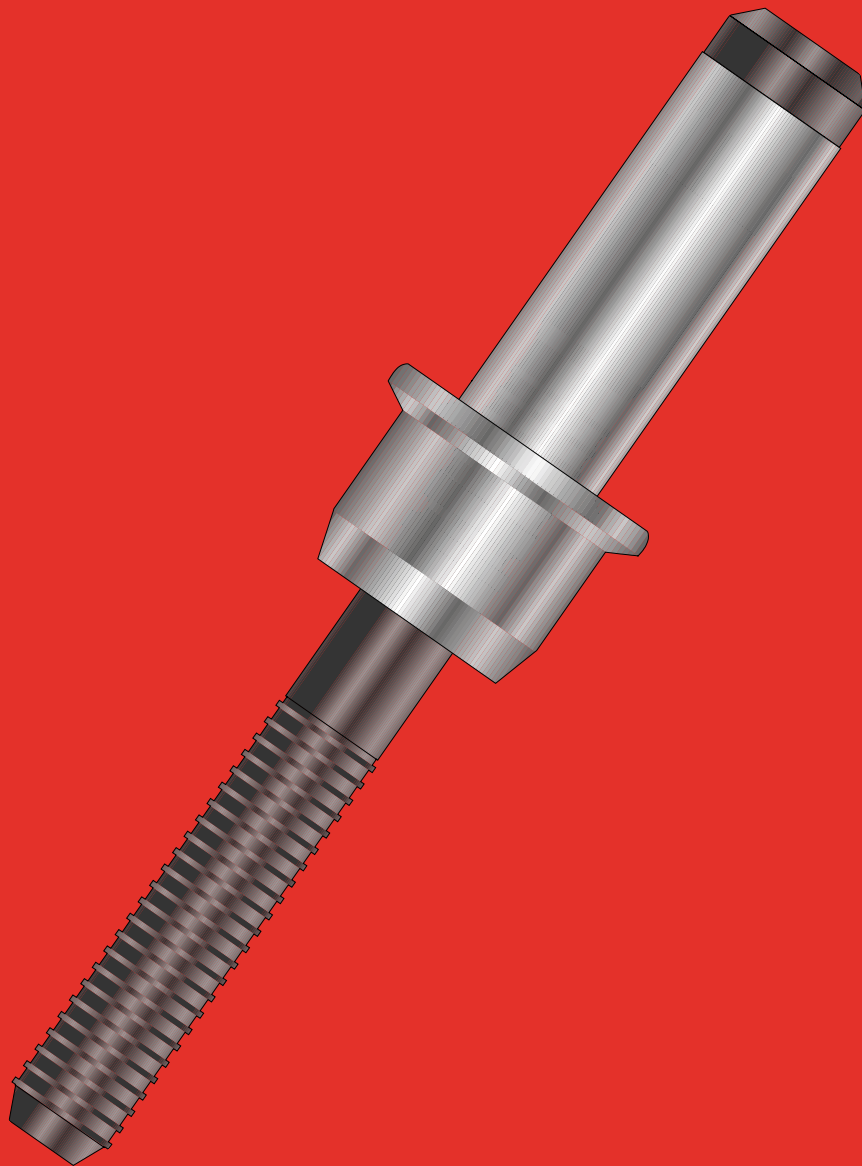


Avbolt® Structural Blind Fastener



Avbolt®

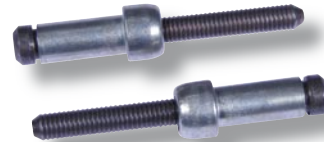
The Avbolt® structural fastener is a high strength, tamper resistant, blind steel fastener designed for use in heavy-duty structural applications such as automotive, construction, container, railway and mining.

It enlarges the wide range of Avdel structural bolts by offering a high tensile and shear strength (normally only possible with non blind lockbolts) with the versatility of single sided installation.

The Avbolt® fastener is ideal for areas with restricted access. It's simple to use with fast, positive single sided installation requiring minimal operator skill. The locking feature creates a vibration resistant joint and prevents loosening stems. Ease of inspection for correct installation and excellent tamper resistance are further advantages.



