

SPACERS & PILLARS

TR Fastenings is recognised throughout the industry for world class products & services

We manufacture, stock & distribute a vast range of industrial fasteners & components



www.trfastenings.com
sales@trfastenings.com
Edition 3

Product Information

All of our pillars come as standard with undercut or non standard without undercut.

Advantages of undercut (standard):

- No need for washers in assembly
- Flush fit

Standard spacers:

- Brass, steel, stainless steel and aluminium.
- Key lengths in brass:
 - Width across flats 4 to 13 with M2, M2.5, M3, M4, M5, M6, ST2.2, ST2.4, ST2.8, ST3.2 & ST4.2
 - Lengths - see catalogue

Plastic spacers with brass thread inserts:

- Width across flats 5, 6, 8 and 10

Surfaces are available with various coatings:

- Tin plating, zinc plating, nickel plating, gold plating, chromate coated.



Specials

- Thread sizes from 1mm to 32mm.
- Lengths up to 2000 mm.
- Available in a wide range of materials. Small batch Plastic parts where injection moulding is not feasible.
- Special parts can be manufactured to customer drawings. Bespoke machinery enables us to offer a solution for complicated designs and installations.

Just contact us with your requirements and we will find a solution for you.

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Spacers & Pillars

Brass, Nickel Plated - Metric



Product Overview

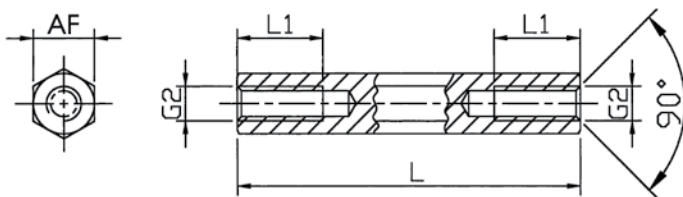
- Material acc. to DIN 17660: Cu Zn 39 Pb 3
- Min. tensile strength: 430 N/mm²
- Surface finish acc. to DIN 267: nickel plated (G 3 E)
- Material number: 2.0401
- Tolerance for length dimensions: +/- 0.1 mm
- All products are also available without undercut.

Other materials available:

- Steel
- Stainless Steel
- Aluminium
- Black Nylon - Hexagon
- Black Nylon - Round
- White Nylon - Brass Thread
- Natural Nylon - Brass Thread



F/F - Female / Female Thread Spacer - HSBFF



Internal Thread Lengths

L1 Length	G2					
	M2	M2.5	M3	M4	M5	M6
5	5	5	5	5	5	5
6	6	6	6	6	6	6
8	8	8	8	8	8	8
10	10	10	10	10	10	10
12	6	12	12	12	12	12
15	6	15	15	15	15	15
18	6	9	9	9	9	9
from 20	6	10	10	10	10	10

Preferred Range

Standard Lengths (mm)

		5	6	8	10	12	15	18	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Thread x Across Flats (AF)	M2 x 4	•	•	•	•	•	•	•	•	•	•	•	•	•	•										
	M2.5 x 4	•	•	•	•	•	•	•	•	•	•	•	•	•	•										
	M2.5 x 5	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
	M3 x 5	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•									
	M3 x 5.5	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•							
	M4 x 7	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	M5 x 8			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	M6 x 10				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Part number example - HSBFFM2-10-4

Spacers & Pillars

Brass, Nickel Plated - Metric

Product Overview

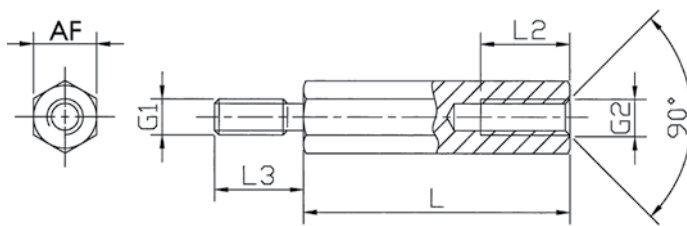
- Material acc. to DIN 17660: Cu Zn 39 Pb 3
- Min. tensile strength: 430 N/mm²
- Surface finish acc. to DIN 267: nickel plated (G 3 E)
- Material number: 2.0401
- Tolerance for length dimensions: +/- 0.1 mm
- All products are also available without undercut.

Other materials available:

- Steel
- Stainless Steel
- Aluminium
- Black Nylon - Hexagon
- Black Nylon - Round
- White Nylon - Brass Thread
- Natural Nylon - Brass Thread



M/F - Male / Female Thread Pillar - HPBMF



External Thread Lengths (G1)

	M2	M2.5	M3	M4	M5	M6
L3	5	6	6k 8	8	8	10

Internal Thread Lengths

L2 Length	G2					
	M2	M2.5	M3	M4	M5	M6
5	3	3	3	3	3	-
6	4	4	4	4	4	-
8	5	5	5	5	5	-
10	6	6	6	6	6	6
12	6	7	7	7	7	7
15	6	10	10	10	10	10
18	6	10	10	10	10	10
from 20	6	10	10	10	10	12

Preferred Range

		Standard Lengths (mm)																							
		5	6	8	10	12	15	18	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Thread x Across Flats (AF)	M2 x 4	●	●	●	●	●	●	●	●	●	●	●	●	●											
	M2.5 x 4	●	●	●	●	●	●	●	●	●	●	●	●	●											
	M2.5 x 5	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									
	M3 x 5	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●									
	M3 x 5.5	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●							
	M4 x 7	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	M5 x 8			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	M6 x 10				●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

Note: M3 threads also come in 6mm external thread lengths - add suffix K to the length as per example.

