



# Breakstem Systems



Since 1922



Avdel

iForm

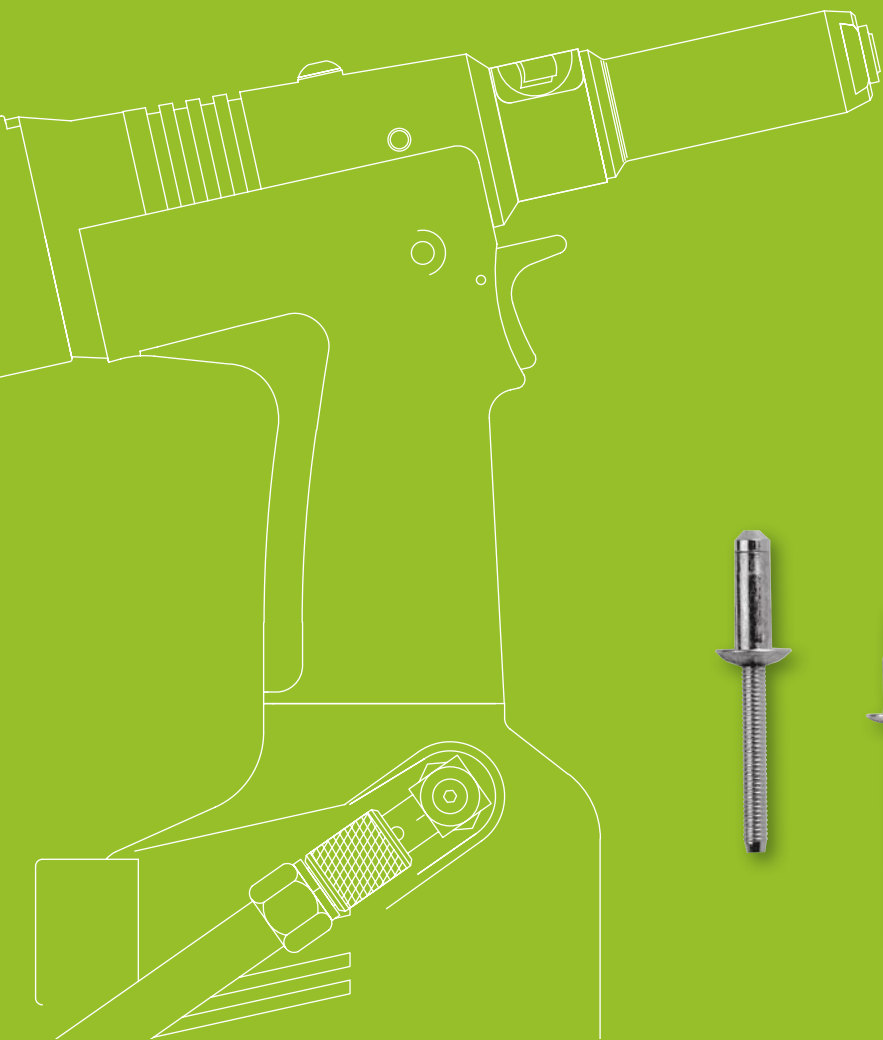
Since 1936

2010



**infastech**

Our Technology, Your Success



## Intelligent Systems for versatile Fastening

Joining components and diverse materials that vary in thickness and composition is a fundamental aspect of Avdel® breakstem fastening systems. The flexibility to meet a wide range of customer requirements ensures that an optimal fastening solution can be tailored to the needs of the application.

Avdel's wide range of breakstem fasteners can be used to fasten a variety of materials including soft, brittle and thin metals and plastics. They are designed to meet the highest quality standards and built to resist the toughest environmental extremities.

Avdel® products have often been designed and developed in collaboration with our customers, thus you can be sure they've been designed with function and practicality at the forefront of the development.

With fastening technology nothing should be left to chance, from conceptual design to the finished article every decision is significant and must be made with the end result in mind. This is inherent to the Avdel® culture, we have highly skilled applications engineers on hand to support your fastening requirements and recommend the best solution for your joining needs.

Avdel® breakstem fasteners are produced from high quality, durable materials manufactured using Avdel's cold forming process. Elements of the fastener design, cold forming process and additional operations produce each fasteners specific performance features and characteristics.

Avdel® breakstem fasteners conform to the requirements of modern installation systems. They can be installed manually or automatically and can easily be integrated into existing installation processes. Avdel® breakstem fastening solutions can be used to simplify production flows and reduce assembly time whilst simultaneously improving quality and performance in the application. Whether you specialise in high volume production or small volume batches we can recommend a fastening solution to match. Our customised Multi-head Assembly Stations can fasten any number of joints in a single operation whilst our hand tools provide flexible assembly solutions in many environments.

In every case see ourselves as not only a provider of fasteners, tools and machines but as a fastening solution partner with the ability to support our customers and help to improve their assembly performance.

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# Avdel® Breakstem Systems

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Avdel® breakstem fasteners and installation tools are a high performance blind fastening system. For 75 years the Avdel® brand has been synonymous with world-leading, blind fastening systems. Used in all manufacturing industries throughout the world, there is an Avdel® breakstem fastener and installation tool to suit virtually every assembly requirement. Key user benefits include:

## Benefits of assembly

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### Extensive Product Choice

The Avdel® breakstem range is now more extensive than ever. A wide choice of headforms, finishes and sizes are available as standard and new products have been introduced to expand the steel and stainless steel product ranges.

### Installation Tools

A comprehensive range of high performance tools ensure reliable and accurate installation of Avdel® breakstem fasteners. Combining the latest design and engineering technology with robust and durable construction, the range includes hydro-pneumatic handtools, a battery powered tool as well as fully automated, customised equipment for high volume production.

### Multi-grip Capability

Stavex®, Avex®, Monobolt® and Klamp-Tite® breakstem fasteners offer multi-grip capability. By accommodating many variations in material thickness, just one fastener can be used in several assembly applications, reducing stock holding, time and costs.

### Complete Hole Fill

Monobolt®, Stavex® and Avex® fasteners offer exceptional hole fill. Expanding to fill oversize, irregular, slotted or misaligned holes they create a high strength, vibration resistant joint.

### Consistent, High Performance

Designed and manufactured to tight tolerances, Avdel® breakstem fastening systems ensure consistently accurate and secure, high strength assembly.

### Retained and Locked Stems

Most Avdel® breakstem fasteners have a retained stem which provides strong, vibration resistant joints without electrical problems or rattling often caused by loose stems. For additional strength, Monobolt®, Interlock® and Klamp-Tite® stems are mechanically locked into the shell head whilst the splined stems of Hemlok® and Q Rivet fasteners form interference locks.

### Structural Assembly

Where load-bearing, structural joints are required, Avibulb® XT, Avinox® XT, Hemlok®, Q Rivet, Interlock® and Monobolt® breakstem fasteners have been designed to offer high shear and tensile strength. The Avbolt® structural blind fastener offers strength values that are normally only possible with non blind lockbolts.

### Customised Designs

As you would expect from a leader in fastening solutions, we have extensive experience in engineering and developing breakstem fasteners and tooling to unique customer requirements and a few examples are detailed in this brochure. Please contact us to discuss your special requirements.

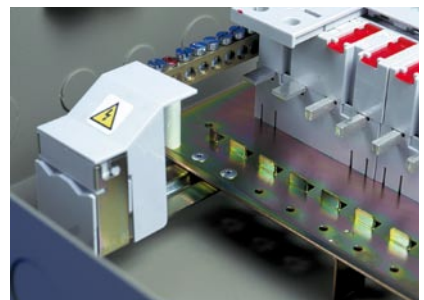
Domestic appliances



Car chassis



Electronic components



# Selecting a Breakstem Fastener

Selecting an Avdel® breakstem fastener is a simple process. The factors detailed below are designed to help you select a fastener suitable for your application:

## Fastener Selection

### Grip Range

The fastener should be selected to ensure that the thickness of the parent material(s) falls within the grip range. Most Avdel® breakstem fasteners offer multi-grip capability, with Monobolt®, Stavex® and Avex® fasteners offering exceptional multi-grip performance.

### Hole Size

This is specified on the relevant technical data sheet for the fastener. It is important to control the hole size accurately in order to ensure optimum fastener performance.

### Corrosion Resistance

The selection of the material type and finish of the breakstem fastener should be made on the basis of the corrosion resistance required. Corrosion is best reduced by selecting a fastener material which is the same as the parent material(s). Stainless steel fasteners offer the best corrosion resistance.

### Special Surface Coatings

For improved corrosion resistance we can apply many protective coatings, including: Delta-Seal®, extra zinc plating, zinc-nickel plating and anodised finishes for aluminium alloy fasteners, with or without dyeing. Where it is important to improve corrosion resistance and match the surrounding colour, clear, black, yellow, JS500, hex chrome free and other passivations are available.

### Strength Characteristics

Hemlok®, Monobolt®, Klamp-Tite® (structural), Stavex®, Avinox® XT and Avibulb® XT fasteners all offer high shear and tensile strength. Please refer to the technical data sheets for typical strength values. For heavy duty applications the Avbolt® blind structural fastener is the first choice.

