

## Speed Fastening® Systems

Reduce Assembly Costs with the most effective blind fastening technology.

Holding your world together®



## Speed fasteners

High precision, system-compatible function, ease of operation and quick processes are guaranteed because you can fasten continuously from magazine or bowl fed fasteners and place up to 60 fasteners per minute. For fast and reliable assembly processes.

Speed Fastening Systems can reduce assembly costs, shorten cycle times, increase productivity and reduce rework and other quality costs. Speed Fastening Systems are well suited for use in small, medium and large batch processes as well as continuous production lines.

## Installation

For smaller batches, we offer a choice of power tools and simple assembly workstations. For larger batches, multihead systems offer a cost effective solution. For continuous flow lines, we have the technology to develop fully automated assembly systems.

## Applications

Speed Fastening Systems can be used to assemble metal and plastics, composite material and electronic components. With an average cycle time of less than two seconds, these systems provide a fast installation from one side (blind).

## Mission

Together with our customers, we develop blind fastening systems that simplify your production process and improve the quality of your products. In every case, we not only see ourselves as a provider of fasteners, tools and machines but as a development and system partner with the objective of helping our customers improve their assembly performance.



# Speed Fastening<sup>®</sup> Systems

Speed Fastening is a unique assembly system designed for rapid and reliable fastening in medium and high volume applications. Originally designed for the aviation industry, Speed Fastening Systems are now used by many of the world's foremost manufacturing companies in sectors as diverse as household goods, lighting, electronic sub-assemblies, light metal fabrication and automotive. Speed fasteners are available in a wide range of materials, finishes, lengths and diameters and are ideal for fastening metals, plastics, composites and electronic components.

Speed fasteners are single piece fasteners which are either magazine fed or fed via a vibrating bowl to a wide choice of installation equipment. This ranges from the ultra-lightweight 753 power tool to fully automated, state of the art assembly systems.

## Benefits of assembly

### Increased manufacturing throughput

A Speed Fastening System can be fully optimised to give cycle times of less than two seconds. This rapid, blind sided process delivers a throughput up to four times greater than a traditional threaded or riveted solution.

### Reduced component handling

The fasteners are fed via a magazine or into a bowl feeder. This eliminates the need for individual component handling, saves time and reduces the potential for operator injury.

### No component spillage

Because the fasteners are captively held they will not be dropped onto the floor or into the application. This avoids wasted time and improves product quality while improving the work environment.

### No stem loss

Traditional breakstem rivets all too often suffer from stem loss once installed. This can lead to application rattle, electrical short circuits or worse. Speed fasteners have no stems.

### Improved joint quality

Speed installation technology provides a consistent, repeatable joint. What's more, unlike threaded fasteners, there is no requirement for torque control – no more problems of stripped holes or loose joints.

### Improved joint performance

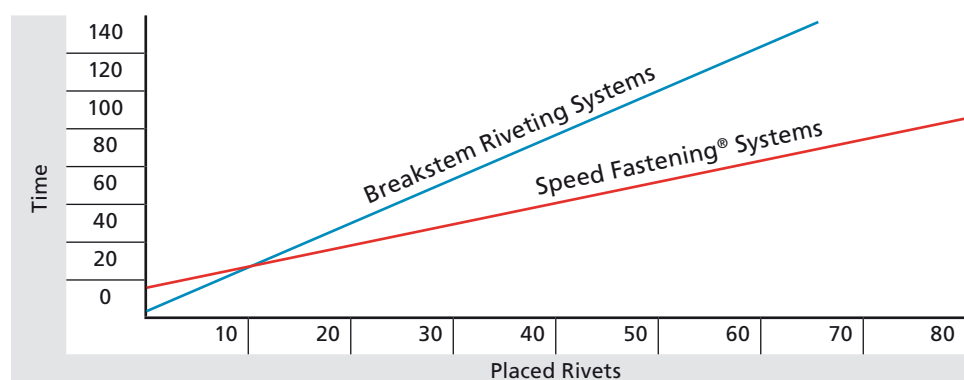
Once installed speed fasteners give excellent clamp up, shear and tension performance. They are also virtually immune from vibration loosening.