M3, 8mm part number example - HPBMFM3-10-5

M3, 6mm part number example - HPBMFM3-10K-5

Spacers & Pillars

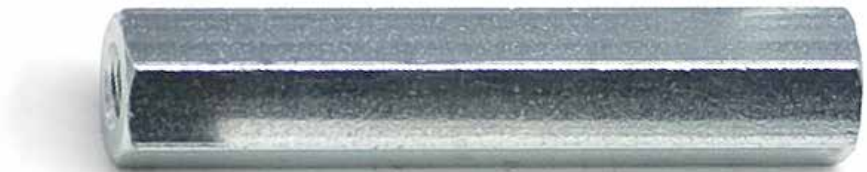
Steel, Zinc Plated (CR3) - Metric

Product Overview

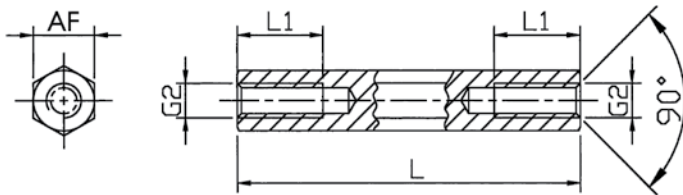
- Material acc. to DIN 176: 11 SMn Pb30
- Minimum tensile strength: 500 N/mm²
- Surface finish acc. to DIN 267: Zinc (A3 F)
- Material number: 1.0718
- Tolerance for length dimensions +/- 0.1 mm
- (DIN 2768-m applies to AF13)
- All products are also available without undercut.

Other materials available:

- Brass
- Stainless Steel
- Aluminium
- Black Nylon - Hexagon
- Black Nylon - Round
- White Nylon - Brass Thread
- Natural Nylon - Brass Thread



F/F - Female / Female Thread Spacer - HSSFF



Internal Thread Lengths

L1	G2						
Length	M2	M2.5	M3	M4	M5	M6	M8
5	5	5	5	5	5	5	-
8	8	8	8	8	8	8	-
10	10	10	10	10	10	10	-
12	6	12	12	12	12	12	-
15	6	15	15	15	15	15	15
18	6	9	9	9	9	9	-
20	6	10	10	10	10	10	20
from 30	6	10	10	10	10	12	14

Preferred Range

Standard Lengths (mm)

		5	8	10	12	15	18	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Thread x Across Flats (AF)	M2 x 4	•	•	•	•	•	•	•	•	•	•	•												
	M2.5 x 4	•	•	•	•	•	•	•	•	•	•	•												
	M3 x 5	•	•	•	•	•	•	•	•	•	•	•	•	•										
	M3 x 5.5	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•						
	M3 x 6	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	M4 x 7	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	M4 x 8	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	M5 x 8		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	M6 x 10			•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	M8 x 13					•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Part number example - HSSFFM2-10-4

Spacers & Pillars

Steel, Zinc Plated (CR3) - Metric

Product Overview

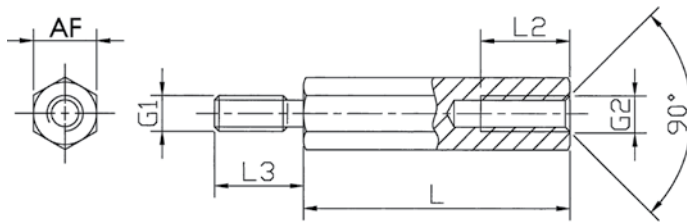
- Material acc. to DIN 176: 11 SMn Pb30
- Minimum tensile strength: 500 N/mm²
- Surface finish acc. to DIN 267: Zinc (A3 F)
- Material number: 1.0718
- Tolerance for length dimensions +/- 0.1 mm
- (DIN 2768-m applies to AF13)
- All products are also available without undercut.

Other materials available:

- Brass
- Stainless Steel
- Aluminium
- Black Nylon - Hexagon
- Black Nylon - Round
- White Nylon - Brass Thread
- Natural Nylon - Brass Thread



M/F - Male / Female Thread Pillar - HPSMF



External Thread Lengths (G1)

	M2	M2.5	M3	M4	M5	M6	M8
L3	5	6	6	8	8	10	14

Internal Thread Lengths

L2	G2						
Length	M2	M2.5	M3	M4	M5	M6	M8
5	3	3	3	3	3	-	-
8	5	5	5	5	5	-	-
10	6	6	6	6	6	6	-
12	6	7	7	7	7	7	-
15	6	10	10	10	10	10	10
18	6	10	10	10	10	10	-
from 20	6	10	10	10	10	12	14

Preferred Range

		Standard Lengths (mm)																						
		5	8	10	12	15	18	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Thread x Across Flats (AF)	M2 x 4	●	●	●	●	●	●	●	●	●	●	●												
	M2.5 x 4	●	●	●	●	●	●	●	●	●	●	●												
	M3 x 5	●	●	●	●	●	●	●	●	●	●	●	●	●										
	M3 x 5.5	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●					
	M3 x 6	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	M4 x 7	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	M4 x 8	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	M5 x 8		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	M6 x 10			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
M8 x 13					●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	

Part number example - HPSMFM6-50-10

Spacers & Pillars

Stainless Steel - Metric



Product Overview

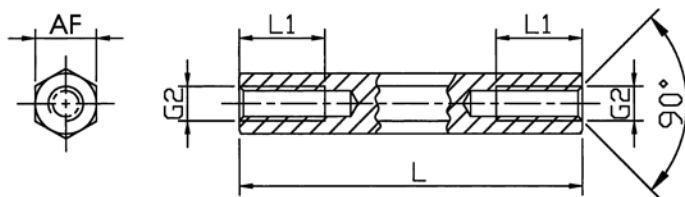
- Material acc. to EN DIN 10088: X8CrNiS18-9
- Minimum tensile strength: 750 N/mm²
- Material number: 1.4305
- Tolerance for length dimensions +/- 0.1 mm
(DIN 2768-m applies to AF13)
- All products are also available without undercut.

Other materials available:

- Brass
- Steel
- Aluminium
- Black Nylon - Hexagon
- Black Nylon - Round
- White Nylon - Brass Thread
- Natural Nylon - Brass Thread



F/F - Female / Female Thread Spacer - HS2FF



Internal Thread Lengths

L1 Length	G2				
	M3	M4	M5	M6	M8
5	5	5	-	-	-
8	8	8	8	-	-
10	10	10	10	10	-
12	12	12	12	12	-
15	7	15	15	15	15
18	7	9	9	9	18
20	7	9	10	10	20
25	7	9	10	12	12
from 30	7	9	10	12	14

Preferred Range

		Standard Lengths (mm)																						
		5	8	10	12	15	18	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
Thread x Across Flats (AF)	M3 x 5.5	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●							
	M4 x 7	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	M5 x 8		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	M6 x 10			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	M8 x 13					●	●	●	●	●	●	●	●	●		●		●		●		●		●

Part number example - HS2FFM4-50-7

Spacers & Pillars

Stainless Steel - Metric

Product Overview

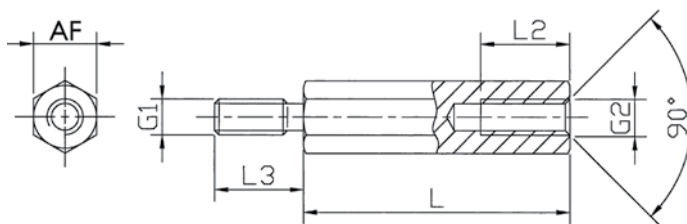
- Material acc. to EN DIN 10088: X8CrNiS18-9
- Minimum tensile strength: 750 N/mm²
- Material number: 1.4305
- Tolerance for length dimensions +/- 0.1 mm
- (DIN 2768-m applies to AF13)
- All products are also available without undercut.