### Hole Fill

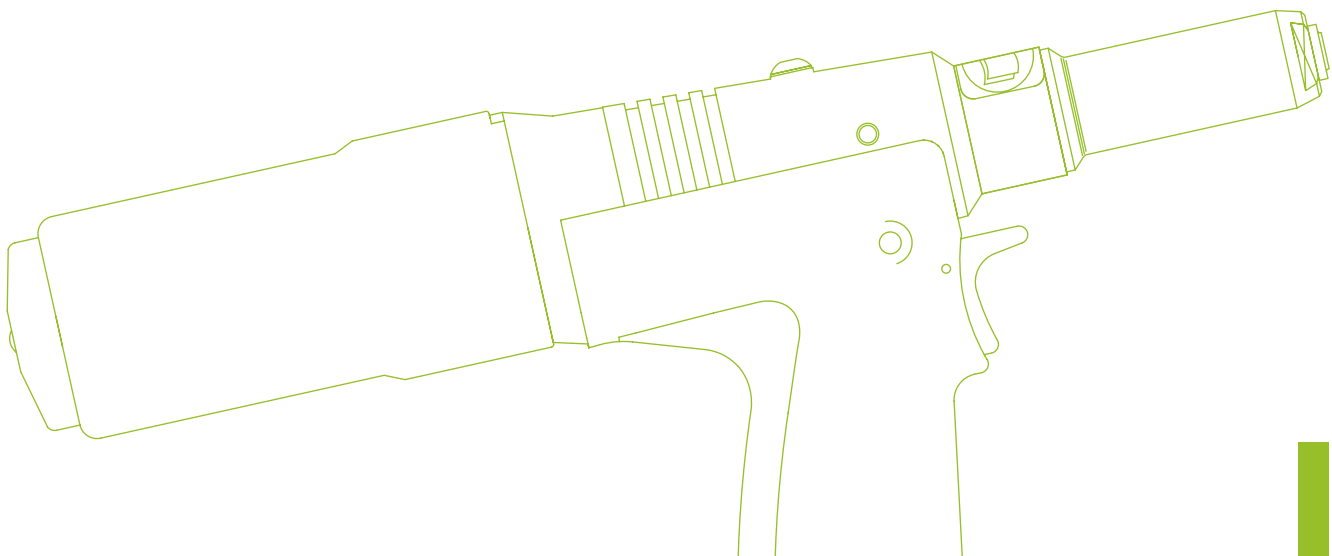
Monobolt® and Interlock® fasteners provide excellent hole fill via a radially expanded body. Avex®, Stavex®, Avibulb® and Avdel® SR fasteners also provide good hole fill.

### Load Spreading













Most Avdel® breakstem fasteners have a large blind side bearing area. Bulbex® and Klamp-Tite® fasteners provide exceptional load spreading capability and are ideal for use in thin sheet or low strength materials.

### Important Information









The information on this page should be used in conjunction with the technical data sheets for the individual fasteners. All test and performance data detailed on the datasheets reflect the ultimate strength of the fasteners, determined with representative samples and over multiple tests. Avdel recommends that you use this data as a guide only, since other factors may affect the performance of the fastener. We strongly recommend you test the fastener in your application to determine exact performance levels.



# Range Overview - non-structural -

Brand	Material		Key features
	Body	Stem	
Avex® 	Aluminium Alloy Aluminium Alloy	Steel Stainless Steel	Multi-grip capability Good hole fill Retained stem Large blind side bearing area
Stavex® 	Steel Stainless Steel	Steel Stainless Steel	Multi-grip capability Good hole fill Retained stem Large blind side bearing area
Avibulb® 	Steel	Steel	High shear and tensile strength Retained stem Large blind side bearing area
Avinox® 	Stainless Steel	Stainless Steel	High shear and tensile strength High corrosion resistance Retained stem Large blind side bearing area
Bulbex® 	Aluminium Alloy	Aluminium Alloy	Split tail formation for plastic and low strength materials Multi-grip capability Retained stem
Klamp-Tite® (non-structural) 	Aluminium Alloy	Aluminium Alloy	Split tail formation for thin sheet and low strength materials Multi-grip capability Good clamp up
T-Lok® 	Steel	Steel	'Peel-type' tail formation for joining wood to metal Wide grip range Retained stem
Avdelmate® 	Aluminium Alloy Aluminium Alloy Steel	Aluminium Alloy Steel Steel	Two piece fastener Extra wide grip range Large bearing area against both sides of the application Excellent hole fill
Standard Breakstem Range BD Series 	Aluminium Alloy Aluminium Alloy Aluminium Alloy Copper Stainless Steel Stainless Steel	Aluminium Alloy Steel Stainless Steel Steel Steel Stainless Steel	Low cost standard rivet Wide range of materials and sizes Quick installation Increased stem retention
Avdel® SR 	Aluminium Alloy Aluminium Alloy Aluminium Alloy Copper Steel Stainless Steel	Aluminium Alloy Steel Stainless Steel Steel Steel Stainless Steel	Fully sealed fasteners Good hole fill Retained stem Wide range of materials and sizes
Earth Tab Rivet 	Steel	Steel	Cost effective earthing point Paint piercing capability Twin tabs allow one or two connections
Avex® Splined 	Steel	Steel	Steel splines for electrical continuity in earthing applications Multi-grip capability

# Range Overview - structural -

Brand	Material		Key features
	Body	Stem	
Avibulb® XT 	Steel	Steel	High shear and tensile strength High residual clamp load Multi-grip capability Large blind side bearing area
Avinox® XT 	Stainless Steel	Stainless Steel	High shear and tensile strength High residual clamp load High corrosion resistance Multi-grip capability Large blind side bearing area
Hemlok® 	Aluminium Alloy Steel	Aluminium Alloy Steel	Very high shear and tensile strength Large blind side bearing area Interference lock via splined stem
Monobolt® 	Aluminium Alloy Steel Stainless Steel	Aluminium Alloy Steel Stainless Steel	Multi-grip capability Fully sealed fastener Visible lock Excellent hole fill Mechanically locked stem Good sheet take-up performance
Interlock® 	Aluminium Alloy Steel	Aluminium Alloy Steel	Multi-grip capability Fully sealed fastener Excellent hole fill Mechanically locked stem Good sheet take-up performance
Q Rivet 	Aluminium Alloy Aluminium Alloy Steel Stainless Steel	Aluminium Alloy Steel Steel Stainless Steel	Interference lock via a splined stem Stem plugs entire shell length Weatherproof
Klamp-Tite® (structural) 	Aluminium Alloy	Aluminium Alloy	Split tail formation for thin sheet and low strength materials Multi-grip capability Good clamp up Mechanically locked stem Visible lock
Avbolt® 	Steel	Steel	Very high shear and tensile strength High residual clamp loads in joint Large head and blindside bearing areas

# Selection Guide

This table is designed as a guide to help you select the most suitable Avdel® breakstem fastener for your particular application. Full technical and performance data for each breakstem fastener can be found on our website [www.avdel-global.com](http://www.avdel-global.com) or contact your local Avdel representative.

Product Range	Material				Headform				Fastener Size (nom)							Page No.		
	Body		Stem		Dome/ Protruding	Countersunk	Large Flange	2.4 mm (3/32")	3.0 mm	3.2 mm (1/8")	4.0 mm (5/32")	4.3 mm	4.8 mm (3/16")	5.0 mm	6.0 mm	6.4 mm (1/4")	Series No.	Description
Aluminium	Steel	Stainless Steel	Copper	Aluminium														
Avex®	•				•				•	•		•				1604	10	35
	•				•							•				1641	10	36
	•				•	•						•				1643	10	37
	•				•		•		•	•	•	•			•	1661	10	38
	•				•		•		•	•	•	•				1663	10	39
Stavex®		•			•							•				BE34	11	40
		•			•		•		•	•		•		•		BS01	11	41
		•			•		•		•		•	•				BS04	11	42
			•		•		•		•	•		•				BS11	11	43
Avibulb®		•			•		•		•	•		•		•		BN01	12	44
Avinox®			•			•			•	•		•				BE61	12	45
Bulbex®	•				•					•		•				BF01	13	46
	•				•							•				BF41	13	47
Klamp-Tite® (non-structural)	•				•							•			•	BAPK	14	48
T-Lok®		•			•							•	•			BM01	15	49
Avdelmate®	•				•							•			•	BALMS	16	50
	•				•							•			•	BSLMS	16	51
		•			•							•			•	SSLMS	16	52
Standard Breakstem Range BD Series	•				•			•	•	•	•	•	•	•	•	BD01	24	78
	•				•			•		•	•	•	•	•		BD02	24	80
	•				•			•	•	•	•	•	•	•		BD03	24	82
	•				•		•			•	•	•	•	•		BD05	24	84
		•			•					•	•	•	•	•	•	BD11	24	85
		•			•					•	•	•	•	•	•	BD13	24	87
			•		•					•	•	•	•	•	•	BD21	24	88
			•		•					•	•	•	•	•	•	BD23	24	90
			•		•					•	•	•	•	•	•	BD24	24	91
				•	•					•	•	•	•	•	•	BD31	24	92
				•					•	•	•	•	•	•	BD41	24	93	
Avdel® SR	•				•					•	•	•			•	SR01	24	94
	•				•					•	•	•				SR02	24	95
			•		•					•	•	•				SR03	24	96
	•				•					•	•	•				SR04	24	97
	•				•					•	•	•				SR21	24	98
		•			•					•	•	•				SR31	24	99
		•		•					•	•	•				SR41	24	100	
Earth Tab Rivet		•			•											BN11	25	101
Avex® Splined		•			•					•		•				1610	25	102