### Process flexibility










Speed Fastening Systems can be used for low volume, off-line batch or jobbing shop work through to flow line processes. From hand held power tools to multi-headed modular workstations, we can design a Speed Fastening System to suit your assembly requirements. A wide variety of products in many industries are assembled with these systems including automotive, electronics, domestic appliance and general industrial.

## Time Analysis

Speed Fastening is the more efficient system after only 10 placed rivets.



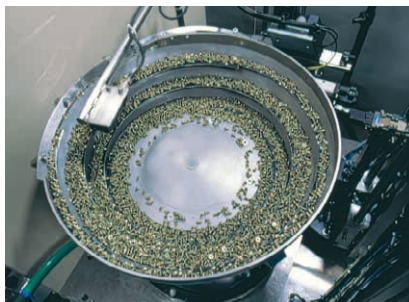
# Range Overview

Brand		Material	Key features
NeoSpeed®		Aluminium Alloy Steel Stainless Steel A4	Wide grip range High joint clamp Hole filling Very high strength
Briv®		Aluminium Alloy Steel Stainless Steel A2 Brass	Bulbed tail form Large headform High joint clamp Good joint gap closure
Rivscrew®		Steel	Threaded fastener Removable with hex key and reusable Fastens into materials up to Vickers hardness 105 Hv5
Chobert®		Aluminium Alloy Steel Brass	Internal tapered bore Controlled clamp High shear Ideal for soft and brittle materials
Double Flush Chobert®		Steel	Flush surface on both sides of the joint Reduces excess space requirements within the chassis
Grovit®		Aluminium Alloy Steel	Designed for blind hole applications Annular grooves on body For use in wood, plastics, fibreglass and aluminium
Avtronic®		Brass Aluminium Alloy	Attaches DIN 41612 connectors and other components to PCBs Annular grooves on body
Avsert®		Brass	Threaded stand-off pillars for PCBs Internally threaded bore Many stand-off heights
Avlug®		Brass	Solderable terminal posts for PCBs Rolled/knurled shank

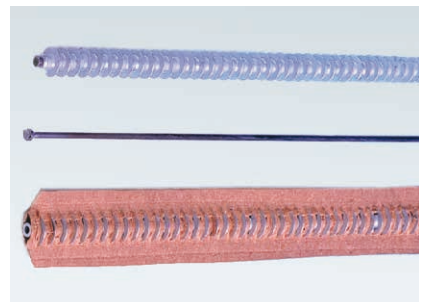
Assembly with standard tool



Fasteners fed via a vibrating bowl



Magazine fed fasteners



# Specifying a Speed Fastening® System

To optimise the performance of your Speed Fastening System, it is important to select the correct combination of fastener, nose equipment, mandrel and follower spring. It is also critical to ensure that the combination selected is suited for use with your choice of installation process. If you need any help in specifying the required components, do not hesitate to contact your local STANLEY Engineered Fastening representative. Further information on corrosion, safety and RoHS can be found on our website [www.StanleyEngineeredFastening.com](http://www.StanleyEngineeredFastening.com).

## Fastener Selection

### Standard Fasteners

#### Removability

Rivcrew® fasteners are ideal for applications requiring disassembly for repair or rework. They can simply be unscrewed using a standard hexagonal allen key.

#### Clamp

Briv® fasteners should be specified in applications requiring high clamp loads. NeoSpeed® fasteners combine high clamp throughout a wide grip range. Chobert® fasteners provide a lighter, controlled clamp making them ideal for softer or low strength materials.

#### Head Style

Fasteners are available with dome head. NeoSpeed®, Briv® and Chobert® are also available with countersunk head style. Other head diameters may also be available as specials – please contact your local STANLEY Engineered Fastening representative.

### Specialist Fasteners

#### Avtronic®

Designed for attaching DIN and other connectors, card ejectors and heatsinks to printed circuit boards.

#### Avsert®

Cost effective stand-off pillars for printed circuit boards.