Avbolt® 3/8" and 5/8" (10 mm and 16 mm):
3 piece design (sleeve, collar, stem)

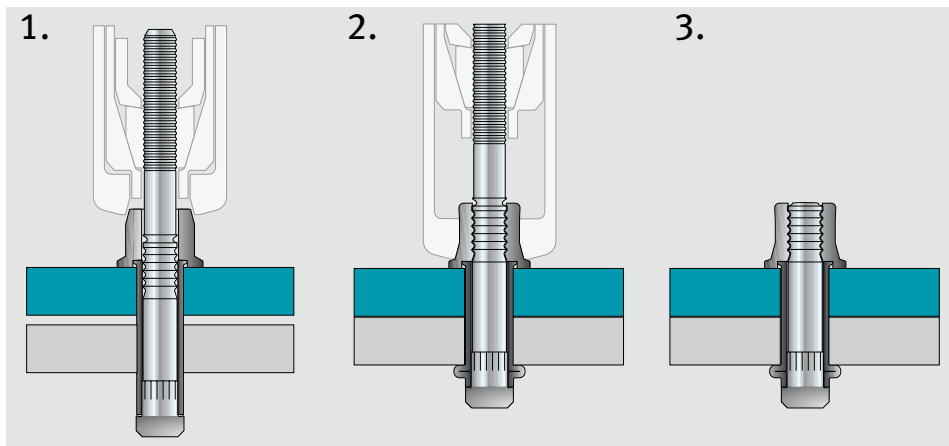


Avbolt® 1/4" (6.4 mm):
2 piece design (sleeve with collar, stem)

Key features and benefits

- Use on blind sided application
- High tensile and shear strength for heavy-duty applications
- High grip capability suits a wide variety of material thicknesses
- Locking feature creates a vibration resistant joint and prevents loose stems
- Ideal for areas with restricted access
- Speed of installation
- Ease of use requires only minimum skill
- Tamper resistant
- Optimised heat treatment

Typical placing sequence (3 piece design)



1. Insert the Avbolt® fastener in the hole and insert the stem into the nose piece of the placing tool.

2. First operation pulls the pintail to form the bulb. The sleeve is band annealed (soft zone) to ensure the bulb forms in exactly the right place. Once the bulb has formed, the clamp up force is applied to the joint pulling the work pieces together. The collar material is then swaged into the pin lock grooves, trapping the clamp up load and forming a tamper proof lock.

3. At a pre-determined load, the pin breaker groove fractures; the pintail is detached and the joint is complete.

Removal

Avbolt® fasteners are designed to create a permanent fixing. This provides security benefits and enables the fastener to be TIR approved. If removal is needed, the fasteners can be removed using an angle grinder and punch. For details see removal procedure on the Avdel website.

Structural Blind Fastener for Heavy Duty Applications

Range

- Steel fastener
- 1/4" (6.4 mm) with 11 different lengths to cover thickness from 0.093" to 0.783" (2.36 mm to 19.89 mm)
- 3/8" (10 mm) with 9 different lengths to cover thickness from 0.188" to 1.313" (4.78 mm to 33.35 mm)
- 5/8" (16 mm) with 5 different lengths to cover thickness from 0.250" to 1.500" (6.35 mm to 38.10 mm)
- Uses standard Avdel tools at the rate of 12 per minute



3/8" (10 mm) Avbolt® fastener range

Material and finish

Stem	- Alloy steel - Black oxide
Sleeve	- Carbon steel - Zinc plated and clear passivated (Chrome-VI free) to achieve 240 hours resistance to red corrosion (ASTM B117)
Collar	- Carbon steel - Zinc plated and clear passivated (Chrome-VI free) to achieve 240 hours resistance to red corrosion (ASTM B117)

Special plating options may be available on request.

Placing performance

When an Avbolt® fastener is placed in maximum recommended grip, the stem breaks flush to the collar. When placed in minimum grip, the stem breaks above collar and the bulb is spreading more providing a larger foot print. The flange on the collar ($\geq 3/8"$, ≥ 10 mm) prevents the anvil from contacting and damaging the work surface.



