

Alcoa  
Fastening  
Systems



## Magna-Lok<sup>®</sup>

The World's Most Reliable  
Blind Fastening System.

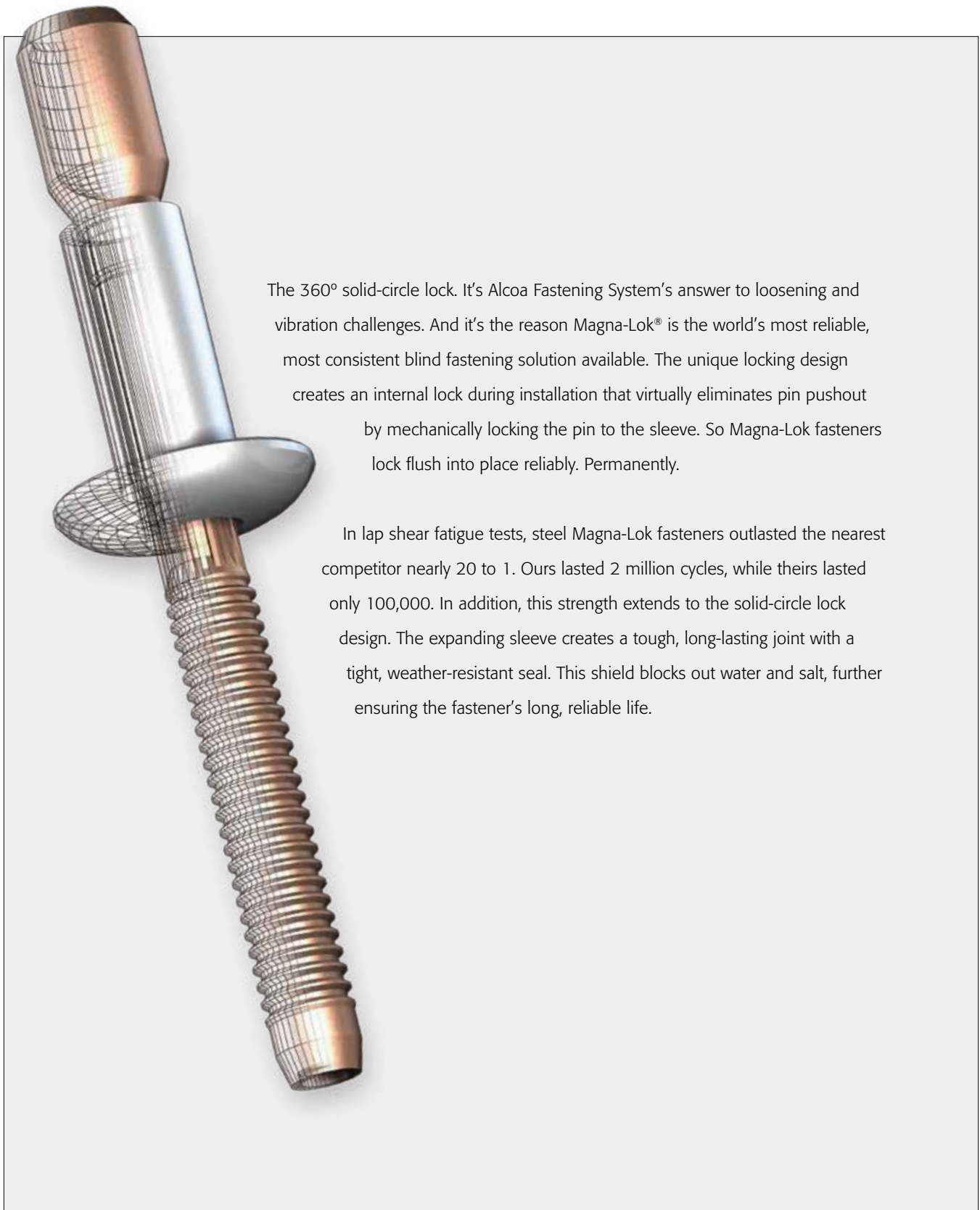
Solid circle lock  
Fast installation  
Vibration resistant

3/16"-1/2"