#### Avlug®

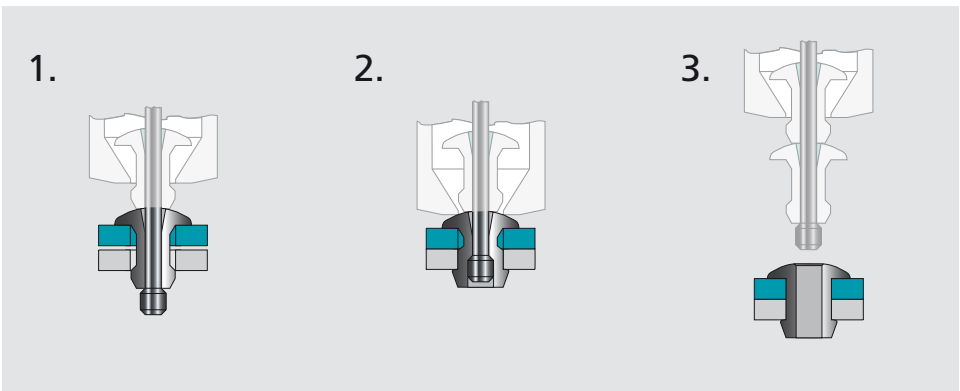
Cost effective terminal posts for printed circuit boards.

### Fastener Material & Surface Finish

Speed fasteners are available in Stainless Steel, Steel, Aluminium and Brass. The choice of material should be made on the basis of performance (shear and tensile strength), suitability for use with the parent material and corrosion resistance. For performance data please see the relevant technical data sheets.



# Typical placing sequence



1. The mandrel with pre-loaded fastener is located in the hole.

2. Tool activation pulls the mandrel through the fastener, expanding it within the hole to provide high clamp and secure joints.

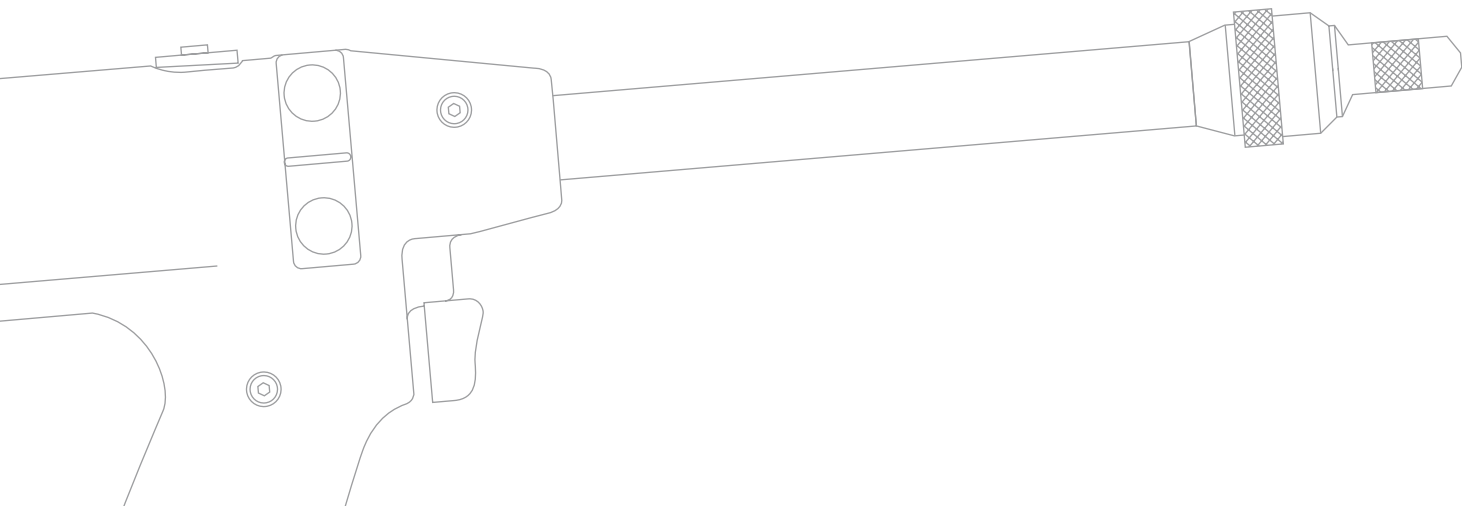
3. At the end of the installation cycle, the next fastener is automatically delivered to the nose of the tool, ready to repeat the assembly process.