Product Range	Material			Headform			Fastener Size (nom)							Page No			
	Body		Stem	Dome/ Protruding	Countersunk	Large Flange	3.2 mm (1/8")	4.0 mm (5/32")	4.8 mm (3/16")	6.4 mm (1/4")	8.0 mm (5/16")	10.0 mm (3/8")	12.7 mm (1/2")	16.0 mm (5/8")	Series No.	Description	Data sheet
Aluminium	Steel	Stainless Steel	Aluminium														
Avibulb® XT		•		•					•					BN01	17	53	
Avinox® XT			•		•					•				BE61	17	54	
Hemlok®		•		•						•				2221	18	55	
	•			•						•				2241	18	56	
Monobolt®			•		•					•	•		•	2711	19	57	
			•		•					•	•			2721	19	58	
		•			•					•	•			2761	19	59	
	•			•						•	•			2764	19	60	
		•			•					•	•			2771	19	61	
		•			•					•	•			2774	19	62	
Interlock®	•			•						•	•			BAPI	20	63	
		•			•					•	•			SSCI	20	64	
		•			•					•	•			SSPI	20	65	
Q Rivet	•			•					•	•	•	•		AACQ	21	66	
	•			•				•	•	•	•	•		AALQ			
	•			•				•	•	•	•	•		AAPQ			
	•				•				•	•	•	•		BSCQ	21	68	
	•				•				•	•	•	•		BSLQ			
	•				•				•	•	•	•		BSPQ			
			•			•				•	•	•	•		CCCQ	21	70
			•			•				•	•	•		CCLQ			
			•			•				•	•	•	•	CCPQ			
		•				•				•	•	•	•		SSCQ	21	72
		•				•				•	•	•	•		SSLQ		
		•				•				•	•	•	•		SSPQ		
Klamp-Tite® (structural)	•			•						•	•			BAPKTR	22	74	
Avbolt®		•			•							•	•	•	21001	23	75
		•			•					•	•	•			21021	23	76

Our policy is one of continuous product development and improvement and we reserve the right to change the specification of any product without prior notice.

Multi-grip, aluminium alloy breakstem fasteners with a long and reliable track record in a wide range of applications and industries.



## Key features and benefits

- Multi-grip capability accommodates wide variations in material thickness
- One fastener can be used to replace several standard grip fasteners thus reduced fastener inventory and simpler stock control
- Good hole fill provides strong, vibration resistant joints
- Compensates for irregular, oversized, slotted or misaligned holes
- Can stop sheet movement in non-standard holes
- Retained stem avoids damage, electrical problems or rattling caused by loose stems
- Provides a large blind side bearing area against the rear sheet
- Spreads the tail bearing load/clamp load on the rear sheet making it ideal for use in thin sheet materials

## Specifications

Sizes:

3.0 mm to 6.4 mm (1/4")

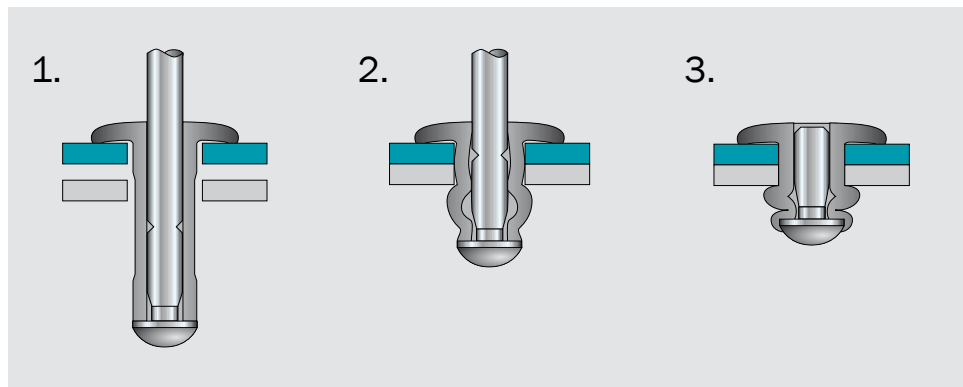
Materials:

Aluminium alloy with steel or stainless steel stems

Headforms:

Dome, countersunk and large flange

## Typical placing sequence



Please visit our website [www.avdel-global.com](http://www.avdel-global.com) for fastener placing animations and technical data.

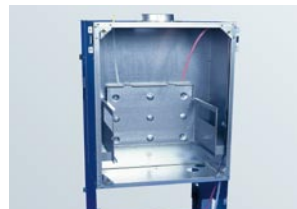
## Assembly applications

- Automotive
- Commercial vehicles
- Domestic appliances
- Electronics
- Electrical equipment
- General light industrial
- Heating and ventilation

Garage doors



Domestic heating systems



Car chassis



Multi-grip, high strength steel and stainless steel breakstem fasteners.



## Key features and benefits

- High shear and tensile strength provides strong, vibration resistant joints
- Stainless steel option provides high corrosion resistance and is ideal for applications requiring elevated temperatures
- Multi-grip capability accommodates wide variations in material thickness
- One fastener can be used to replace several standard grip fasteners thus reduced fastener inventory and simpler stock control
- Good hole fill compensates for irregular, oversized, slotted or misaligned holes and can stop movement in non-standard holes
- Retained stem avoids damage, electrical problems or rattling caused by loose stems
- Provides a large blind side bearing area against the rear sheet
- Spreads the tail bearing load/clamp load on the rear sheet making it ideal for use in thin sheet materials

## Specifications

Sizes:

3.2 mm to 6.4 mm  
(1/8" to 1/4")

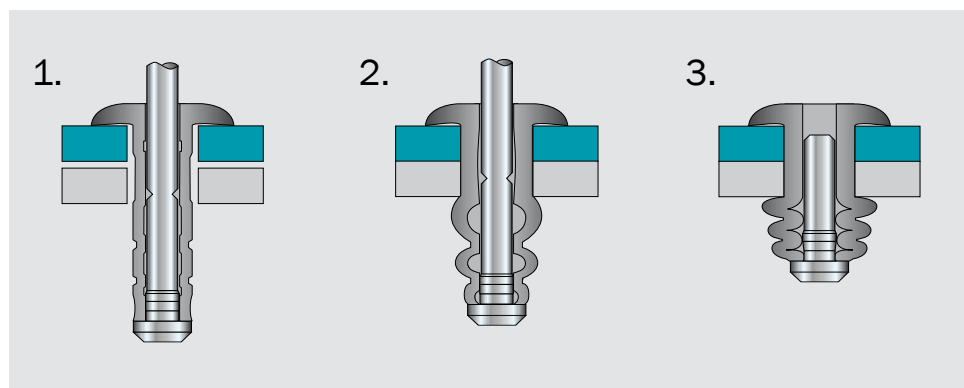
Materials:

Steel or stainless steel

Headforms:

Dome, countersunk  
and large flange

## Typical placing sequence



Please visit our website [www.avdel-global.com](http://www.avdel-global.com) for fastener placing animations and technical data.

## Assembly applications

- Automotive
- Commercial vehicles
- Domestic appliances
- Electronics
- Electrical equipment
- General light industrial
- Heating and ventilation

Snowmobile



Passenger air bag

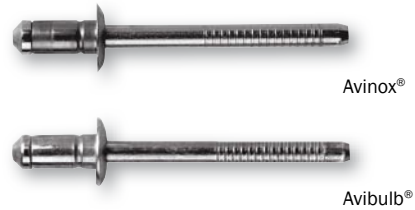


Roll-up security door



# Avinox® & Avibulb®

High strength stainless steel (Avinox®) and steel (Avibulb®) breakstem fasteners with excellent bulbing tail formation. Ideal for thin sheet materials.



## Key features and benefits

- High shear and tensile strength providing strong, vibration resistant joints
- Stainless steel Avinox® for high corrosion resistance and applications requiring elevated temperatures
- Provides a large blind side bearing area against the rear sheet
- Spreads the tail bearing load/clamp load on the rear sheet making it ideal for use in thin sheet materials
- Good hole fill compensates for irregular, oversized, slotted or misaligned holes
- Retained stem avoids damage, electrical problems or rattling caused by loose stems

## Specifications

Sizes:

3.2 mm to 4.8 mm

(1/8" to 3/16"),

Avibulb® up to 6.0 mm

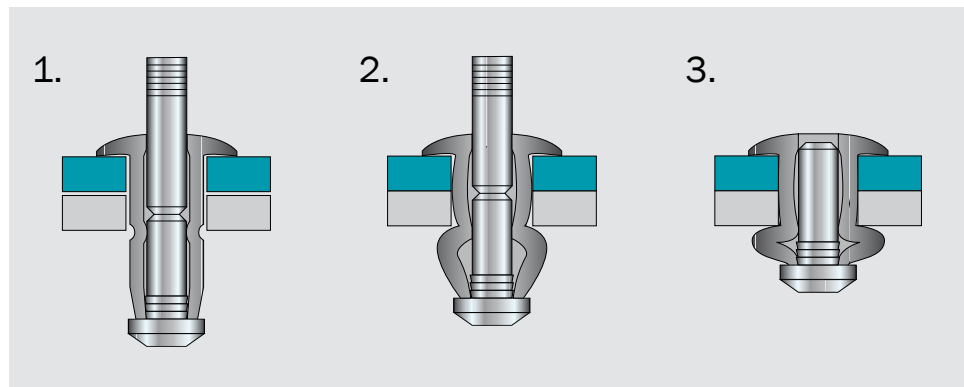
Material:

Stainless steel and steel

Headform:

Dome

## Typical placing sequence



Please visit our website [www.avdel-global.com](http://www.avdel-global.com) for fastener placing animations and technical data.

## Assembly applications

- Automotive
- Cabinets and enclosures
- Heating and ventilation
- Telecommunications
- General light industrial

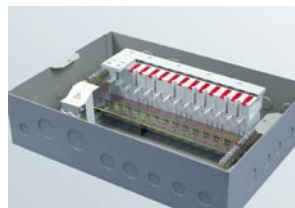
Telecommunications cabinets



Electronic components



Ladders



# Bulbex<sup>®</sup>

Aluminium alloy breakstem fasteners with a split tail formation providing a very large blind side bearing area against the rear sheet. Ideal for use with plastic and low strength material.