# Huck Magna-Lok®

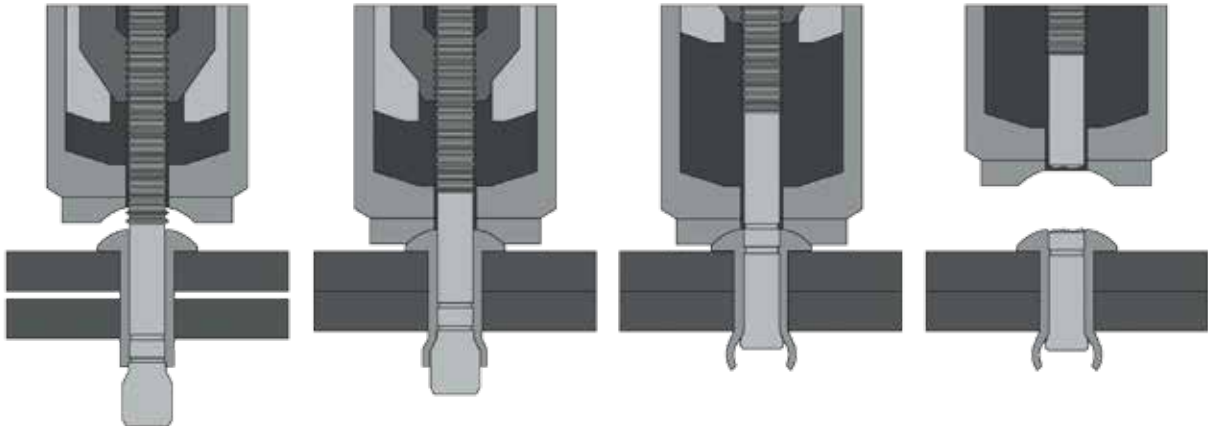
Magna-Lok®. For a variety of applications, nothing else will do.



The 360° solid-circle lock. It's Alcoa Fastening System's answer to loosening and vibration challenges. And it's the reason Magna-Lok® is the world's most reliable, most consistent blind fastening solution available. The unique locking design creates an internal lock during installation that virtually eliminates pin pushout by mechanically locking the pin to the sleeve. So Magna-Lok fasteners lock flush into place reliably. Permanently.

In lap shear fatigue tests, steel Magna-Lok fasteners outlasted the nearest competitor nearly 20 to 1. Ours lasted 2 million cycles, while theirs lasted only 100,000. In addition, this strength extends to the solid-circle lock design. The expanding sleeve creates a tough, long-lasting joint with a tight, weather-resistant seal. This shield blocks out water and salt, further ensuring the fastener's long, reliable life.

## Installation Sequence



Insert the fastener into the hole and slip the installation tool over the pintail.

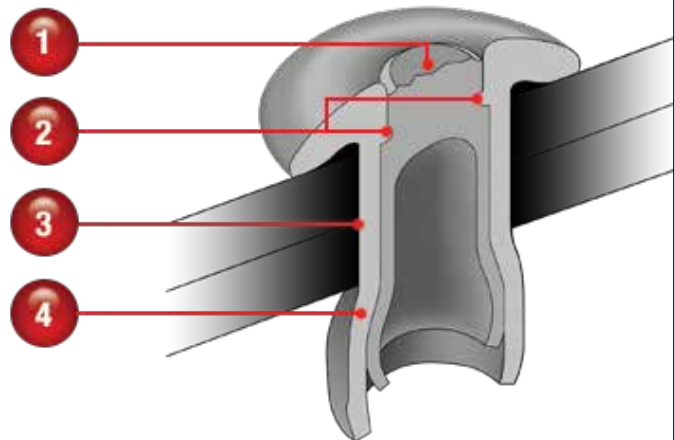
Press the trigger to initiate pulling action. As the tool pulls on the pintail, the pin (mandrel) expands the sleeve and begins drawing the work pieces together.

Continued pulling on the pintail draws the hollow pin head inside the sleeve. The pin extrudes itself inside the sleeve and the work pieces completely expand the sleeve to match the hole of the work pieces.

A solid circle lock between the pin and sleeve is formed just prior to the pin breaking flush with the sleeve head, completing the installation.

### Secure, fast installation.

1. Flush pin break eliminates grinding and filling, leaving an even surface.
2. Unique solid-circle lock ensures maximum strength and resistance to vibration. The potential for pin push-out is virtually eliminated.
3. Excellent gap pull-out and high retained clamp.
4. The sleeve expands during installation to fill the hole and create a moisture-resistant joint.