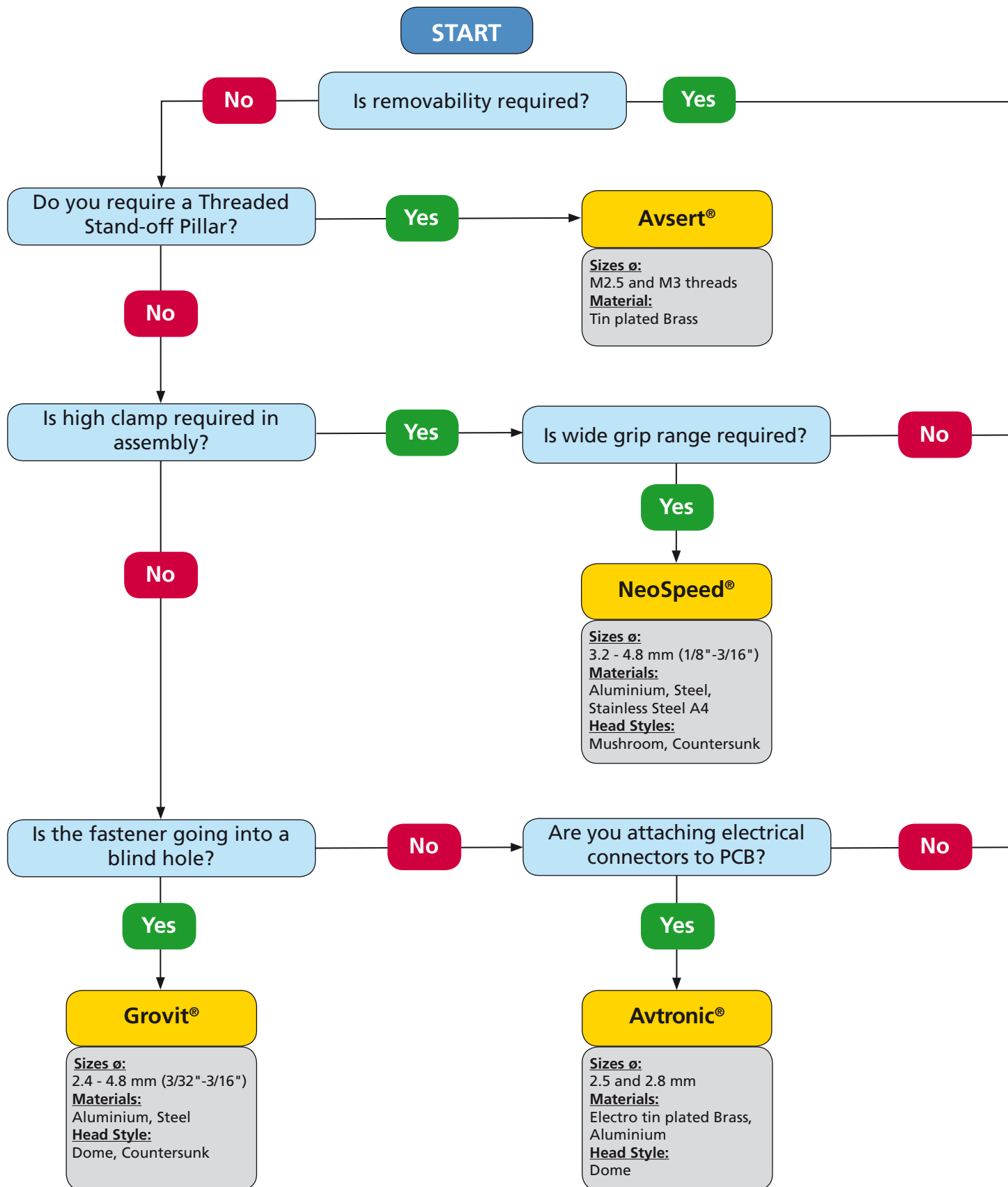
Please visit our website [www.StanleyEngineeredFastening.com](http://www.StanleyEngineeredFastening.com) for fastener placing animations.