## Key features and benefits

- Split tail formation provides a very large blind side bearing area against the rear sheet
- Spreads the tail bearing load/clamp load on the rear sheet providing high resistance to pull-out loads
- Multi-grip capability accommodates wide variations in material thickness
- Retained stem avoids damage, electrical problems or rattling caused by loose stems

## Specifications

Sizes:

4.0 mm and 4.8 mm  
(5/32" and 3/16")

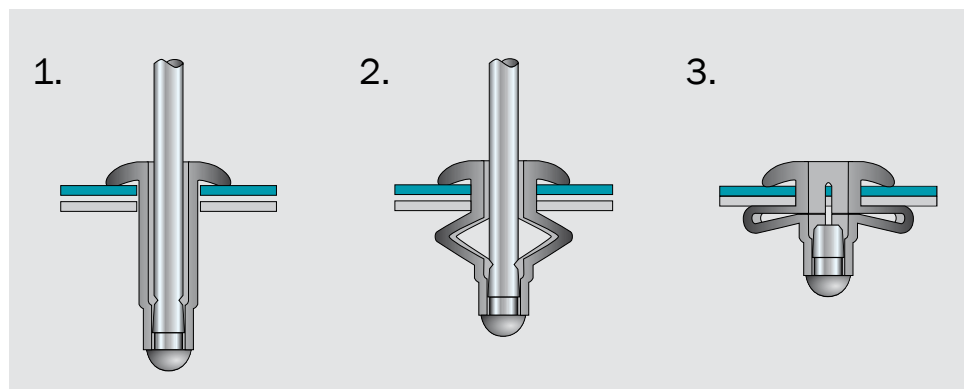
Material:

Aluminium alloy

Headforms:

Dome and large flange

## Typical placing sequence



Please visit our website [www.avdel-global.com](http://www.avdel-global.com) for fastener placing animations and technical data.

## Assembly applications

- Automotive
- Caravans/RV
- Mobile homes
- Domestic appliances
- Plastic components

Caravans/RV



Mobile homes



Speaker systems



# Klamp-Tite<sup>®</sup> non-structural

Aluminium alloy fasteners with a very large blind side bearing area against the rear sheet. Ideal for use in thin sheet or low strength materials.



## Key features and benefits

- Split tail formation spreads the tail bearing load/clamp load on the rear sheet
- Ideal for use in thin sheet materials offering high resistance to pull-out loads
- Multi-grip capability accommodates wide variations in material thickness
- Retained stem provides very strong, vibration resistant joints avoiding problems caused by loose stems

## Specifications

Sizes:

4.8 mm and 6.4 mm  
(3/16" and 1/4")

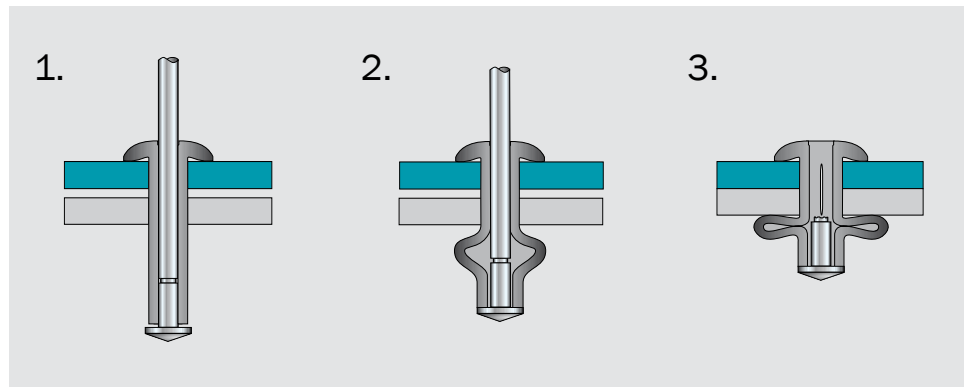
Materials:

Aluminium alloy

Headforms:

Protruding

## Typical placing sequence



Please visit our website [www.avdel-global.com](http://www.avdel-global.com) for fastener placing animations and technical data.

## Assembly applications

- Automotive
- Caravans/RV
- Domestic appliances
- Plastic components

# T-Lok<sup>®</sup>

Cost-effective and efficient method of attaching metal to wood or other soft material without through holes.



## Key features and benefits

- 'Peel-type' tail formation makes it ideal for joining metal to wood, board or low density plastic
- Large bearing surface expands into blind hole providing superior pull-out force
- Ideal replacement for wood screws or self-tapping screws
- Multi-grip capability accommodates wide variations in material thickness

## Specifications

Sizes:

4.3 mm and 4.8 mm (3/16")

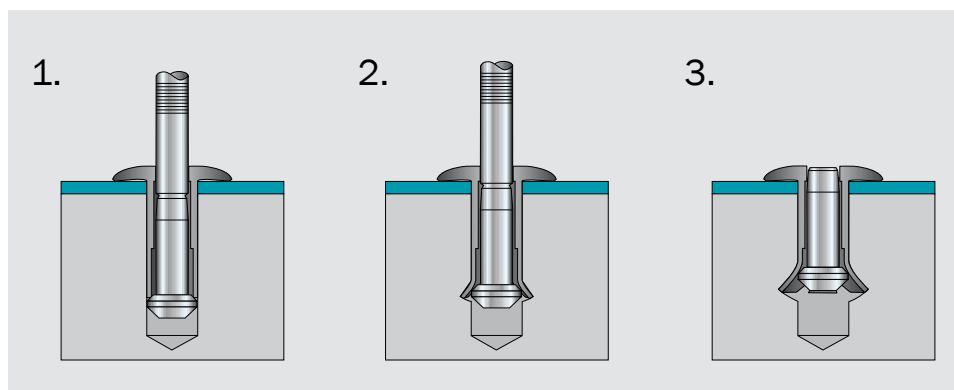
Materials:

Steel

Headforms:

Dome

## Typical placing sequence

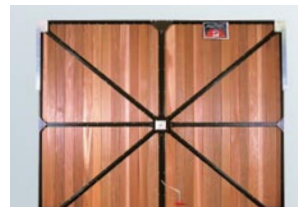


Please visit our website [www.avdel-global.com](http://www.avdel-global.com) for fastener placing animations and technical data.

## Assembly applications

- Garage doors
- Furniture

Garage doors



Furnitures



# Avdelmate®

A two-piece breakstem fastener consisting of a rivet and tubular section which provide a wide grip range, controlled clamp and a large bearing area on both sides of the application. Ideal for use in thin sheet, soft, brittle or low strength materials.



## Key features and benefits

- Extra-wide grip range from 15.8 mm to 98.4 mm (5/8" to 3-7/8")
- Large bearing area against both sides of the application spreads the tail bearing load/clamp load on the rear sheet to prevent damage
- Clamps tightly and securely without crushing parent material
- Excellent hole fill via radially expanded rivet body for a strong and vibration resistant joint
- Rivet stem retained in tubular component avoids loose stems
- Low profile headform on both sides of the application for a neat appearance

## Specifications

Sizes:

4.8 mm and 6.4 mm  
(3/16" and 1/4")

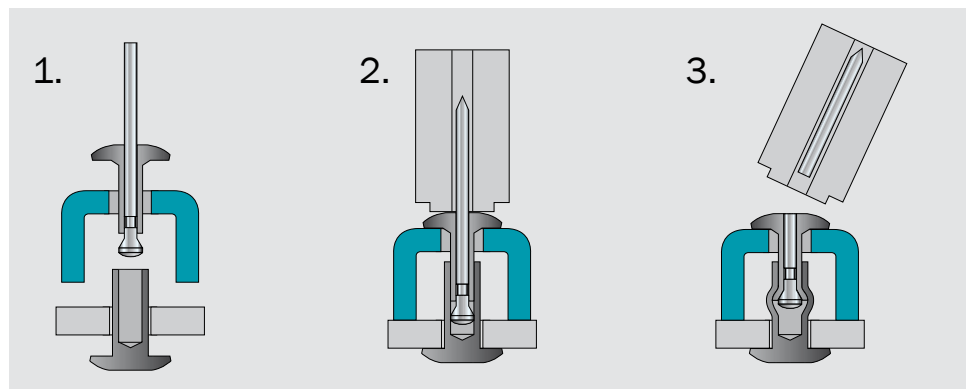
Materials:

Aluminium alloy and steel

Headforms:

Dome

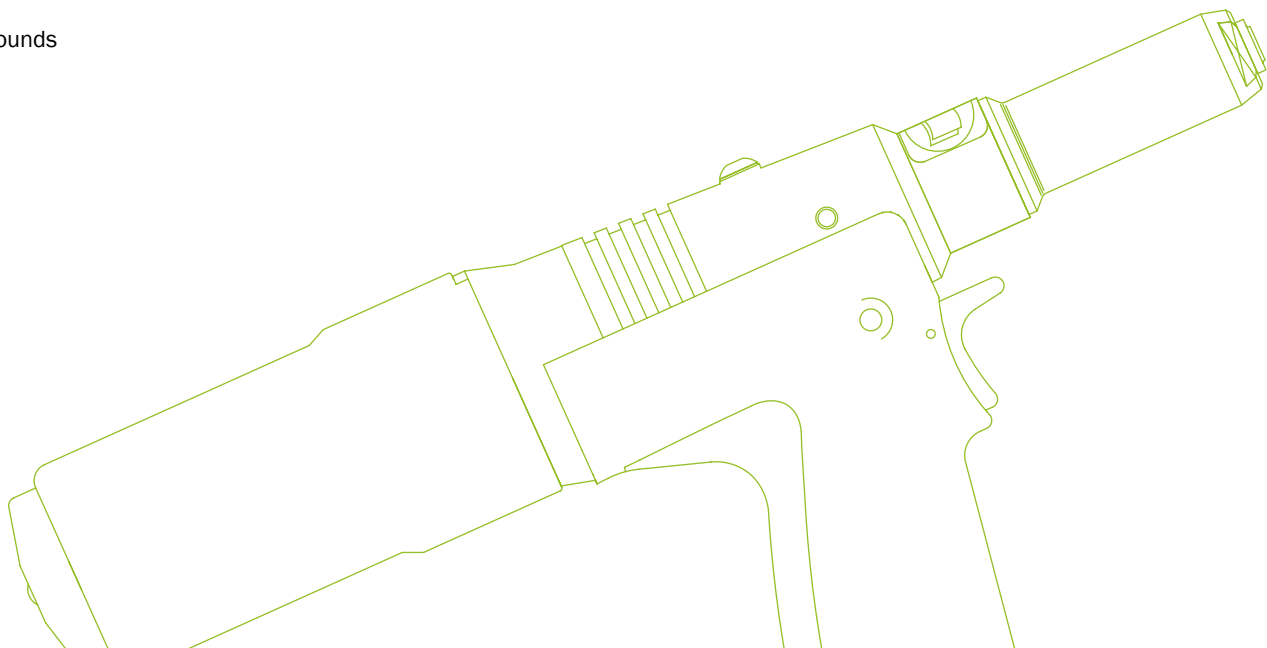
## Typical placing sequence



Please visit our website [www.avdel-global.com](http://www.avdel-global.com) for fastener placing animations and technical data.

## Assembly applications

- Toys for playgrounds
- Furniture
- Racks





# Avibulb<sup>®</sup> XT & Avinox<sup>®</sup> XT

Avibulb<sup>®</sup> XT (steel) and Avinox<sup>®</sup> XT (stainless steel) are high performance structural breakstem fasteners with excellent bulbing tail formation, ideal for thin sheet materials. The new fasteners feature a wide grip range, especially suited for applications with varying sheet thicknesses.



## Key features and benefits

- High shear and tensile strength and high residual clamp load providing strong, vibration resistant joints
- Multi-grip capability accommodates wide variations in material thickness
- Spreads the tail bearing load/clamp load on the rear sheet making it ideal for use in thin sheet materials
- Suitable also in softer materials
- Retained stem avoids damage, electrical problems or rattling caused by loose stems
- Underhead recess accommodates burrs around holes and spreads the load evenly on the top sheet
- Stainless steel Avinox<sup>®</sup> XT for high corrosion resistance and applications requiring elevated temperatures

## Specifications

Sizes:

6.4 mm (1/4")

Material:

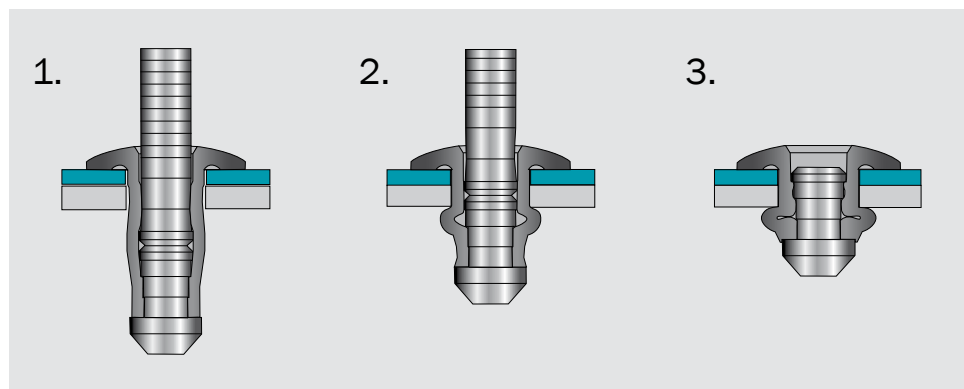
Steel and stainless steel

Headform:

Dome

Avdel Patent Protected

## Typical placing sequence



Please visit our website [www.avdel-global.com](http://www.avdel-global.com) for fastener placing animations and technical data.

## Assembly applications

- Automotive
- Truck and trailer
- Cabinets and enclosures
- Heating and ventilation
- Telecommunications
- Domestic appliances
- Renewable energies
- Industrial equipment

Telecommunications cabinets



Industrial refrigeration



Vehicle panels



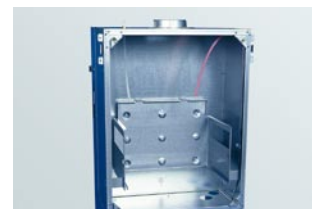
Solar panels



Washing machine



Heating and ventilation



# Hemlok<sup>®</sup>

Structural breakstem fasteners with exceptional shear and tensile strength and a large blind side bearing area against the rear sheet.



## Key features and benefits

- All steel version provides exceptional shear and tensile strength
- Large blind side bearing area spreads the tail bearing load/ clamp load on the rear sheet reducing creep e.g. in plastic material
- Interference lock formed by a splined stem provides strong, vibration resistant joints
- No damage, electrical problems or rattling caused by loose stems

## Specifications

Sizes:

6.4 mm (1/4")

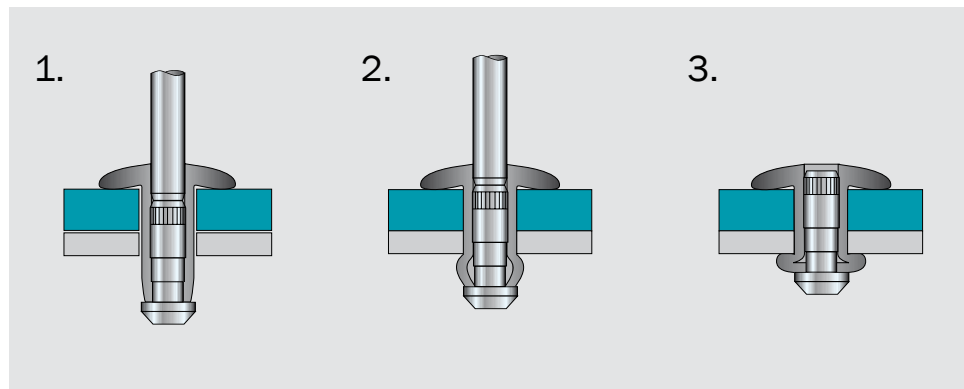
Materials:

Aluminium alloy and steel

Headform:

Protruding

## Typical placing sequence



Please visit our website [www.avdel-global.com](http://www.avdel-global.com) for fastener placing animations and technical data.

## Assembly applications

- Automotive
- Warehouse racking
- Ladders

Scaffold tower



Step ladder



Car seat base



Vehicle mud flaps



# Monobolt®

Multi-grip structural breakstem fasteners providing a fully sealed joint and visible lock.



## Key features and benefits

- Excellent hole fill via radially expanded body provides very strong, vibration resistant joints and compensates for irregular, oversized, slotted or misaligned holes
- Good sheet take-up performance for large gap closing capability
- Stem mechanically locked into body avoids damage, electrical problems or rattling caused by loose stems
- Multi-grip capability
- High shear and tensile strength
- Visible lock for quick and easy inspection

## Specifications

Sizes:

4.8 mm, 6.4 mm and 10 mm  
(3/16", 1/4" and 3/8")

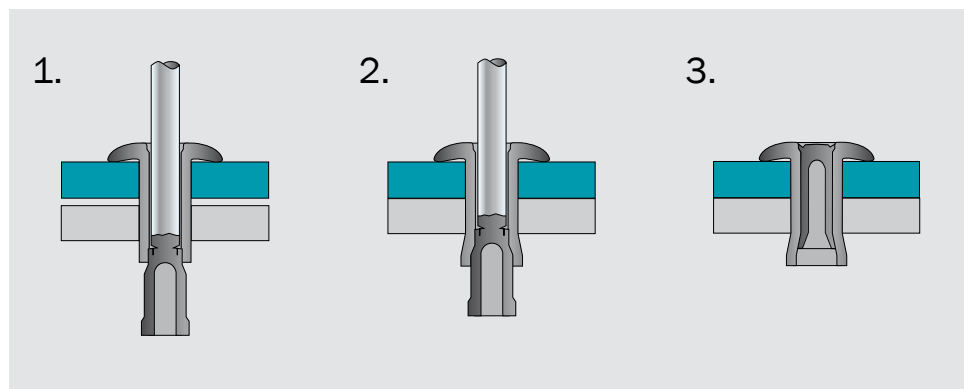
Materials:

Aluminium alloy, steel  
and stainless steel

Headforms:

Protruding and countersunk

## Typical placing sequence



Please visit our website [www.avdel-global.com](http://www.avdel-global.com) for fastener placing animations and technical data.

## Assembly applications

- Automotive
- Cabinets and enclosures
- Commercial vehicles
- Domestic appliances
- Heating and ventilation

Car chassis



Column tail lifts



Product cooler



# Interlock<sup>®</sup>

Multi-grip structural breakstem fasteners providing a fully sealed joint.