Other materials available:

- Brass
- Steel
- Aluminium
- Black Nylon - Hexagon
- Black Nylon - Round
- White Nylon - Brass Thread
- Natural Nylon - Brass Thread



M/F - Male / Female Thread Pillar - HP2MF



External Thread Lengths (G1)

	M3	M4	M5	M6	M8
L3	6	8	8	10	14

Internal Thread Lengths

L2	G2				
Length	M3	M4	M5	M6	M8
5	2.5	-	-	-	-
8	5	5	-	-	-
10	6	6	6	5	-
12	7	8	8	7	-
15	7	9	10	10	10
18	7	9	10	12	12
from 20	7	9	10	12	14

Preferred Range

		Standard Lengths (mm)																							
		5	8	10	12	15	18	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	
Thread x Across Flats (AF)	M3 x 5.5	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●							
	M4 x 7		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	M5 x 8			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	M6 x 10			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	M8 x 13					●		●	●	●	●	●	●	●		●		●		●		●		●	

Part number example - HP2MFM4-50-7

Spacers & Pillars

Aluminium - Metric

Product Overview

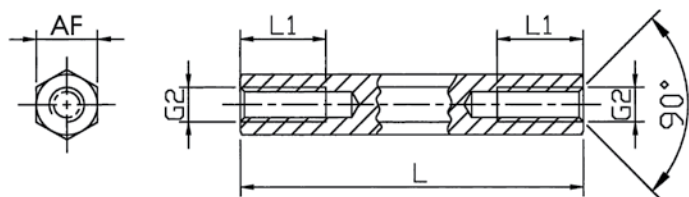
- Material acc. to EN AW 2011: AlCuBiPb
- Minimum tensile strength: 310 N/mm²
- Material number: 3.1655
- Tolerance for length dimensions +/- 0.1 mm
- (DIN 2768-m applies to AF13)

Other materials available:

- Brass
- Steel
- Stainless Steel
- Black Nylon - Hexagon
- Black Nylon - Round
- White Nylon - Brass Thread
- Natural Nylon - Brass Thread



F/F - Female / Female Thread Spacer - HSAFF



Internal Thread Lengths

L1	G2				
Length	M3	M4	M5	M6	M8
5	5	5	-	-	-
8	8	8	8	-	-
10	10	10	10	10	-
12	12	12	12	12	-
15	7	15	15	15	15
18	7	9	9	9	18
20	7	9	10	10	20
25	7	9	10	12	12
from 30	7	9	10	12	14

Preferred Range

		Standard Lengths (mm)																							
		5	8	10	12	15	18	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	
Thread x Across Flats (AF)	M3 x 6	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●							
	M4 x 7	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	M5 x 8		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	M6 x 10			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	M8 x 13					●		●	●	●	●	●	●	●		●		●		●		●		●	

Part number example - HSAFFM4-50-7

Spacers & Pillars

Aluminium - Metric

Product Overview

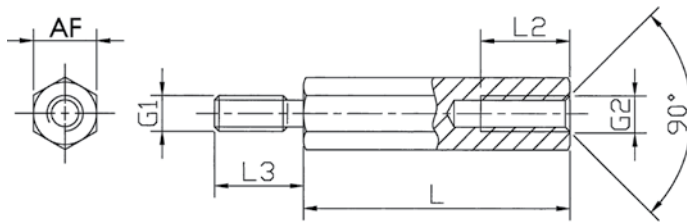
- Material acc. to EN AW 2011: AlCuBiPb
- Minimum tensile strength: 310 N/mm²
- Material number: 3.1655
- Tolerance for length dimensions +/- 0.1 mm
- (DIN 2768-m applies to AF13)

Other materials available:

- Brass
- Steel
- Stainless Steel
- Black Nylon - Hexagon
- Black Nylon - Round
- White Nylon - Brass Thread
- Natural Nylon - Brass Thread



M/F - Male / Female Thread Pillar - HPAMF



External Thread Lengths (G1)

	M3	M4	M5	M6	M8
L3	6	8	8	10	14

Internal Thread Lengths

L2	G2				
Length	M3	M4	M5	M6	M8
5	2.5	-	-	-	-
8	5	5	-	-	-
10	6	6	6	5	-
12	7	8	8	7	-
15	7	9	10	10	10
18	7	9	10	12	12
from 20	7	9	10	12	14

Preferred Range

		Standard Lengths (mm)																							
		5	8	10	12	15	18	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	
Thread x Across Flats (AF)	M3 x 6	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●								
	M4 x 7		●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	M5 x 8			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	M6 x 10			●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	M8 x 13					●		●	●	●	●	●	●	●		●		●		●		●		●	

Part number example - HPAMFM4-50-7

Spacers & Pillars - Hexagon

Nylon 6/6, Black

Product Overview

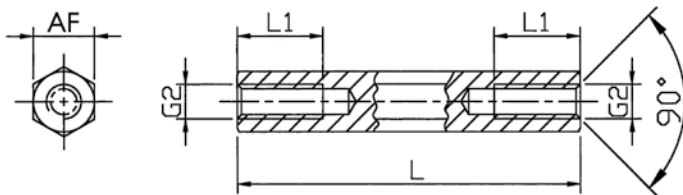
- Temperature resistance: up to approx. 110°
- Contact resistance DIN 53 482: $>10^{12}$ Ohm/cm
- Dielectric strength DIN 54 481: 40 kV/mm
- Tolerance for length dimensions: ± 0.1 mm