# The surface finishes for our speed fasteners are as follows:

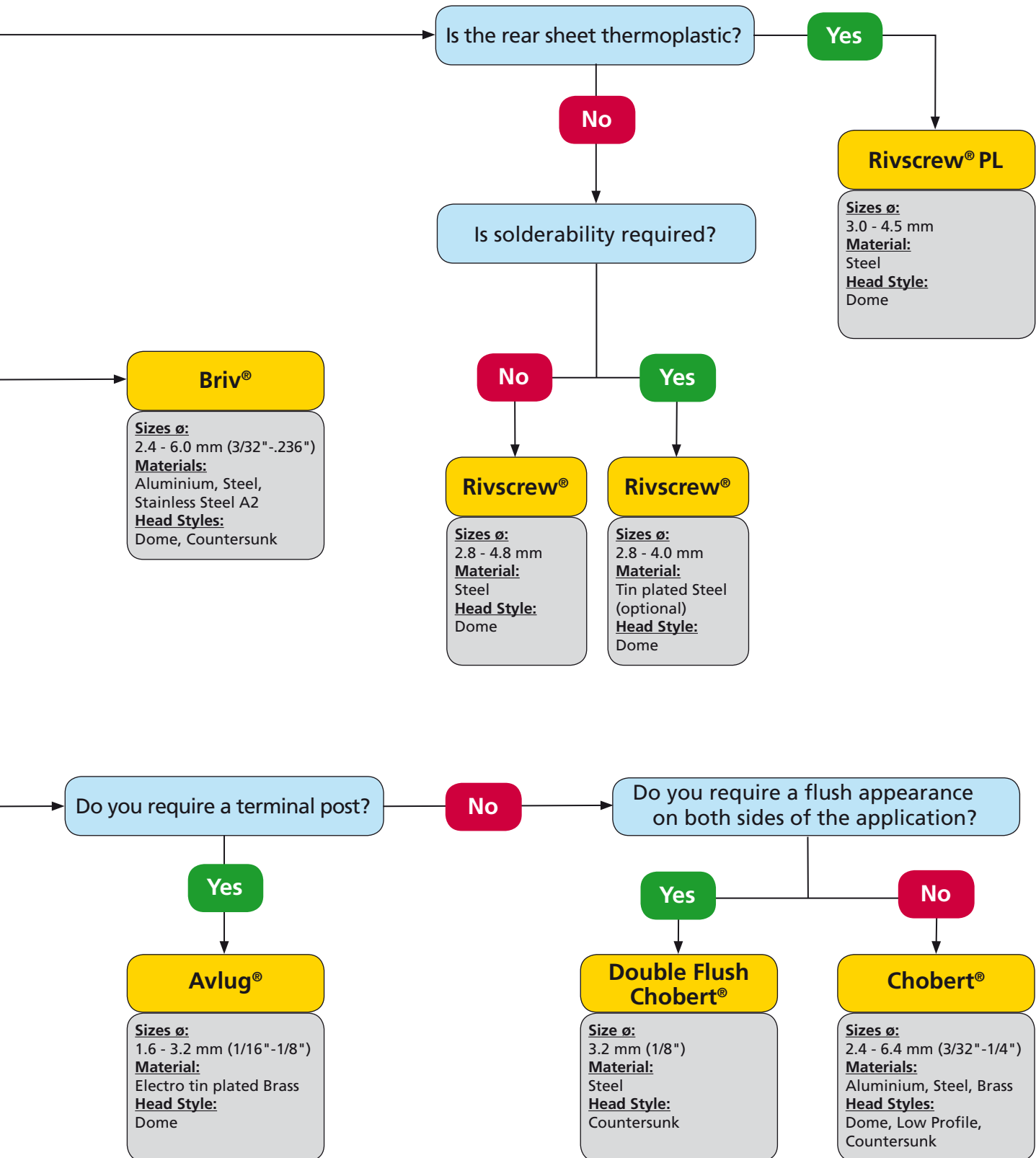
Steel	Zinc plate and clear passivation Option: Epoxy paint Zinc-nickel (with clear or black passivation) Organic coatings
Aluminium Alloy	Natural Option: Anodising (clear or colour dyed) Epoxy paint
Stainless Steel	Passivated
Brass	Brightened Tin plated (for solderability)

Almost all our fastener families may be specified with alternative surface finishes to provide increased corrosion resistance or a specific colour to suit your special application.