## Key features and benefits

- Excellent hole fill via radially expanded body provides greater joint integrity, added water resistance and compensates for irregular, oversized, slotted or misaligned holes
- Can stop sheet movement in non-standard holes
- Good sheet take-up performance for large gap closing capability
- Stem mechanically locked into body avoids damage, electrical problems or rattling caused by loose stems
- Multi-grip capability accommodates wide variations in material thickness
- High shear and tensile strength requires fewer rivets per assembly

## Specifications

Sizes:

4.8 mm and 6.4 mm  
(3/16" and 1/4")

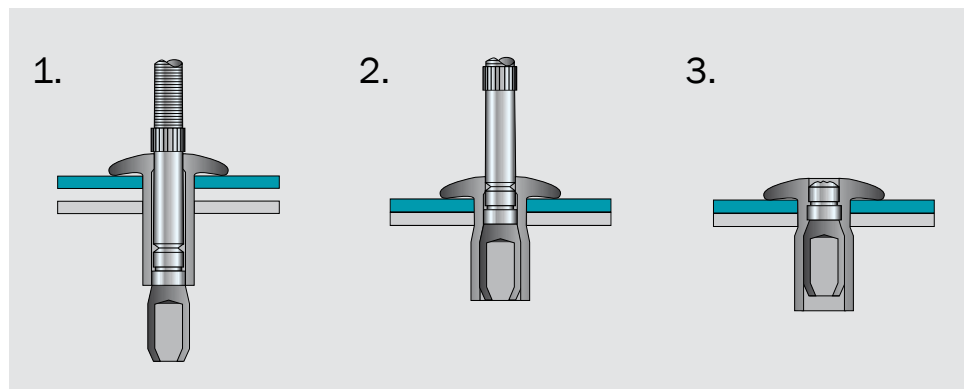
Materials:

Aluminium alloy and steel

Headforms:

Protruding and countersunk

## Typical placing sequence



Please visit our website [www.avdel-global.com](http://www.avdel-global.com) for fastener placing animations and technical data.

## Assembly applications

- Automotive
- Cabinets and enclosures
- Commercial vehicles
- Domestic appliances
- Heating and ventilation

Truck trailer



Heat exchanger



# Q Rivet

Structural breakstem fasteners with an internal interference lock and a weatherproof feature.



## Key features and benefits

- Interference lock formed by a splined stem provides powerful locking strength and hole filling
- Weatherproof fastener because the splined stem plugs the entire length of the shell
- High shear and tensile strength
- All stainless steel option for high corrosion resistance and applications requiring elevated temperatures

## Specifications

Sizes:

3.2 mm to 6.4 mm  
(1/8" to 1/4")

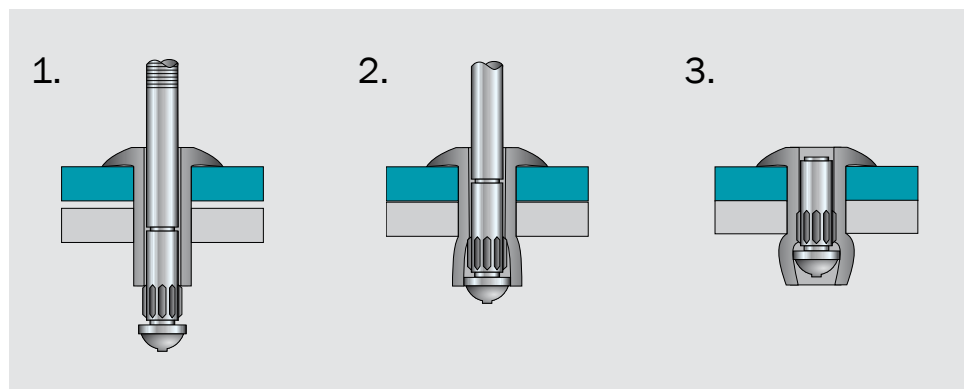
Materials:

Aluminium alloy, steel  
and stainless steel

Headforms:

Protruding, large flange and  
countersunk

## Typical placing sequence



Please visit our website [www.avdel-global.com](http://www.avdel-global.com) for fastener placing animations and technical data.

## Assembly applications

- Automotive
- Building industries
- Commercial vehicles
- Domestic appliances
- Heating and ventilation

Car seat base



Vehicle mud flaps



Step ladder



# Klamp-Tite<sup>®</sup> structural

Aluminium alloy fasteners with a very large blind side bearing area against the rear sheet. Ideal for use in thin sheet or low strength materials.



## Key features and benefits

- Split tail formation spreads the tail bearing load/clamp load on the rear sheet
- Ideal for use in thin sheet materials offering high resistance to pull-out loads
- Multi-grip capability accommodates wide variations in material thickness
- Stem is mechanically locked into body providing very strong, vibration resistant joints
- Visible lock for quick and easy inspection
- Optional underhead washer provides a weather-proof seal

## Specifications

Sizes:

4.8 mm and 6.4 mm  
(3/16" and 1/4")

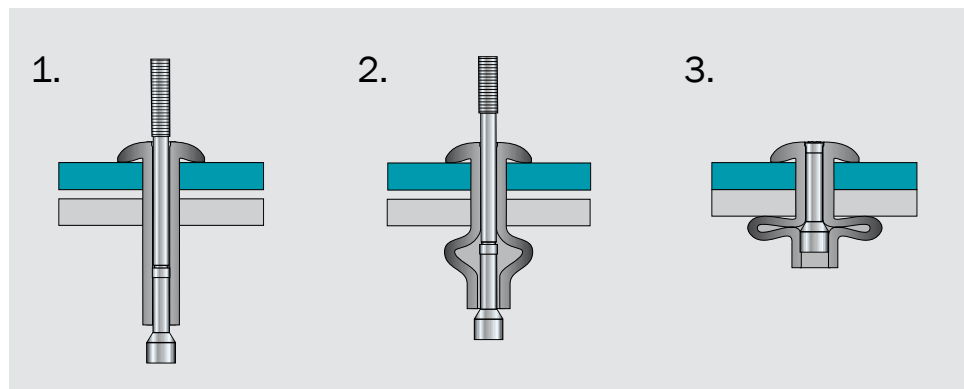
Materials:

Aluminium alloy

Headforms:

Protruding

## Typical placing sequence



Please visit our website [www.avdel-global.com](http://www.avdel-global.com) for fastener placing animations and technical data.

## Assembly applications

- Container
- Cladding
- Commercial vehicles

# Avbolt® Structural Blind Fastener

The Avbolt® structural fastener is a high strength, tamper resistant, blind steel fastener designed for use in heavy-duty structural applications. It offers a high tensile and shear strength normally only possible with non blind lockbolts and combines it with the installation speed of blind products.



Avbolt® 10, 12.7 and 16 mm  
(3/8", 1/2" and 5/8"):  
3 piece design (sleeve, collar, stem)



Avbolt® 4.8, 6.4 and 8.0 mm  
(3/16", 1/4" and 5/16"):  
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
- Wide grip capability suits a variety of material thicknesses
- Locking feature creates a vibration resistant joint and prevents loose stems
- Ideal for areas with restricted access
- Fast installation
- High security tamper resistance
- Optimised heat treatment
- Simple tooling requires only minimum operator skill

## Specifications

Sizes:

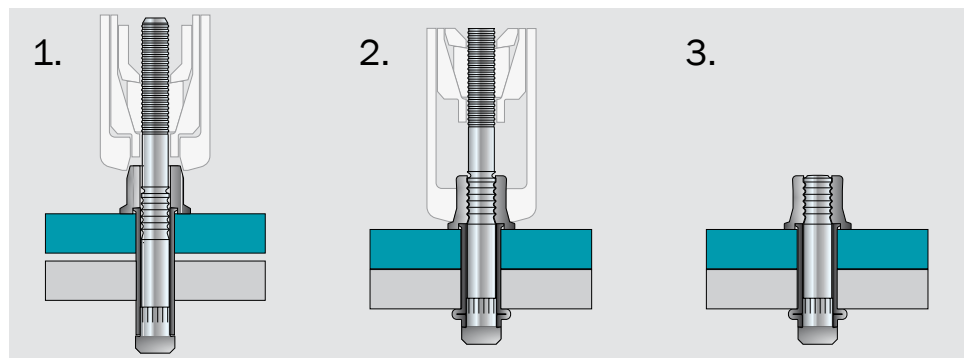
4.8 mm to 16.0 mm  
(3/16" to 5/8")

Material:

Steel

Avdel Patent Protected

## Typical placing sequence (3 piece design)



Please visit our website [www.avdel-global.com](http://www.avdel-global.com) for fastener placing animations and technical data.

## Assembly applications

- Automotive
- Construction
- Container
- Renewable energies
- Railway
- Mining
- Security fencing



# Other Breakstem

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## BD Series

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Non-structural blind breakstem rivet designed for a wide range of applications. Available in a variety of materials and combinations.



- Cost effective standard rivet
- Installed quickly and easily
- Design of the stem head ensures positive retention after installation
- Sizes from  $\varnothing$  2.4 mm (3/32") to 6.4 mm (1/4")
- Protruding, large flange or countersunk headforms
- Materials of body/stem: aluminium/aluminium, aluminium/steel, aluminium/stainless steel, steel/steel, stainless steel/steel, stainless steel/stainless steel, monel/steel, copper/steel

## Avdel® SR

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Fully sealed breakstem fasteners in a wide range of materials and sizes.



- Fully sealed fastener provides a weather-proof fastener
- Good hole fill and retained stem provide strong vibration resistant joints
- Sizes from  $\varnothing$  3.2 mm (1/8") to 6.4 mm (1/4")
- Dome head
- Materials of body/stem: aluminium/aluminium, aluminium/steel, aluminium/stainless steel, steel/steel, stainless steel/stainless steel, copper/steel

Please visit our website [www.avdel-global.com](http://www.avdel-global.com) for technical data.