Other materials available:

- Brass
- Steel
- Stainless Steel
- Aluminium
- Black Nylon - Round
- White Nylon - Brass Thread
- Natural Nylon - Brass Thread



F/F - Female / Female Thread Spacer - HSN GFF



Thread Lengths

G2	L (mm)	L1 (mm)
M2/M2.5	to 14	Through Thread
	15–20	Half Length Blind
	from 21	10
M3	to 15	Through Thread
	16–20	Half Length Blind
	from 21	10
M4/M5/M6	to 20	Through Thread
	from 21	10

Preferred Range

		Standard Lengths (mm)																	
		4	5	8	10	12	15	18	20	25	30	35	40	45	50	55	60	65	68
Thread x Across Flats (AF)	M2 x 5				•				•		•		•	•					
	M2.5 x 5				•				•		•		•		•	•			
	M3 x 6				•				•		•		•		•		•	•	
	M4 x 8				•				•		•		•		•		•		
	M5 x 10				•	•			•		•		•		•		•	•	
	M6 x 10				•				•		•		•		•		•	•	

Material: Nylon 6/6 Glass Filled Black

Part number example -HSNGFFM3-20-6

Spacers & Pillars - Hexagon

Nylon 6/6, Black

Product Overview

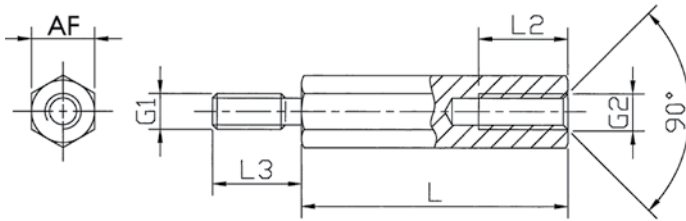
- Temperature resistance: up to approx. 110°
- Contact resistance DIN 53 482: $>10^{12}$ Ohm/cm
- Dielectric strength DIN 54 481: 40 kV/mm
- Tolerance for length dimensions: ± 0.1 mm

Other materials available:

- Brass
- Steel
- Stainless Steel
- Aluminium
- Black Nylon - Round
- White Nylon - Brass Thread
- Natural Nylon - Brass Thread



M/F - Male / Female Thread Pillar - HPNMF



Internal Thread Lengths		External Thread Lengths	
L (mm)	L2 (mm)	G1	L3
5	3.0	M2.5	8
from 6	4.0	M3	8
from 8	6.0	M4	8
from 10	8.0	M5	8
from 12	10.0	M6	10

Preferred Range

		Standard Lengths (mm)																	
		4	5	8	10	12	15	18	20	25	30	35	40	45	50	55	60	65	68
Thread x Across Flats (AF)	M2.5 x 5				•				•		•		•	•					
	M3 x 6				•				•		•		•		•		•		
	M4 x 8				•				•		•		•		•		•		
	M5 x 10				•				•		•		•		•		•	•	
	M6 x 10				•		•		•		•		•		•		•		

Material: Nylon 6/6 Black

Part number example - HPNMF4-10-8

Spacers & Pillars - Round

Nylon 6/6, Black

Product Overview

- Temperature resistance: up to approx. 110°
- Contact resistance DIN 53 482: $>10^{12}$ Ohm/cm
- Dielectric strength DIN 54 481: 40 kV/mm
- Tolerance for length dimensions: ± 0.1 mm

Other materials available:

- Brass
- Steel
- Stainless Steel
- Aluminium
- Black Nylon - Hexagon
- White Nylon - Brass Thread
- Natural Nylon - Brass Thread



F/F - Female / Female Thread Spacer - RSNGFF

		Standard Lengths (mm)																Thread Lengths		
		4	5	8	10	12	15	18	20	25	30	35	40	45	50	55	60	G2	L (mm)	L1 (mm)
Thread x Diameter	M2 x 4		•	•	•	•	•	•	•	•	•	•	•	•				M2/M2.5	to 14	Through Thread
	M2.5 x 5	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			15–20	Half Length Blind
	M3 x 6		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		from 21	10
	M4 x 8		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	M3	to 15	Through Thread
																			16–20	Half Length Blind
																			from 21	10
																		M4/M5/M6	to 20	Through Thread
																			from 21	10

Material: Nylon 6/6 Glass Filled, Black

M/F - Male / Female Thread Pillar - RPNMF

Internal Thread Lengths			External Thread Lengths		
L (mm)		L2 (mm)	G1	L3	
5		3.0	M2.5	8	
from 6		4.0	M3	8	
from 8		6.0	M4	8	
from 10		8.0	M5	8	
from 12		10.0	M6	10	

		Standard Lengths (mm)															
		4	5	8	10	12	15	18	20	25	30	35	40	45	50	55	60
Thread x Diameter	M3 x 6		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	M4 x 8		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Material: Nylon 6/6 Black

Part number example - RSNGFFM3-60-6

Spacers & Pillars - Hexagon

Nylon 6/6, Black

Product Overview

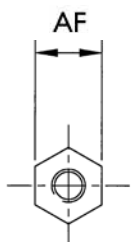
- Temperature resistance: up to approx. 110°
- Contact resistance DIN 53 482: $>10^{12}$ Ohm/cm
- Dielectric strength DIN 54 481: 40 kV/mm
- Tolerance for length dimensions: ± 0.1 mm

Other materials available:

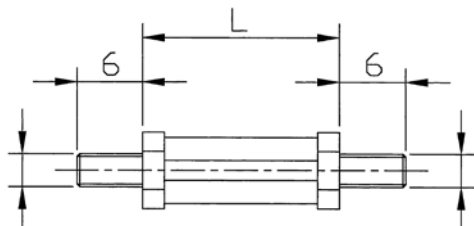
- Brass
- Steel
- Stainless Steel
- Aluminium
- Black Nylon - Hexagon
- White Nylon - Brass Thread
- Natural Nylon - Brass Thread



