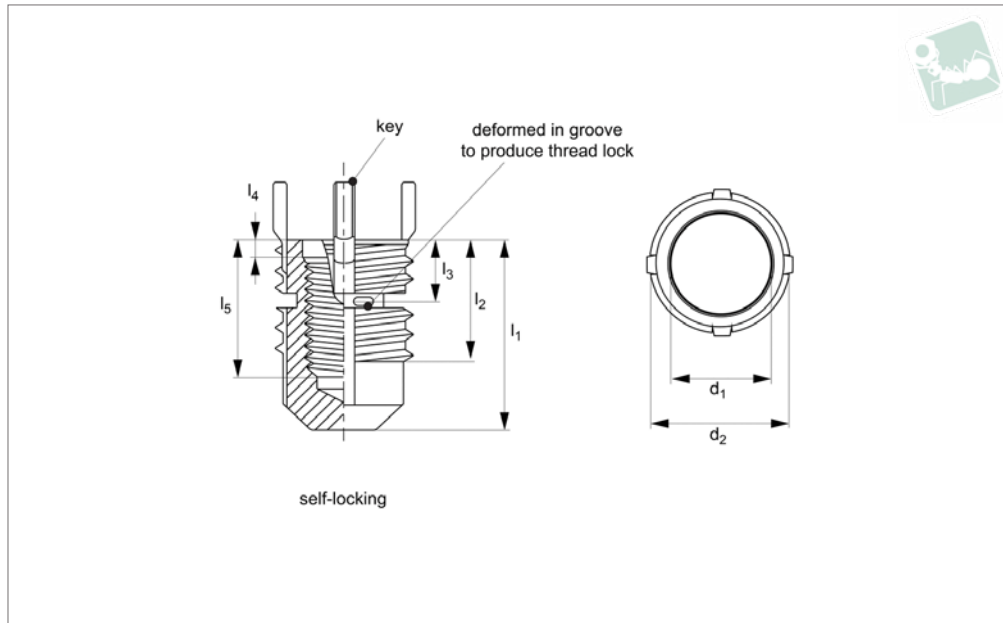
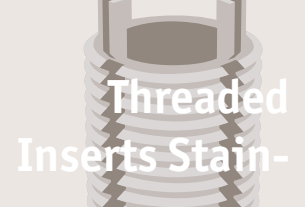
Perform to standards: MIL-I-45914A