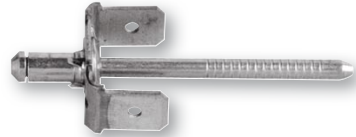
# Other Breakstem Fasteners

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## Earth Tab Rivet

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Cost effective earthing point for thin sheet metal, with paint piercing capability to ensure good electrical conductivity.



- Twin tabs allow one or two connections
- Fast installation of a one piece assembly
- Works on a single phase power supply of 240 volts or below
- Provides a resistance to or below 0.1 ohms
- Tested and approved to EN 60335-1 and BS 3456 Parts 201, clauses 27, 28, 31
- For 5.2 mm holes and a material thickness of 1.0 - 1.5 mm
- Steel body and stem with brass tab

## Avex® Splined

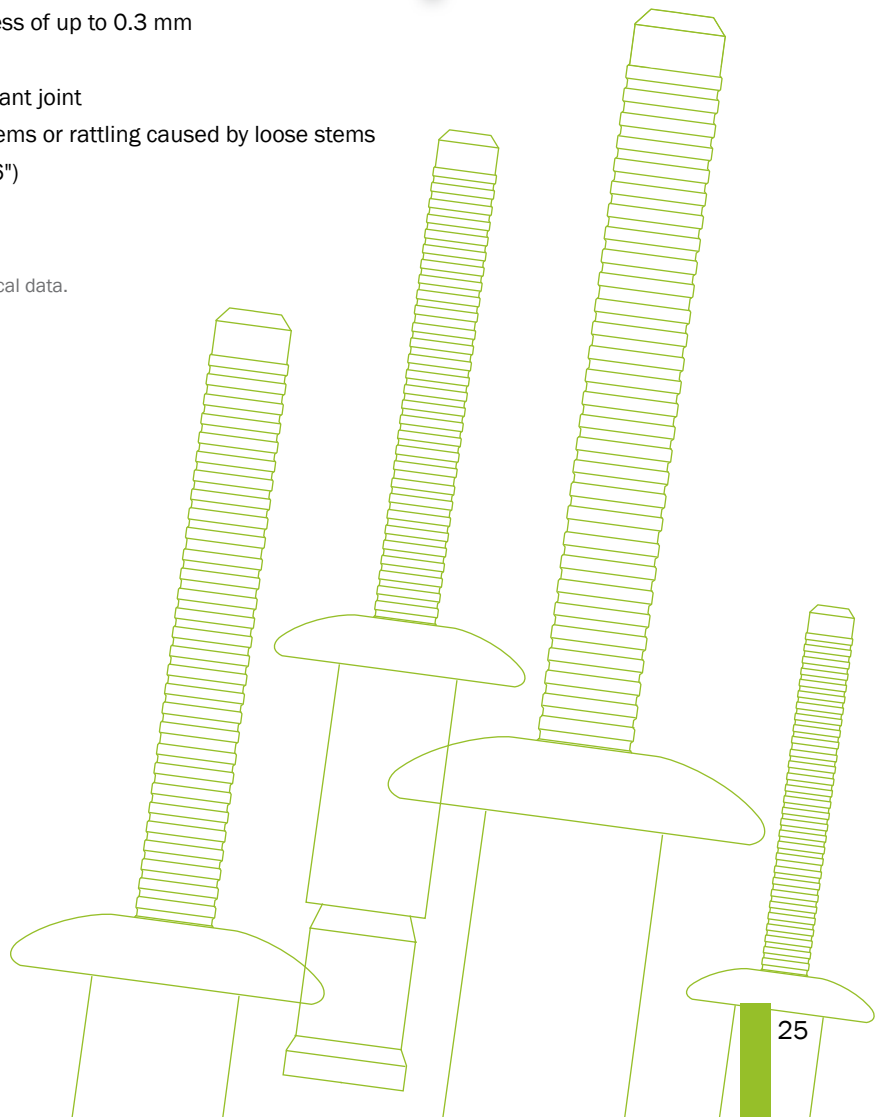
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Designed with steel splines for electrical continuity in earthing applications.



- Steel splines break through a coating thickness of up to 0.3 mm
- Multi-grip capability
- Good hole fill for a strong and vibration resistant joint
- Retained stem – no damage, electrical problems or rattling caused by loose stems
- Sizes of  $\varnothing$  4.0 mm (5/32") and 4.8 mm (3/16")
- Steel body and stem

Please visit our website [www.avdel-global.com](http://www.avdel-global.com) for technical data.



# Installation Tools

## Genesis® nG Series Power Tool Range

New high performance, lightweight hydro-pneumatic handtools for breakstem rivets.

- Vacuum air supply cut-off on trigger minimizes air consumption
- Quick release or fixed stem collector bottle optional for nG1, nG2 and nG2-S
- Fixed stem collector bottle for nG3 and nG4
- Integrated cycle counter (except nG1 and nG2-S)
- Lightweight construction reduces operator fatigue
- Toughened plastic body and heavy duty rubber base make it a robust tool
- nG1, nG2 and nG2-S feature a quick release nose equipment reducing setting times
- Soft touch rubber grip on handle for comfortable operation
- nG2-S split version with lightweight placing head and remote intensifier
- Avdel Patent Protected

## Placing capability

nG1:

Up to 4.8 mm (3/16") aluminium breakstem rivets and up to 4.0 mm (5/32") steel breakstem rivets

nG2:

Up to 4.8mm (3/16") breakstem rivets

nG2-S:

Up to 4.8mm (3/16") breakstem rivets

nG3:

Up to 6.4mm (1/4") breakstem rivets produced by Avdel, except Avibulb® XT, Avinox® XT and Hemlok® structural fasteners

nG4:

Up to 6.4mm (1/4") breakstem rivets produced by Avdel, except Monobolt® and Interlock® structural rivets

Please visit our website [www.avdel-global.com](http://www.avdel-global.com) for technical information.

nG1



nG2



nG2-S



nG3



nG4

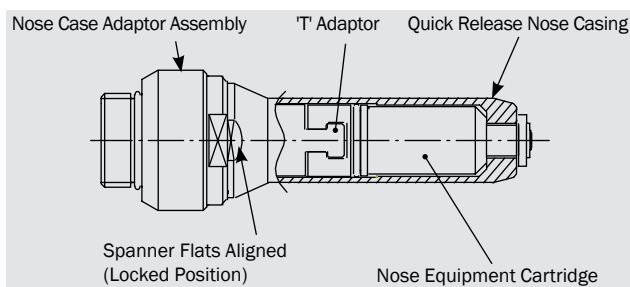


# Installation Tools

## Quick Release Nose Equipment

### Save time and money with this patented system

Change a nose equipment cartridge on your Genesis® tool on line in less than ten seconds. By simply turning the quick release nose casing and removing it from the nose case adaptor assembly, it is possible to slide the nose equipment cartridge off the 'T' adaptor and replace it with another. All this can be done without taking your Genesis® tool off line. The used equipment cartridge can then be cleaned and serviced off line and returned ready for the next change over. Ideal for continuous flow production lines or environments where nose equipment requires frequent cleaning. Available on all standard Genesis® models, they will place the same range of breakstem fasteners as standard nose equipment.

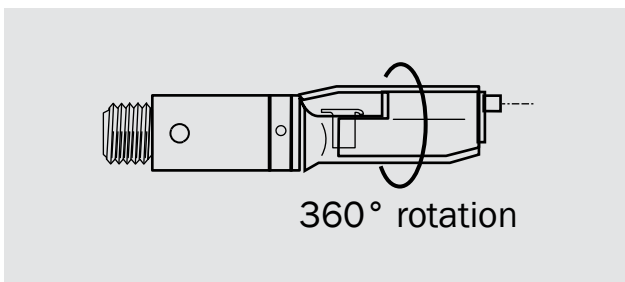


## Swivel Heads

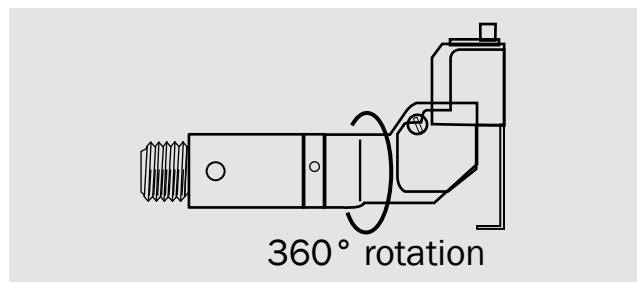
### Access a wider range of applications

Instead of a standard nose assembly, a swivel head can be fitted to a Genesis® base tool. This allows 360° rotation of the tool about the nose tip and allows access into many applications otherwise too restrictive. There are two types of swivel heads; straight swivel head with the nose tip slightly offset from the centre line of the tool head and the right angle swivel head with the nose tip on a perpendicular axis to the head of the tool. Available on the nG1, nG2, nG2-S and nG3 models. Will place Avex®, Avinox® and Bulbex® fasteners.

Straight Swivel Head



Right Angle Swivel Head



# Installation Tools

## Sensitive Trigger

### Increase safety and improve product quality

This system replaces the standard pneumatic trigger with a preloaded mechanical trigger. It uses the force exerted by pushing the fastener into the application to trigger the installation. Available on all Genesis® nG models.