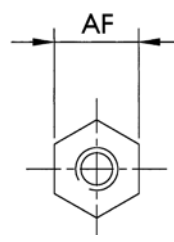
M/M - Male / Male Thread Pillar - HPNMM



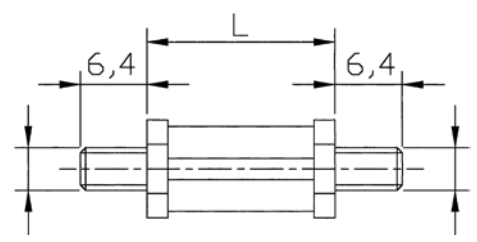
M2.5/M3



Thread	Across Flats (AF)
M2.5	5
M3	6



M4



Thread	Across Flats (AF)
M4	8

Preferred Range

		Standard Lengths (mm)																	
		3	4	5	8	10	12	15	18	20	25	30	36	40	45	50	55	60	65
Thread x Across Flats (AF)	M2.5 x 5					•				•		•		•		•		•	•
	M3 x 6					•				•		•	•	•		•		•	•
	M4 x 8					•				•		•		•		•		•	•

Material: Nylon 6/6 Black

Part number example - HPNMMM3-65-6

Spacers & Pillars - Hexagon

Nylon 6/6 White, Brass Nickel Plated Thread



Product Overview

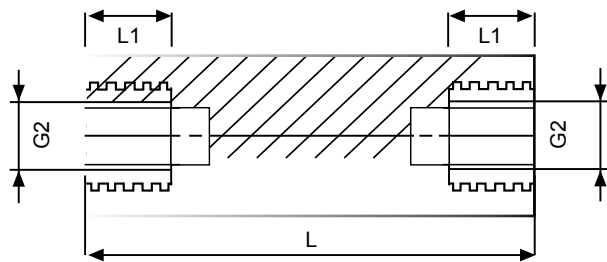
- Body material: Nylon 6/6 white
- Thread inserts: Nickel-plated brass
- Temperature resistance: up to 110°C
- Fire class: UL 94-V2
- Contact resistance: 10^{12} Ohm/cm
- Dielectric strength: 50kV/mm
- Tolerance for length dimensions: ± 0.1 mm

Other materials available:

- Brass
- Steel
- Stainless Steel
- Aluminium
- Black Nylon - Hexagon
- Black Nylon - Round
- Natural Nylon - Brass Thread



F/F - Female / Female Thread Spacer - HSNBFF

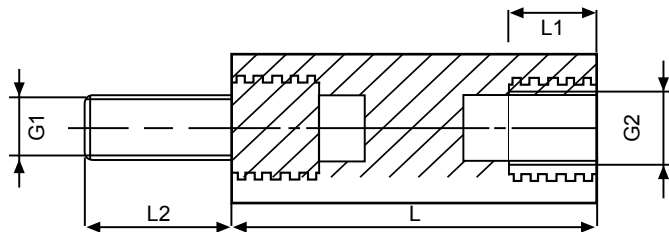


Internal Thread Lengths

G2	M2.5	M3	M4	M5
L1	6mm			

Lengths		18	20	25	30	35	40	45	50	55	60	65	70
Thread x Across Flats (AF)	M2.5 x 6		•	•	•	•	•	•	•	•	•	•	
	M3 x 6	•	•	•	•	•	•	•	•	•	•	•	
	M4 x 8		•	•	•	•	•	•	•	•	•	•	
	M5 x 10		•	•	•	•	•	•	•	•	•	•	•

M/F - Male / Female Thread Pillar - HPNBMF



Thread Lengths

G1/G2	M2.5	M3	M4	M5
L1 (G2)	6mm			
L2 (G1)	6mm		8mm	10mm

Lengths		16	20	22	25	30	35	40	45	50	55	58	60	65	70
Thread x Across Flats (AF)	M2.5 x 6		•		•	•	•	•	•	•	•		•	•	
	M3 x 6		•	•		•	•	•	•	•	•		•	•	
	M4 x 8		•		•	•	•	•	•	•	•		•	•	
	M5 x 10	•	•		•	•		•	•	•	•	•	•	•	•

Part number example - HSNBFFM3-40-6

Spacers & Pillars - Hexagon

Nylon 6/6 White, Brass Nickel Plated Thread

Product Overview

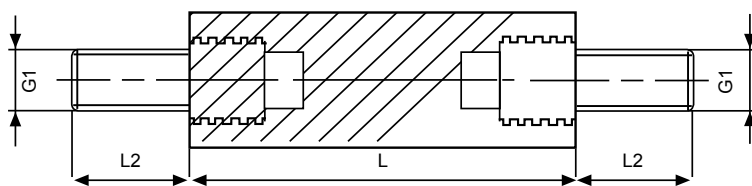
- Body material: Nylon 6/6 white
- Thread inserts: Nickel-plated brass
- Temperature resistance: up to 110°C
- Fire class: UL 94-V2
- Contact resistance: 10^{12} Ohm/cm
- Dielectric strength: 50kV/mm
- Tolerance for length dimensions: ± 0.1 mm

Other materials available:

- Brass
- Steel
- Stainless Steel
- Aluminium
- Black Nylon - Hexagon
- Black Nylon - Round
- Natural Nylon - Brass Thread

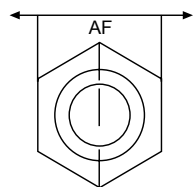


M/M - Male / Male Thread Pillar - HPNBMM



External Thread Lengths

G1	M2.5	M3	M4	M5
L2	6mm		8mm	10mm



Thread x Across Flats (AF)	Lengths	17	20	25	30	35	40	45	50	55	60	65	70
	M2.5 x 6		•	•	•	•	•	•	•	•	•	•	
M3 x 6			•	•	•	•	•	•	•	•			
M4 x 8		•	•	•	•	•	•	•	•	•	•	•	
M5 x 10			•	•	•	•	•	•	•	•	•	•	•

Strength/Resistance Values

Torque (Nm)			Pull-Out Torque (N)		
AF6	M2.5	1.3	AF6	M2.5	300
AF6	M3	1.3	AF6	M3	300
AF8	M4	3.0	AF8	M4	600
AF10	M5	4.5	AF10	M5	800