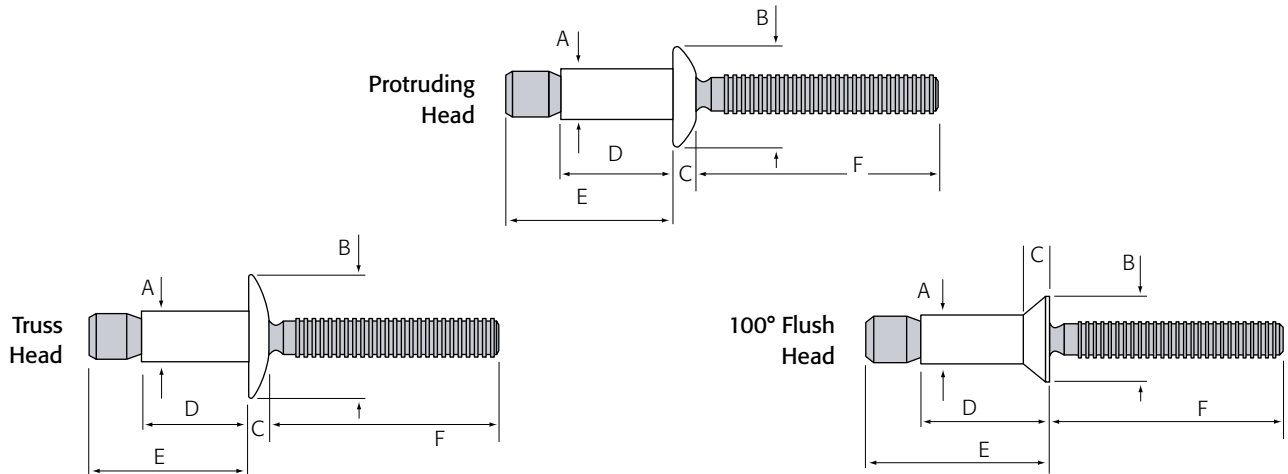


### Magna-Lok® benefits

- Unmatched installation speed
- Low overall installed cost
- Vibration resistance
- Weather-resistant seal
- Quiet non-torque tools
- No repetitive stress injuries
- Eliminates need for secondary operations
- No special training or skills required for operators

# Data and dimensions

## Head style options



### Protruding Head Dimensions

Diameter	Steel (R)	Aluminum (B)	Stainless (U)	Grip Range	Hole Size	A Nom	B Max	C Max	D Max	E Max	F Min
6 (3/16")	MGLP-R6-4	MGLP-B6-4	MGLP-U6-4	.062 - .270	.191 - .201	.187	.385/.392(U)	.085/.101(U)	.415	.733/.728(U)	.980/969(U)
	MGLP-R6-7	MGLP-B6-7	MGLP-U6-7	.214 - .437	.191 - .201	.187	.385/.392(U)	.085/.101(U)	.582	.892/.889(U)	0.968/.955(U)
	MGLP-R6-E	MGLP-B6-E	MGLP-U6-E	.062 - .437	.191 - .201	.187	.385/.392(U)	.085/.101(U)	.582	1.031/1.026(U)	.991/.98(U)
	MGLP-R6-10		MGLP-U6-10	.455 - .665	.191 - .201	.187	.385/.392(U)	.085/.101(U)	.810	1.106	.941/.925 (U)
8 (1/4")	MGLP-R8-6	MGLP-B8-6	MGLP-U8-6	.080 - .375	.261 - .272	.253	.530	.120	.560	.984	1.043/1.046(B)
	MGLP-R8-10	MGLP-B8-10	MGLP-U8-10	.350 - .625	.261 - .272	.253	.530	.120	.810	1.234	1.043/1.046(B)
	MGLP-R8-14	MGLP-B8-14		.580 - .875	.261 - .272	.253	.530	.120	1.060	1.484	1.043/1.046(B)
	MGLP-R8-18			.830 - 1.125	.261 - .272	.253	.530	.120	1.310	1.734	1.043
	MGLP-R8-22	MGLP-B8-22		1.080 - 1.375	.261 - .272	.253	.530	.120	1.560	1.984	1.295
	MGLP-R8-E	MGLP-B8-E	MGLP-U8-E	.080 - .625	.261 - .272	.253	.530	.120	.810	1.419/1.415(B)	1.043/1.048(B)
12 (3/8")	MGLP-R12-12	MGLP-B12-12	MGLP-4U12-12	.120 - .625	.392 - .408	.386	.793	.175	.845	1.476	1.545
	MGLP-R12-18	MGLP-B12-18	MGLP-4U12-18	.625 - 1.125	.392 - .408	.386	.793	.175	1.410	2.101	1.475
16 (1/2")	MGLP-R16-12	MGLP-B16-12		.160 - .750	.531 - .563	.514	1.060	.240	1.406	2.268	1.208