This selection guide is designed to illustrate which fasteners may be the most suitable for your application. This guide does not include the full range of POP Avdel products; our Applications Engineers are available to advise as to the best solution for your specific application needs.



# Selection Guide

This table is designed as a guide to help you select the most suitable speed fastener for your particular application. Full technical and performance data for each speed fastener can also be found on our website or contact your local representative.

Product Range	Material						Finish						Head Style			Fastener Size (nom)											Series	Page							
	Aluminium 2.5 % Mg	Aluminium 3.5 % Mg	Aluminium 5 % Mg	Steel	Stainless Steel	Brass	Natural	Zinc plated	Polished/bright	Passivated	Tin plated	Nickel plated	Anodysed red	Dome	Low profile	Countersunk	1.6 mm (1/16")	2.4 mm (3/32")	2.5 mm	2.8 mm	3.0 mm	3.2 mm (1/8")	3.5 mm	4.0 mm (5/32")	4.5 mm	4.8 mm (3/16")	6.0 mm	6.4 mm (1/4")	M2.5	M3	Description	Data Sheet			
NeoSpeed®			•				•							•								•	•	•	•	•					57101	11	28		
				•				•						•								•	•	•	•	•					57121	11	30		
					•				•					•									•	•	•	•	•					57141	11	32	
				•				•								•						•										57221	11	33	
Briv®			•				•							•				•				•	•	•	•	•	•					1801	12	36	
			•				•							•				•				•	•	•	•	•	•					1802	12	38	
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Chobert® Double Flush Chobert®							•							•				•				•	•	•	•	•	•					1861	12	36	
				•				•						•				•				•	•	•	•	•	•					1121	13	45	
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	•						•							•				•				•	•	•	•	•	•					1124	13	51	
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Grovit®	•			•			•							•				•			•	•	•	•	•	•					1162	13	55		
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RivscREW® PL RivscREW®	•						•							•				•				•	•	•	•	•	•					1103	15	59	
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Avtronic®						•								•				•				•	•	•	•	•	•					1772	16	67	
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Avsert®		•					•							•				•				•	•	•	•	•	•					1189	18	73	
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Avlug®						•								•				•				•	•	•	•	•	•		•	•		1118	19	77	
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# NeoSpeed<sup>®</sup> Wide Grip Range

Speed fasteners with a unique splined rivet design combine high clamp throughout a wide grip range - simply the strongest, most versatile speed riveting system in the world.



## Key features and benefits

- The NeoSpeed fastening process delivers a throughput up to four times greater than traditional threaded or breakstem fasteners
- Multi-grip capability accommodates wide variations in material thickness
- One rivet can be used to replace several standard grip fasteners
- External splines fill rear sheet and oversize front sheet holes
- 3x greater hole size tolerance than standard breakstem rivets
- Far less sensitive to application variations
- Easier specification due to one-rivet x one mandrel solution
- Typically half the installed weight versus an equivalent breakstem rivet
- Supply options: paper magazine of fasteners or pre-loaded disposable mandrel (Cartridge)

## Specifications

Sizes:

3.2 mm to 4.8 mm  
(1/8" to 3/16")

Materials:

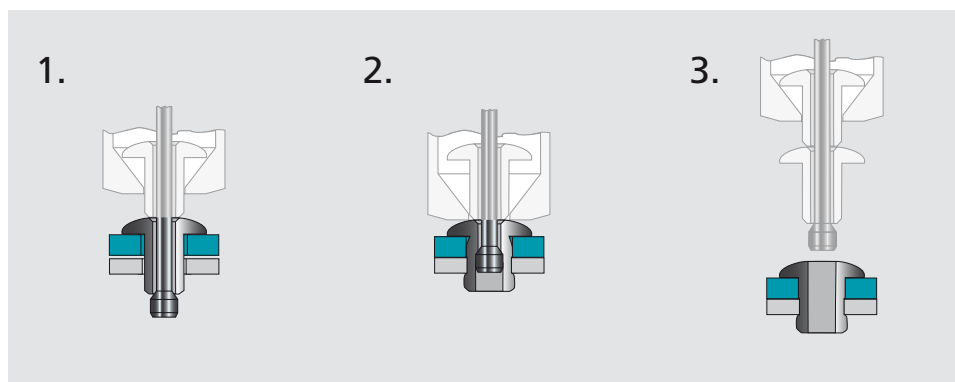
Aluminium Alloy, Steel,  
Stainless Steel A4

Head Styles:

Mushroom , Countersunk

Avdel Patent protected.

## Typical placing sequence



Please visit our website [www.StanleyEngineeredFastening.com](http://www.StanleyEngineeredFastening.com) for fastener placing animations.

## Assembly applications

- Automotive
- Electronics
- Domestic appliances
- Electrical equipment
- General light fabrication

Airbags



Interior



Seat & trim



Heating



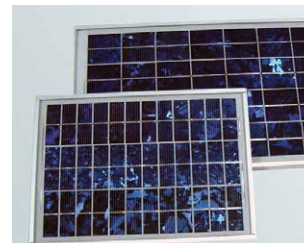
Rapid action door



Computer cabinet



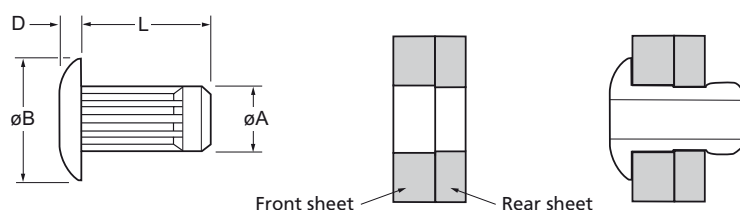
Solar panel










English	Français	Deutsch	Italiano	Español
Mushroom head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
A4 Stainless Steel* Passivated	A4 Inox* Passivation	A4 Edelstahl* Passiviert	A4 Acciaio inox* Passivazione	A4 Acero inoxidable* Pasivado

\*: EN 10263-5 / X3CrNiCuMo17-11-3-2 / Werkstoff 1.4578 / AISI 316Cu



ø			Front sheet Pièce avant / oberes Bauteil / lamiera anteriore / pieza delantera 		Rear sheet Pièce arrière / unteres Bauteil / lamiera posteriore / pieza trasera 		øB	D	L	øA			Fasteners per pod Nombre de rivets par chargeur / Niete pro Magazin / Rivetti per caricatore / Uds./carga	Part No/ref
nom.	min.	max.	min.	max.	min.	max.	max.	max.	max.	max.	kN <sup>1)</sup>	kN <sup>1)</sup>	± 1	
3.2 (1/8")	0.4	2.0	3.35	3.62	3.26	3.42	6.27	1.12	4.8	3.17	1.85	2.75	52	57141-03204
		4.5							37				57141-03207	
		6.6							29				57141-03209	
4.0 (5/32")	0.5	2.2	4.10	4.43	3.97	4.18	7.93	1.25	5.4	3.84	2.80	4.30	47	57141-04005
	0.5	5.0							8.0		2.90	4.00	33	57141-04007
	0.5	7.1							9.7			3.90	28	57141-04009
4.8 (3/16")	0.6	2.4	5.00	5.30	4.85	5.10	9.45	1.50	5.8	4.82	4.40	6.50	44	57141-04805
	0.6	5.2							8.9		5.90	30	57141-04808	
	0.6	7.2							10.9		5.80	25	57141-04810	

all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

1) typical values / valeurs moyennes / typische Werte / Valori tipici / valores típicos