Part number example - HPNBMMM3-40-6

Spacers & Pillars

Nylon 6/6 Natural, Brass Nickel Plated Thread



Product Overview

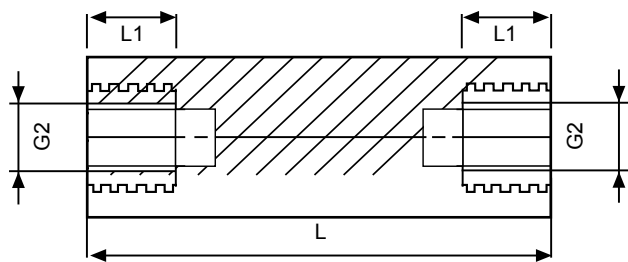
- Body material: Nylon 6/6 natural
- Thread inserts: Brass Self Finish
- Temperature resistance: up to 110°C
- Fire class: UL 94-V2
- Contact resistance: 10^{12} Ohm/cm
- Dielectric strength: 50kV/mm
- Tolerance for length dimensions: +/- 0.2 mm

Other materials available:

- Brass
- Steel
- Stainless Steel
- Aluminium
- Black Nylon - Hexagon
- Black Nylon - Round
- White Nylon - Brass Thread



F/F - Female / Female Thread Spacer - HSNBFF

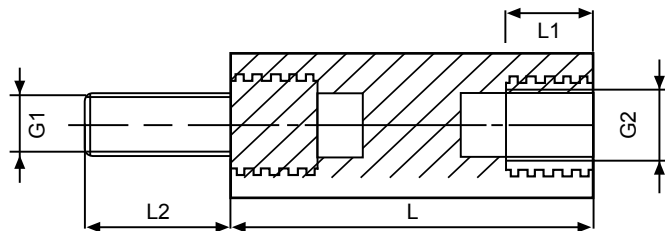


Internal Thread Lengths

G2	M6	M8
L1	11mm	

Lengths		18	20	25	30	35	40	45	50	55	60	65	70
Thread x Across Flats (AF)	M6 x 13			•	•		•		•				
	M8 x 15			•	•		•		•		•		

M/F - Male / Female Thread Pillar - HPNBMF



Thread Lengths

G1/G2	M6	M8
L1 (G2)	11mm	
L2 (G1)	12mm	14mm

Lengths		20	25	27	30	35	40	45	50	55	60	65	70
Thread x Across Flats (AF)	M6 x 13		•		•		•		•		•		
	M8 x 15		•	•	•		•		•		•		

Part number example - HPNBMFM8-27-15

Spacers & Pillars

Nylon 6/6 Natural, Brass Nickel Plated Thread

Product Overview

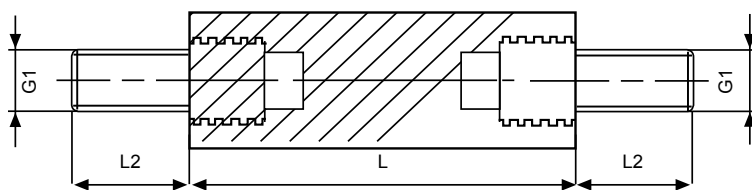
- Body material: Nylon 6/6 natural
- Thread inserts: Brass Self Finish
- Temperature resistance: up to 110°C
- Fire class: UL 94-V2
- Contact resistance: 10^{12} Ohm/cm
- Dielectric strength: 50kV/mm
- Tolerance for length dimensions: +/- 0.2 mm

Other materials available:

- Brass
- Steel
- Stainless Steel
- Aluminium
- Black Nylon - Hexagon
- Black Nylon - Round
- White Nylon - Brass Thread

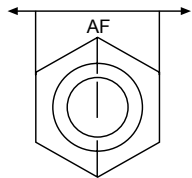


M/M - Male / Male Thread Pillar - HPNBMM



External Thread Lengths

G1	M6	M8
L2	12mm	14mm



Lengths		17	20	25	30	35	40	45	50	55	60	65	70
Thread x Across Flats (AF)	M6 x 13			•	•		•		•		•		
	M8 x 15			•	•		•		•		•		

Strength/Resistance Values

Torques (Nm)			Pull-Out Torque (N)		
AF13	M6	12.0	AF13	M6	1000
AF15	M8	18.0	AF15	M8	1600

Part number example - HPNBMM6-50-13

Spacers & Pillars

Brass Nickel Plated, Self Tapping Thread

Product Overview

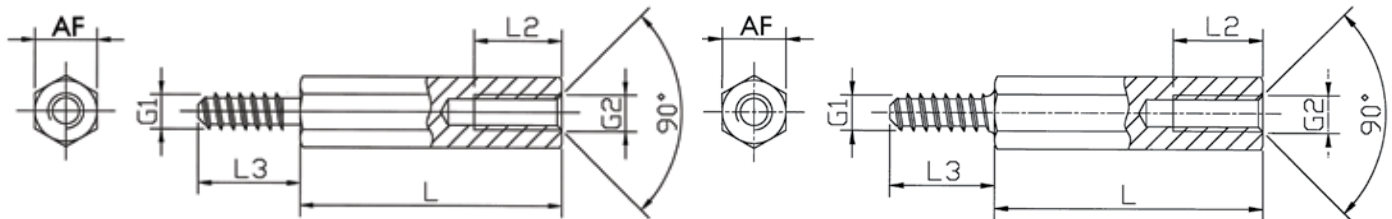
- Tolerance for length dimensions: +/- 0.1 mm

Other materials available:

- Steel



M/F - Male / Female Thread Pillar - HPBMF



Male/Female Thread

Male/Female Thread without undercut (F)

Preferred Range

Thread G2 x Across Flats (AF)	Thread G1	Standard Lengths (mm)				
		8	10	12	15	20
M2.5 x 5	ST2.2	•	•	•	•	•
M3 x 5.5	ST2.9	•	•	•	•	•
M3 x 5.5	ST3.3	•	•	•	•	•
M3 x 6	ST3.5	•	•	•	•	•
M4 x 7	ST4.2	•	•	•	•	•
M5 x 8	ST4.8	•	•	•	•	•
M6 x 10	ST6.3		•	•	•	•

Part number example with undercut - HPBMF2.2-08-5
 Part number example without undercut - HPBMF2.2-0.8F-5