### Truss Head Dimensions

Diameter	Steel (R)	Aluminum (B)	Stainless (U)	Grip Range	Hole Size	A Nom	B Max	C Max	D Max	E Max	F Min
6 (3/16")	MGLT-R6-4	MGLT-B6-4	MGLT-U6-4	.062 - .270	.191 - .201	.187	.530	.095/.104(U)	.415	.733	.973/.964(U)
	MGLT-R6-7	MGLT-B6-7	MGLT-U6-7	.214 - .437	.191 - .201	.187	.530	.095/.104(U)	.582	.892	.961/.952(U)
	MGLT-R6-E	MGLT-B6-E		.062 - .437	.191 - .201	.187	.530	.095	.582	1.031	.984
8 (1/4")	MGLT-R8-6	MGLT-B8-6		.080 - .375	.261 - .272	.253	.592	.120	.560	.984	1.043/1.046(B)
	MGLT-R8-10	MGLT-B8-10		.350 - .625	.261 - .272	.253	.592	.120	.810	1.234	1.043/1.046(B)
	MGLT-R8-E	MGLT-B8-E		.080 - .625	.261 - .272	.253	.592	.120	.810	1.419	1.043/1.046(B)

### 100° Flush Head Dimensions

Diameter	Steel (R)	Aluminum (B)	Stainless (U)	Grip Range	Hole Size	A Nom	B Max	C Max	D Max	E Max	F Min
6 (3/16")	MGL100-R6-6	MGL100-B6-6	MGL100-U6-6	.125 - .331	.191 - .201	.187	.350	.080	.490	.809 .804(U)	.987/.992(U)
	MGL100-R6-9	MGL100-B6-9	MGL100-U6-9	.305 - .500	.191 - .201	.187	.350	.080	.660	.968/.965(U)	.975/.978(U)
8 (1/4")	MGL100-R8-8	MGL100-B8-8	MGL100-U8-8	.160 - .475	.261 - .272	.253	.410	.090	.665	1.089/1.085(U)	1.055/1.058(B)/ 1.059(U)
	MGL100-R8-12	MGL100-B8-12	MGL100-U8-12	.415 - .725	.261 - .272	.253	.410	.090	.915	1.339/1.335(U)	1.055/1.058(B)/ 1.059(U)
	MGL100-R8-E16.4			.470 - 1.000	.261 - .272	.253	.410	.090	1.185	1.798	1.154
12 (3/8")	MGL100-R12-12	MGL100-B12-12		.240 - .750	.392 - .408	.386	.632	.134	1.030	1.662	1.533
	MGL100-R12-20	MGL100-B12-20		.740 - 1.250	.392 - .408	.386	.632	.134	1.530	2.222	1.528
16 (1/2")	MGL100-R16-12	MGL100-B16-12		.375 - .750	.531 - .563	.514	.870	.197	1.360	2.206	1.503

## Installed Values in Nominal Grip

Material	Diameter	Shear		Tensile		Pin Retention	
		Min	Typical	Min	Typical	Min	Typical
Steel	6 (3/16")	1300	1450	1000	1200	150	250
	8 (1/4")	2500	2750	1850	2200	300	400
	10 (3/8")	6000	6300	4000	5000	600	1000
	16 (1/2")	10000	11200	7000	9400	1000	1700
Aluminum	6 (3/16")	600	700	500	580	75	150
	8 (1/4")	1300	1300	890	950	100	220
	12 (3/8")	2950	3000	1900	2100	250	450
	16 (1/2")	5100	5400	4100	4300	400	800
300 Series Stainless	6 (3/16")	1300	1400	950	1100	100	125
	8 (1/4")	2350	2500	1800	2000	200	250

### The grip range view



For applications requiring a wide grip range, or multiple applications with similar requirements, the extended-grip Magna-Lok is capable of spanning the range of several conventional blind rivets. This versatility can eliminate as many as six standard rivets, reducing inventory, rework, and cost. Shown here, the MGLP-R8-E performs perfectly at .080 inch or .625 inch.

### The installed view



Magna-Lok's internal 360° solid-circle lock ensures a flush pin break each and every time. This unique feature also assures a uniform blind-side footprint throughout the grip range. Combined with the hole filling feature, the Magna-Lok produces consistent mechanical values.