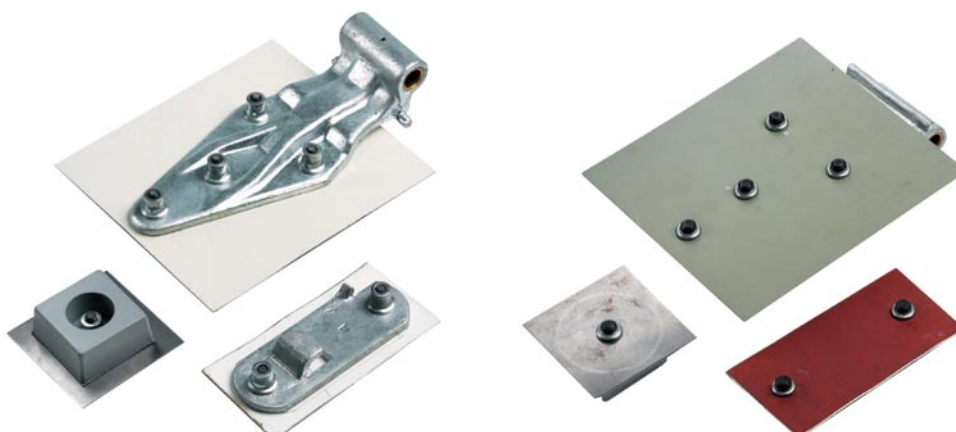
Avbolt® fastener in max. and min. grip, front side of the work piece



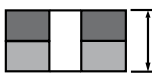

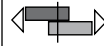

Avbolt® fastener in max. and min. grip, rear side of the work piece

Assembly applications

- Automotive
- Construction
- Container
- Railway
- Mining



Typical values of the standard Avbolt® fastener

Ø							Max underhead length				Part No/ref
nom.	inch		mm		min.	max.	inch	mm	min.	min.	
1/4" (6.4 mm)	0.093	0.157	2.36	3.99	0.277" 7.04 mm	0.292" 7.42 mm	0.650	16.51	5100 lbf 22.69 kN	3250 lbf 14.46 kN	21021-00802
	0.157	0.220	3.99	5.59			0.713	18.11			21021-00803
	0.220	0.282	5.59	7.16			0.775	19.69			21021-00804
	0.282	0.345	7.16	8.76			0.838	21.29			21021-00805
	0.345	0.407	8.76	10.34			0.900	22.86			21021-00806
	0.407	0.470	10.34	11.94			0.963	24.46			21021-00807
	0.470	0.532	11.94	13.51			1.025	26.04			21021-00808
	0.532	0.595	13.51	15.11			1.088	27.64			21021-00809
	0.595	0.657	15.11	16.69			1.150	29.21			21021-00810
	0.657	0.720	16.69	18.29			1.213	30.81			21021-00811
	0.720	0.783	18.29	19.89			1.275	32.39			21021-00812
	3/8" (10 mm)	0.188	0.313	4.78			7.95	0.413" 10.49 mm			0.435" 11.05 mm
0.313		0.438	7.95	11.13	1.113	28.27	21001-01206				
0.438		0.563	11.13	14.30	1.238	31.45	21001-01208				
0.563		0.688	14.30	17.48	1.363	34.62	21001-01210				
0.688		0.813	17.48	20.65	1.488	37.80	21001-01212				
0.813		0.938	20.65	23.83	1.613	40.97	21001-01214				
0.938		1.063	23.83	27.00	1.738	44.15	21001-01216				
1.063		1.188	27.00	30.18	1.863	47.32	21001-01218				
1.188		1.313	30.18	33.35	1.988	50.50	21001-01220				
5/8" (16 mm)		0.250	0.500	6.35	12.70	0.687" 17.45 mm	0.728" 18.49 mm		1.549	39.35	
	0.500	0.750	12.70	19.05	1.799			45.70	21001-02008		
	0.750	1.000	19.05	25.40	2.049			52.05	21001-02012		
	1.000	1.250	25.40	31.75	2.299			58.40	21001-02016		
	1.250	1.500	31.75	38.10	2.549			64.75	21001-02020		

722 Installation tool

- For Avbolt® 1/4" (6.4 mm)
- Hydro-pneumatic tool
- Robust and durable construction
- Cast aluminium tool body
- High reliability
- Designed for heavy duty use over long periods of time



734 Installation tool

- For Avbolt® 3/8" and 5/8" (10 mm and 16 mm)
- Mounted on castors
- Available in voltages from 220/1Ph to 525/3Ph (110V optional)
- Ease of operation
- Switches to 'sleep' mode after a pre-selected time
- Secure, long lasting assembly at high speed



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