Spacers & Pillars

Steel Zinc Plated, Self Tapping Thread

Product Overview

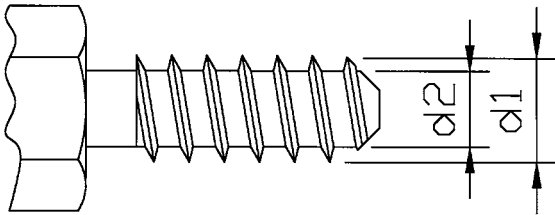
- Tolerance for length dimensions: +/- 0.1 mm

Other materials available:

- Brass



M/F - Male / Female Thread Pillar - HPSMF



Internal Thread G2

L (mm)	L2 (mm)
8	5
10	6
12	7
15	10
20	10

External Thread G1

Thread Size	L3	d1	d2
ST2.2	5	2.1	1.6
ST2.9	6	2.8	2.1
ST3.3	6	3.2	2.3
ST3.5	7	3.4	2.6
ST4.2	8	4.1	3.0
ST4.8	8	4.7	3.5
ST6.3	10	6.1	4.8

Preferred Range

Thread G2 x Across Flats (AF)	Thread G1	Standard Lengths (mm)				
		8	10	12	15	20
M2.5 x 5	ST2.2	•	•	•	•	•
M3 x 5.5	ST2.9	•	•	•	•	•
M3 x 5.5	ST3.3	•	•	•	•	•
M3 x 6	ST3.5	•	•	•	•	•
M4 x 7	ST4.2	•	•	•	•	•
M5 x 8	ST4.8	•	•	•	•	•
M6 x 10	ST6.3		•	•	•	•

Part number example with undercut - HPSMF2.2-08-5
 Part number example without undercut - HPSMF2.2-0.8F-5

Spacers & Pillars

Brass Nickel Plated, UNC Thread



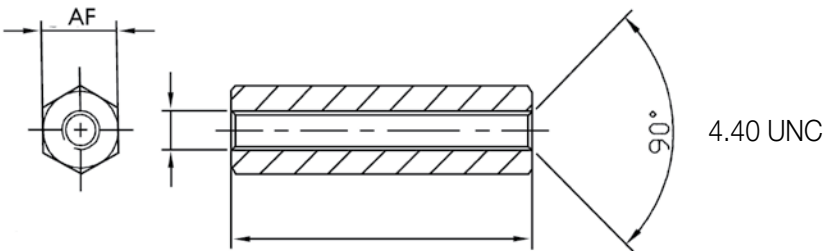
Product Overview

All UNC types are also available in steel, different lengths and with UNC 6-32, UNC 8-32 and UNC 2-56 thread.

- Tolerance for length dimensions: +/- 0.1 mm
- All products are also available without undercut.



F/F - Female / Female Thread Spacer - HSBFF



Preferred Range

		Standard Lengths (mm)					
		5	6	8	10	12	15
Thread x Across Flats (AF)	4-40 UNC x 5	•	•	•	•	•	•

Part number example - HSBFFC4-15-5

Spacers & Pillars

Brass Nickel Plated, UNC Thread

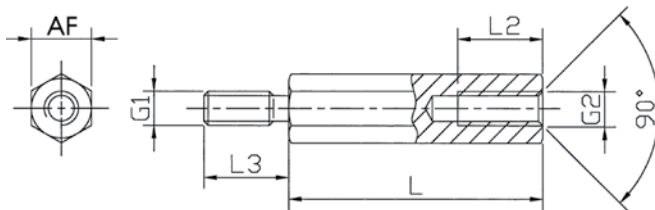
Product Overview

All UNC types are also available in steel, different lengths and with UNC 6-32, UNC 8-32 and UNC 2-56 thread.

- Tolerance for length dimensions: ± 0.1 mm
- All products are also available without undercut.



M/F - Male / Female Thread Pillar - HPBMF



Thread Lengths (mm)

L	L2	L3
5	3	4, 5, 6, 8, 10, 12
6	4	6, 8

Preferred Range

G1	G2	Standard Lengths (mm)					
Internal Thread x Across Flats (AF)	External Thread	5	6	8	10	12	15
4-40 UNC x 5	4-40 UNC	•	•				
4-40 UNC x 5	M3	•	•				
M3 x 5	4-40 UNC	•	•				

Part number example - HPBMFC4M3-5-5

Thru Hole Spacers

Nylon 6/6, Black

Product Overview

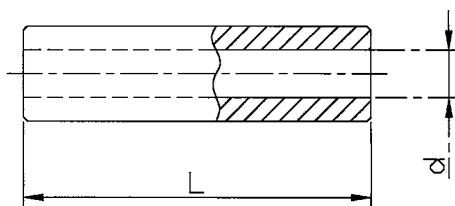
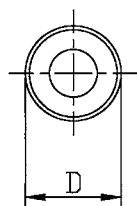
- Tolerance for length dimensions: +/- 0.1 mm

Other materials available:

- Brass
- Aluminium
- A2
- Steel



RTSN - Nylon 6/6



Technical Data

Material	Specific Contact Resistance	Dielectric Strength	Heat Resistance
Nylon 6/6 Black	$> 10^{12}$ Ohm/cm	80 kV/mm	110°C

Natural finish is available upon request

Preferred Range

Diameter d (mm)	Diameter D (mm)	Standard Lengths (mm)																
		4	5	6	7	8	9	10	20	30	32	40	45	50	55	57	60	63
1.5	4	•	•	•	•	•	•	•										
2.2	4							•	•	•		•		•				
2.7	5							•	•	•		•		•	•			
3.4	6							•	•	•	•	•		•			•	
4.2	8							•	•	•		•	•	•			•	
5.2	10							•	•	•		•		•		•		
6.2	10							•	•	•		•		•	•			
8.2	12							•	•	•		•		•			•	•
10.5	16							•	•	•		•		•				

Part number example - RTSN2.2-50-4

Thru Hole Spacers

Brass, Nickel Plated/Aluminium/A2/Steel

Product Overview

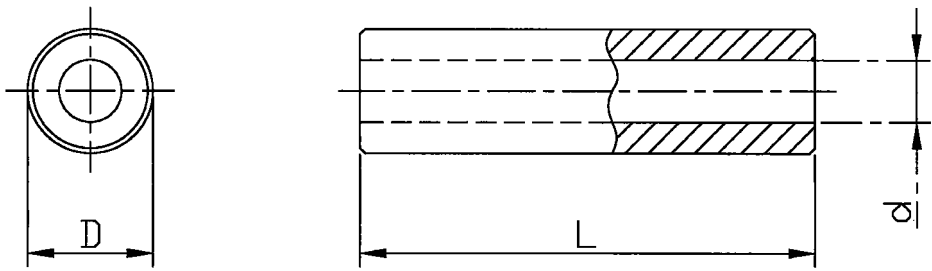
- Tolerance for length dimensions: ± 0.1 mm