# Huck Magna-Lok® Installation Tooling

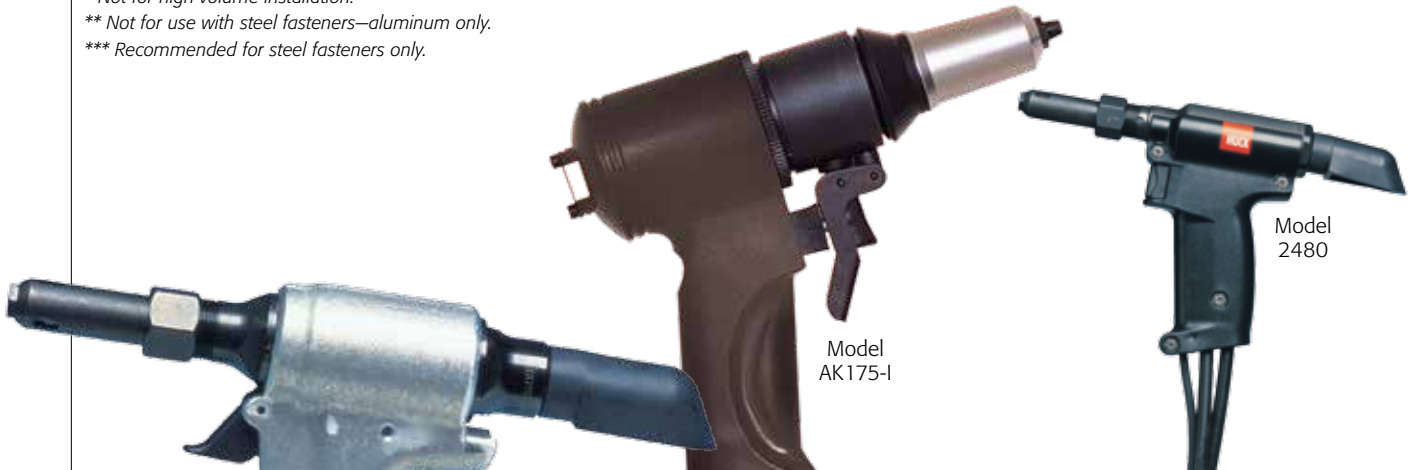
## Installation Tools

Pneudraulic Tools								Hydraulic Tools			
Tool Model	Size	255/256	2015	2022	2024	2025	AK175-I*	2480	2503	2580	2620-PT
Nose Assembly	3/16"	99-3327	Included	99-3303	99-3303	99-3303	120982	99-3303			
	3/16" & 1/4"	99-3321-68*		99-3487*	99-3487*	99-3487*					
	1/4"	99-3228	Included**	99-3305	99-3305	99-3305	202142	99-3305			
	3/8"	99-3318								99-3318	
	1/2"	99-3330**							99-3330**		99-3331***

\* Not for high volume installation.

\*\* Not for use with steel fasteners—aluminum only.

\*\*\* Recommended for steel fasteners only.



Model 2025

Model AK175-I

Model 2480

### Tooling weight and dimensions

Model	Type	Weight	Length	Height	Width
255	pneudraulic	8.8 lbs	7.1"	14.9"	4.6"
256	pneudraulic	11.1 lbs	7.8"	14.9"	6.1"
2015	pneudraulic	4.9 lbs	10.6"	12"	3.5"
2022	pneudraulic	5.4 lbs	9.2"	12.5"	4.4"
2024*	pneudraulic	5.75 lbs	8.9"	12.6"	4.4"
2025	pneudraulic	5.75 lbs	8.4"	12.5"	4.4"
AK175-I**	pneudraulic	28 oz.	7.2"	6"	1.0"
2480	hydraulic	2.2 lbs	8.6"	6.5"	1.9"
2503	hydraulic	4.6 lbs	9.3"	5.9"	2.0"
2580	hydraulic	6.6 lbs	8.4"	6.5"	2.2"
2620-PT	hydraulic	10.0 lbs	10.2"	7"	2.8"

\* Recommended for high volume production.

\*\* Not recommended for high volume production.

# Ordering Information

Follow the form below to construct a part number for ordering Huck Magna-Lok blind fasteners. Refer to the Grip Data chart for grip numbers.

## Ordering Information

MGL (HEAD STYLE) - (MATERIAL) (DIAMETER) - (GRIP NUMBER)

Example: MGLP-R6-4 is a Protruding Head Magna-Lok, Steel, 3/16" Diameter.