Order No.	Type	d <sub>1</sub> tol. 3B	Thread type d <sub>1</sub>	d <sub>1</sub> (mod.) class 2A	Thread type d <sub>2</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>4</sub> c'bore depth	l <sub>5</sub>	Inst. c'sink hole size +0.010 - 0.000	Inst. tap drill size	Inst. thread tap depth min.	Inst. thread tap size class 2B	Inst. tool ref. TR1705	Removal drill size	Removal drill depth
TR1675.83300	NL	8-32	UNC	5/16-18	UNC	,50	,31	,04	,31	,323	,272	,37	5/16-18	.0000	7/32	1/8
TR1675.83301	NL	10-24	UNC	3/8-16	UNC	,56	,31	,07	,31	,385	,332	,37	3/8-16	.0010	9/32	1/8
TR1675.83501	NL	10-32	UNF	3/8-16	UNC	,56	,31	,07	,31	,385	,332	,37	3/8-16	.0011	9/32	1/8
TR1675.83302	NL	1/4-20	UNC	7/16-14	UNC	,62	,37	,07	,37	,447	,397	,43	7/16-14	.0020	11/32	3/16
TR1675.83502	NL	1/4-28	UNF	7/16-14	UNC	,62	,37	,07	,37	,447	,397	,43	7/16-14	.0021	11/32	3/16
TR1675.83303	NL	5/16-18	UNC	1/2-13	UNC	,75	,43	,07	,43	,510	,453	,50	1/2-13	.0030	13/32	3/16
TR1675.83503	NL	5/16-24	UNF	1/2-13	UNC	,75	,43	,07	,43	,510	,453	,50	1/2-13	.0031	13/32	3/16
TR1675.83304	NL	3/8-16	UNC	9/16-12	UNC	,81	,50	,07	,50	,572	,516	,56	9/16-12	.0040	15/32	3/16
TR1675.83504	NL	3/8-24	UNF	9/16-12	UNC	,81	,50	,07	,50	,572	,516	,56	9/16-12	.0041	15/32	3/16
TR1675.83305	NL	7/16-14	UNC	5/8-11	UNC	1,00	,62	,10	,62	,635	,578	,68	5/8-11	.0050	17/32	3/16
TR1675.83505	NL	7/16-20	UNF	5/8-11	UNC	1,00	,62	,10	,62	,635	,578	,68	5/8-11	.0051	17/32	3/16
TR1675.83306	NL	1/2-13	UNC	11/16-11NS	UNS	1,06	,68	,10	,68	,700	,641	,75	11/16-11NS	.0060	19/32	3/16
TR1675.83506	NL	1/2-20	UNF	11/16-11NS	UNS	1,06	,68	,10	,68	,700	,641	,75	11/16-11NS	.0061	19/32	3/16
TR1675.83307	NL	9/16-12	UNC	13/16-16	UN	1,25	,81	,10	,81	,822	,766	,94	13/16-16	.0070	23/32	3/16
TR1675.83507	NL	9/16-18	UNF	13/16-16	UN	1,25	,81	,10	,81	,822	,766	,94	13/16-16	.0071	23/32	3/16
TR1675.83308	NL	5/8-11	UNC	7/8-14	UNF	1,31	,87	,10	,87	,885	,828	1,00	7/8-14	.0080	25/32	3/16
TR1675.83508	NL	5/8-18	UNF	7/8-14	UNF	1,31	,87	,10	,87	,885	,828	1,00	7/8-14	.0081	25/32	3/16
TR1675.83509	NL	3/4-16	UNF	1-1/8-12	UNF	1,75	1,25	,10	1,25	1,145	1,062	1,44	1-1/8-12	.0091	31/32	5/16
TR1675.83310	NL	7/8-9	UNF	1-1/4-12	UNF	1,94	1,37	,10	1,37	1,270	1,187	1,56	1-1/4-12	.0100	1-3/32	5/16
TR1675.83510	NL	7/8-14	UNC	1-1/4-12	UNF	1,94	1,37	,10	1,37	1,270	1,187	1,56	1-1/4-12	.0101	1-3/32	5/16
TR1675.83311	NL	1-8	UNF	1-3/8-12	UNF	2,12	1,50	,10	1,50	1,395	1,312	1,68	1-3/8-12	.0110	1-7/32	5/16
TR1675.83511	NL	1-12	UNC	1-3/8-12	UNF	2,12	1,50	,10	1,50	1,395	1,312	1,68	1-3/8-12	.0111	1-7/32	5/16



# Blind Threaded Insert - H Duty - Inch

303 stainless steel - self-locking



**TR1676**

THREADED INSERTS STAINLESS

### Material

Inserts - 303 CRES.  
 Keys - 302 CRES.  
 Passivated. Dry film lubrication on self-locking inserts only.

### Technical Notes

All dimensions in inches.  
 Internal threads: to SAE AS8879.  
 General tolerances -  
 +/- 0,010 unless specified.

### Tap drill hole tolerances -

0,234 to 0,500 = +0,004/-0,001  
 0,500 and over = +0,005/-0,001  
**SL** = Self-Locking type, deliberate deformity in thread produces self-affect once installed (see technical diagram).

### Tips

Order installation tool separately, as identified by „Inst. Tool ref.“ in table.

### Important Notes

Four locking keys on internal threads 5/16 and over. Two locking keys on internal threads smaller than 5/16.  
 Installation (Inst.) drill size, counter sink, thread tap and thread depth as specified in table.  
 Removal (Rem.) drill size and drill depth as specified in table.  
 Perform to standards: MIL-I-45914A