Other materials available:

- Nylon 6/6, Black



RTSB - Brass | RTSA - Aluminium | RTS2 - A2 | RTSS - Steel



Preferred Range

Diameter d (mm)	Diameter D (mm)	Standard Lengths (mm)														
		2	3	4	5	6	7	8	9	10	12	15	18	20	25	30
2.1	4.0	•	•	•	•	•	•	•	•	•	•					
2.6	5.0	•	•	•	•	•	•	•	•	•	•	•				
3.2	6.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
4.3	8.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
5.3	10.0	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Part number example - RTSB3.2-30-6



PCB Hardware and Cable Management

Range: Support post series, circuit board support, plastic rivets, plastic screws, cable ties & accessories, cable management, adhesive base

Materials: Black nylon 6/6, white nylon 6/6, nylon 6/6 V2, nylon 6/6 VO, nylon 6 UL94V/2, nylon 46



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.



Standard Fasteners

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

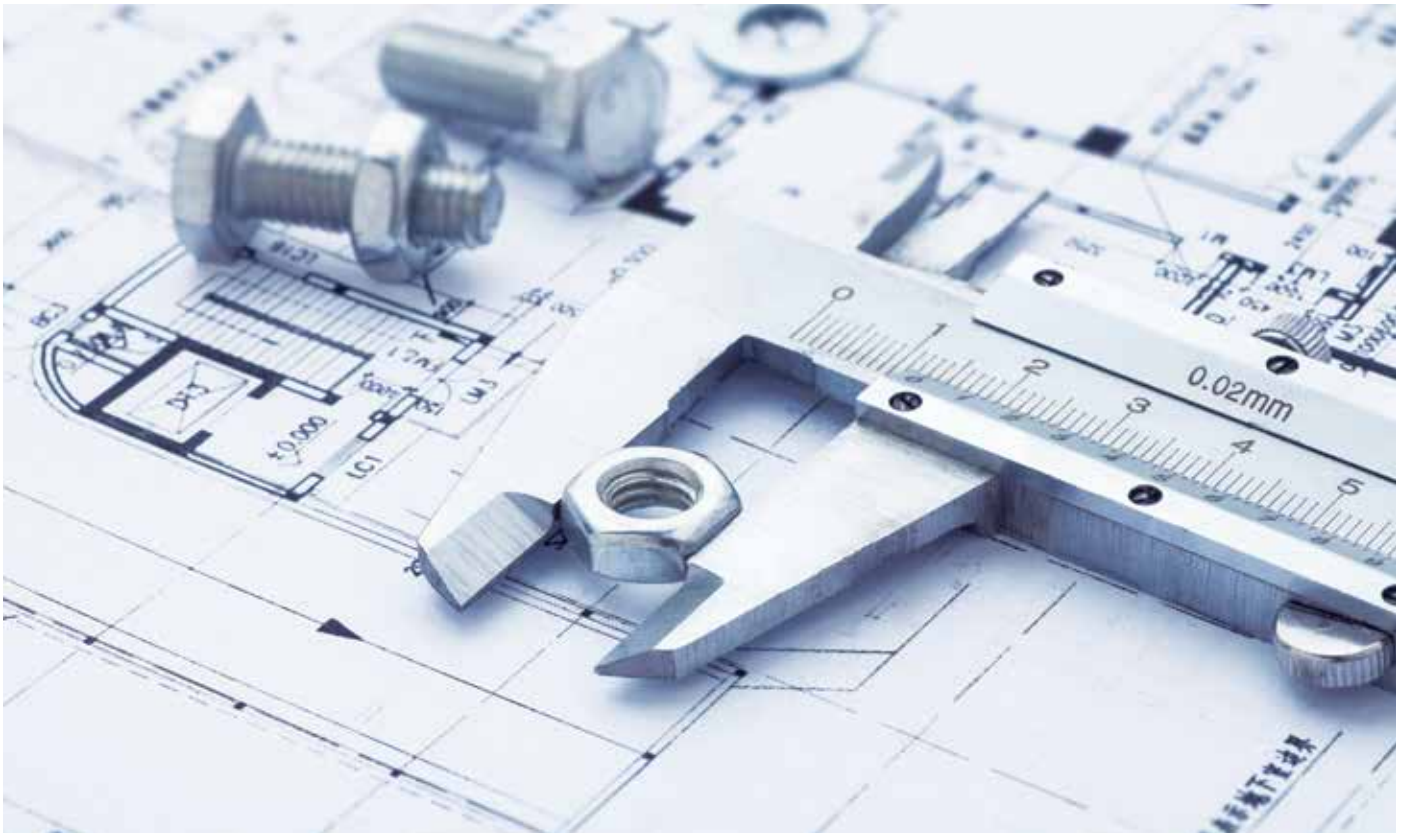
Machine screws, self-tapping screws, thread forming screws, socket products, nuts and washers.



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.



24 Hour Support

The TR Fastenings technical website has dimensional information on 1000's of products. This site also gives our customers access to the most comprehensive free fastener CAD library available. With over 20,000 configurations in the library, you can specify the exact size of fastener you require then download the correctly sized model in any one of 27 different 2D and 3D formats. These include: AutoCAD, Catia, Pro/Engineer, SolidWorks, DXF, IGES and STEP.

The enquiry basket has been designed to make specifying fasteners as easy as possible. We know most engineers work on many individual projects and that these projects often need fasteners. With the enquiry basket you can save fastener specifications from our site into individual projects making them much easier to find later. With our enquiry basket you can:

- Generate TR part numbers for any item on our site
- Save items into enquiries
- Create as many enquiries as you need
- Quickly send enquiries to TR

Our online product knowledge base articles have been designed to assist customer application design and assemblies.

Other functions include the animation library showing a step by step guide of how our branded fasteners work, conversion calculator, and access to our engineering newsletter keeping you informed of all the latest news and developments.

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