Head Style	Prefix	Material	Code	Diameter	Code
Protruding Head	P	Steel	R	3/16"	6
Truss Head	T	Aluminum	B	1/4"	8
100° Flush Head	100	Stainless Steel	U	3/8"	12
		430 Stainless Steel	4U	1/2"	16

## Materials and Finishes

Material	Sleeve	Pin	Sleeve Finish*	Pin Finish*	Code
Steel	Low Carbon Steel	Medium Carbon Steel	Zinc Plated Clear Chromate	Zinc Plated Clear Chromate	R
Aluminum	5000 Series	7000 Series	Clear Chromate	Clear Chromate	B
Stainless Steel	300 Series	300 Series	Passivated	Dry Lubricated	U
400 Series Stainless Steel	430 Series	300 Series	Passivated	Dry Lubricated	430U
400 Series Stainless Steel	430 Series	410 Series	Passivated	Dry Lubricated	4U

Contact Manufacturer for other available/possible finishes.





For more than 120 years, the name Alcoa has been recognized worldwide as a strong leader in product quality and customer support. These strengths are found in every product manufactured for Alcoa Fastening Systems, offering the greatest breadth and depth of fastening system solutions in the industry.

Alcoa Fastening Systems (AFS) maintains company offices in the United States and in many other countries. AFS fastener distributors are also located in many of the world's industrial centers, where they provide a ready source of AFS fasteners, installation tools, tool parts, and application assistance.

## Americas

Industrial Fastener Division  
8001 Imperial Drive  
Waco, TX 76712, USA  
P.O. Box 8117  
Waco, TX 76714-8117, USA  
Tel: 800 388 4825  
Fax: 800 798 4825

Installation Tool Division  
1 Corporate Drive  
Kingston, NY 12401, USA  
Tel: 800 278 4825  
Fax: 845 334 7333

AFS Industrial Distribution  
Group Headquarters  
1925 North MacArthur Drive  
Tracy, CA 95376, USA  
Tel: 800 826 2884  
Fax: 209 839 3022

AFS Industrial Distribution  
14300 Clay Terrace Blvd.  
Suite 250  
Carmel, IN 46032, USA  
Tel: 800 826 2884  
Fax: 800 573 2645

Latin America Sales  
Avenida Parque Lira  
79-402 Tacubaya  
Mexico C P 11850  
Tel: +52 55 5515 1776  
Fax: +52 55 5277 7564

Brazil Sales  
Av. Nações Unidas, 12.901  
Torre Oeste, 3º andar  
São Paulo – SP – Brasil  
04578-000  
Tel: 0800 015 9888  
Fax: +55 11 5509 0200

## International Locations

India Operations  
Unit no. 28, Chowringhee Court  
55/1, Chowringhee Road  
Kolkata – 700071  
India  
Tel: +91 33 4069 9170/80  
Fax: +91 33 4069 9184

Japan/Korea Sales  
Alcoa Japan Ltd.  
#1013 NBF Hibiya Bldg.  
Uchisaiwai-cho, Chiyoda-ku  
Tokyo 100-1011  
Japan  
Tel: +81 3 3539 6577  
Fax: +81 3 3539 6585

Melbourne Operations  
1508 Centre Road  
Clayton, Victoria, 3168  
Australia  
Tel: +61 3 8545 3333  
Fax: +61 3 8545 3390

Suzhou Sales  
58 Yinsheng Road, Shengpu  
Suzhou Industrial Park  
Suzhou Jiangsu 215126  
China  
Tel: 0512 62823800-8888  
Fax: 0512 62863810

Telford Operations  
Unit C, Stafford Park 7  
Telford, Shropshire TF3, 3BQ  
United Kingdom  
Tel: +44 1952 2900 11  
Fax: +44 1952 2904 59

Alcoa Fastening Systems  
St Cosme Operations  
9 rue de Cressonnieres  
72110 Saint Cosme en Varais  
France  
Tel: +33 0 2.43.31.41.00  
Fax: +33 0 2.43.31.41.41

Alcoa Fastening Systems  
Kelkheim Operations  
Industriestr. 6  
65779 Kelkheim  
Germany  
Tel: +49 [0] 6195 8050  
Fax: +49 [0] 6195 2001

[AFShuck.net](http://AFShuck.net)  
[youtube.com/AFSindustrial](http://youtube.com/AFSindustrial)

## Disclaimer:

The information contained in this publication is only for general guidance, and is not intended to create any warranty, express, implied, or statutory; all warranties are contained only in AFS's written quotations, acknowledgments, and/or purchase orders. It is recommended that the user secure specific, up-to-date data and information regarding each application and/or use of such products.

**Alcoa  
Fastening  
Systems**