Order No.	Type	d <sub>1</sub> tol. 3B	Thread type d <sub>1</sub>	d <sub>2</sub> (mod.) class 2A	Thread type d <sub>2</sub>	l <sub>1</sub>	l <sub>2</sub>	l <sub>3</sub> ±0.030
TR1676.84300	SL	8-32	UNC	5/16-18	UNC	.50	.31	.22
TR1676.84301	SL	10-24	UNC	3/8-16	UNC	.56	.31	.22
TR1676.84501	SL	10-32	UNF	3/8-16	UNC	.56	.31	.22
TR1676.84302	SL	1/4-20	UNC	7/16-14	UNC	.62	.37	.22
TR1676.84502	SL	1/4-28	UNF	7/16-14	UNC	.62	.37	.22
TR1676.84303	SL	5/16-18	UNC	1/2-13	UNC	.75	.43	.22
TR1676.84503	SL	5/16-24	UNF	1/2-13	UNC	.75	.43	.22
TR1676.84304	SL	3/8-16	UNC	9/16-12	UNC	.81	.50	.25
TR1676.84504	SL	3/8-24	UNF	9/16-12	UNC	.81	.50	.25
TR1676.84305	SL	7/16-14	UNC	5/8-11	UNC	1.00	.62	.28
TR1676.84505	SL	7/16-20	UNF	5/8-11	UNC	1.00	.62	.28
TR1676.84306	SL	1/2-13	UNC	11/16-11NS	UNS	1.06	.68	.28
TR1676.84506	SL	1/2-20	UNF	11/16-11NS	UNS	1.06	.68	.28
TR1676.84307	SL	9/16-12	UNC	13/16-16	UN	1.25	.81	.32
TR1676.84507	SL	9/16-18	UNF	13/16-16	UN	1.25	.81	.32
TR1676.84308	SL	5/8-11	UNC	7/8-14	UNF	1.31	.87	.33
TR1676.84508	SL	5/8-18	UNF	7/8-14	UNF	1.31	.87	.33
TR1676.84309	SL	3/4-10	UNF	1-1/8-12	UNF	1.75	1.25	.49
TR1676.84509	SL	3/4-16	UNF	1-1/8-12	UNF	1.75	1.25	.49
TR1676.84310	SL	7/8-9	UNC	1-1/4-12	UNF	1.94	1.37	.49
TR1676.84510	SL	7/8-14	UNF	1-1/4-12	UNF	1.94	1.37	.49
TR1676.84311	SL	1-8	UNC	1-3/8-12	UNF	2.12	1.50	.55
TR1676.84511	SL	1-12	UNF	1-3/8-12	UNF	2.12	1.50	.55



Order No.	l <sub>4</sub> c'bore depth	l <sub>5</sub>	Inst. c'sink hole size +0.010 -0.000	Inst. tap drill size	Inst. thread tap depth min.	Inst. thread tap size class 2B	Inst. tool ref. TR1705	Removal drill size	Removal drill depth
TR1676.84300	.04	.31	.323	.272	.37	5/16-18	.0000	7/32	3/16
TR1676.84301	.07	.31	.385	.332	.37	3/8-16	.0010	9/32	3/16
TR1676.84501	.07	.31	.385	.332	.37	3/8-16	.0011	9/32	3/16
TR1676.84302	.07	.37	.447	.397	.43	7/16-14	.0020	11/32	3/16
TR1676.84502	.07	.37	.447	.397	.43	7/16-14	.0021	11/32	3/16
TR1676.84303	.07	.43	.510	.453	.50	1/2-13	.0030	13/32	3/16
TR1676.84503	.07	.43	.510	.453	.50	1/2-13	.0031	13/32	3/16
TR1676.84304	.07	.50	.572	.516	.56	9/16-12	.0040	15/32	3/16
TR1676.84504	.07	.50	.572	.516	.56	9/16-12	.0041	15/32	3/16
TR1676.84305	.10	.62	.635	.578	.68	5/8-11	.0050	17/32	3/16
TR1676.84505	.10	.62	.635	.578	.68	5/8-11	.0051	17/32	3/16
TR1676.84306	.10	.68	.700	.641	.75	11/16-11NS	.0060	19/32	3/16
TR1676.84506	.10	.68	.700	.641	.75	11/16-11NS	.0061	19/32	3/16
TR1676.84307	.10	.81	.822	.766	.94	13/16-16	.0070	23/32	3/16
TR1676.84507	.10	.81	.822	.766	.94	13/16-16	.0071	23/32	3/16
TR1676.84308	.10	.87	.885	.828	1.00	7/8-14	.0080	25/32	3/16
TR1676.84508	.10	.87	.885	.828	1.00	7/8-14	.0081	25/32	3/16
TR1676.84309	.10	1.25	1.145	1.062	1.44	1-1/8-12	.0090	31/32	5/16
TR1676.84509	.10	1.25	1.145	1.062	1.44	1-1/8-12	.0091	31/32	5/16
TR1676.84310	.10	1.37	1.270	1.187	1.56	1-1/4-12	.0100	1-3/32	5/16
TR1676.84510	.10	1.37	1.270	1.187	1.56	1-1/4-12	.0101	1-3/32	5/16
TR1676.84311	.10	1.50	1.395	1.312	1.68	1-3/8-12	.0110	1-7/32	5/16
TR1676.84511	.10	1.50	1.395	1.312	1.68	1-3/8-12	.0111	1-7/32	5/16