Key benefits are:

- Increased safety – the system relies on the fastener being perpendicular to the application. It is impossible to place a fastener, unless it is safely in the application.
- Improved product quality through increased consistency of fastener placement
- Uses standard Genesis® nose equipment parts
- Easily adjustable placement force for ease of use
- Avdel Patent Protected



## Options

The Genesis® range can be customised to meet your unique assembly requirements. Below are just a few examples of options we have developed for our customers. If you have a special requirement you would like to discuss, please contact your local Avdel representative.

### In addition to these there are more options to customise the Genesis® tools:

- Extended Nose Assemblies for applications where fasteners are placed in deep recessed areas.
- A Stem Extraction System can be fitted to eliminate the need to take the Genesis® tool off line to empty the stem collector.
- Suspension Kit with remote stem collection for attachment to the Genesis® models nG2, nG3 and nG4, enabling tools to be mounted for vertically downwards riveting in a fixed station environment.
- Bench/Stand Mounted Workstations with either handle or foot pedal triggers to free up both hands

Suspension Kit



# Installation Tools

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## 722 Model

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The hydro-pneumatic 722 tool is designed to place Avbolt® fasteners  $\varnothing$  4.8 mm to 8.0 mm ( $\frac{3}{16}$ " to  $\frac{5}{16}$ " ) as well as all sizes of Avdelok® lockbolts up to  $\varnothing$  9.6 mm ( $\frac{3}{8}$ " ).

- Cast aluminium body designed for heavy duty use over long periods of time, even in the most demanding environments
- Quick and simple operation minimizes operator fatigue and reduces assembly time to a minimum

## 7287 Model

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Hydro-pneumatic split tool with a lightweight placing head able to place Monobolt® fasteners up to  $\varnothing$  10 mm ( $\frac{3}{8}$ " ), Avbolt® fasteners up to  $\varnothing$  8 mm ( $\frac{5}{16}$ " ) as well as lockbolts up to  $\varnothing$  10 mm ( $\frac{3}{8}$ " ).

- Extended stroke and pull force
- Installation of large fasteners with single pull action for high placement speed
- Short cycle time can increase assembly capacity
- Lightweight placing head reduces operator fatigue
- Remote intensifier mounted on castors for flexible use in the assembly line

## 734 Model

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Avbolt® fasteners  $\varnothing$  8 mm to 16 mm ( $\frac{5}{16}$ " to  $\frac{5}{8}$ " ) can be placed securely in seconds with this range of installation tools. Avdelok® lockbolts  $\varnothing$  9.6 mm ( $\frac{3}{8}$ " ) and all Avdelok® LD lockbolts from  $\varnothing$  12.7 mm to 28.6 mm ( $\frac{1}{2}$ " to  $1\frac{1}{8}$ " ) can also be installed.

- Robust and rugged installation tools designed for a long working life in extreme conditions
- Range of hydraulic power units deliver the extreme high pull pressure required for secure, long lasting assembly at high speed
- Easy-to-change nose equipment and range of hydraulic hoses in different lengths enable the tool to be adapted to suit local assembly requirements
- Mounted on castors for easy movability
- Available in voltages from 110V to 525V, diesel option customised to specification
- Switches to 'sleep' mode to conserve energy

722



7287



734



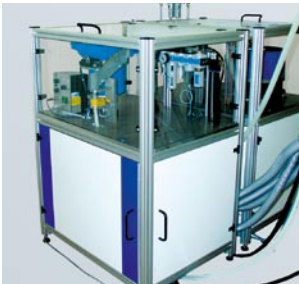
# Assembly Workstations

## Avimat® Automated Assembly System

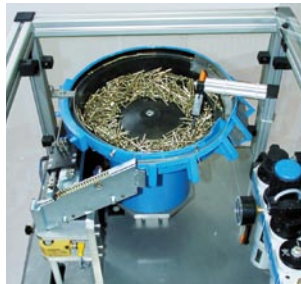
The Avimat® provides a modular, automated assembly system for breakstem fasteners, reducing assembly times and costs. The integral processing diagnostics ensure the assembly process is highly controlled for improved product quality. It places the entire range of breakstem and structural breakstem fasteners from 3.0 mm to 6.4 mm (except Avdelmate® & Klamp-Tite® fasteners).

- Modular design of placing head, blow feed unit and PLC control cabinet for quick and simple integration into assembly lines
- Will work as a stand alone unit
- Flexible electric, pneumatic and hydraulic connections between all main components for quick and simple interface with a wide range of assembly systems
- The compact, lightweight placing head is quick to reconfigure, can be mounted separately and used at any angle – providing maximum production flexibility and minimum tool downtime
- Integral processing diagnostics at all stages with clear and simple PLC displays for high precision, highly reliable assembly
- Continuous fastener feed with an average cycle time of approximately 5 seconds makes it ideal for high volume production lines
- Avdel Patent Protected

Blow Feed Unit



Fasteners are transferred from the bowl feeder to the placing head via the blow feeder



# Assembly Workstations

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## Customised Assembly Systems

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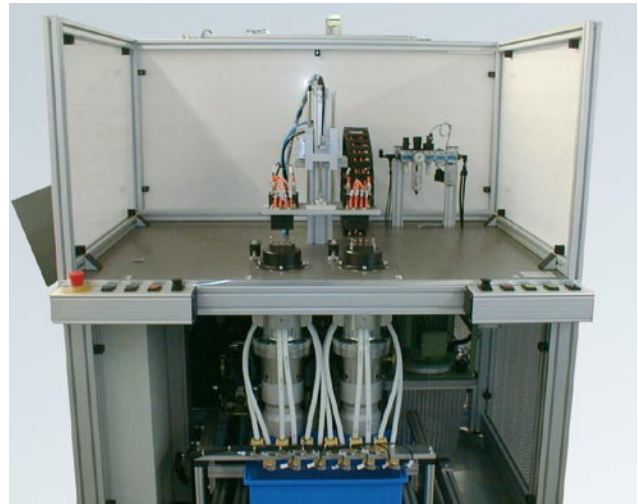
From simple twin-headed modules to multi-headed, customised equipment, these systems can dramatically reduce assembly time and costs while improving consistency of placing.

These systems can be designed for virtually any application or assembly environment and process monitoring equipment or clamping modules can be easily integrated. The direction, type and number of assembly heads can all be customised. We have designed equipment with two heads to over eighty heads but the configurations are virtually limitless.

- High speed assembly
- Assembly of any configuration
- Fastening at any angle
- Synchronous fastener placement
- Highly controlled assembly
- Process flexibility
- Integration into assembly lines
- Improved product quality

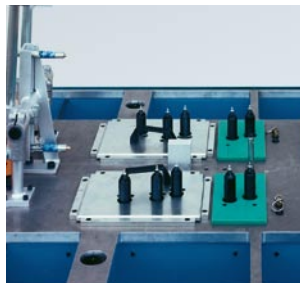
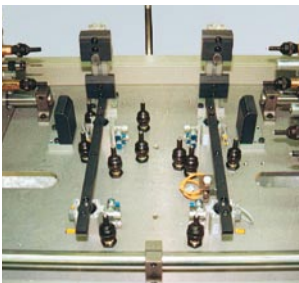
## Assembly of any Configuration

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## Fastening at any Angle

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# Customised Assembly Systems

## Assembly Systems

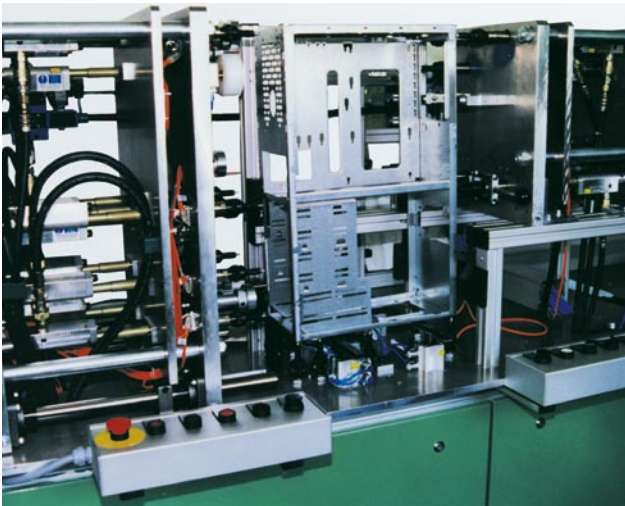
### Synchronous Fastener Placement

A range of equipment has been designed for multiple and synchronous placement of fasteners. From simple twin-headed modules to multi-headed, customised equipment, these modular systems can dramatically reduce assembly time and cost.

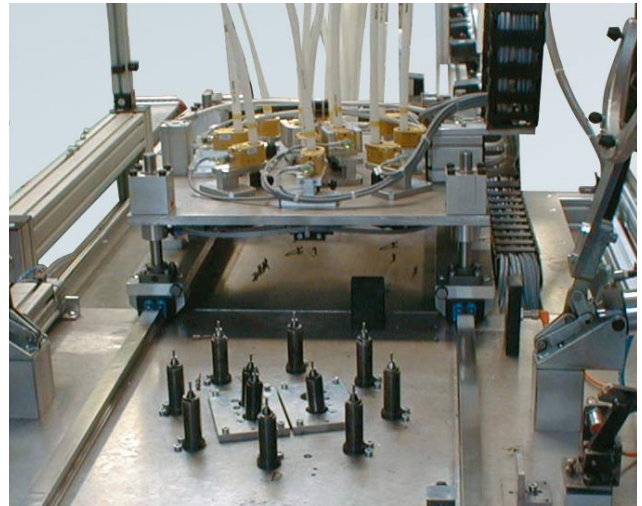
### Precision Fastening

Together with the fasteners, these high precision tools create a high quality, reliable assembly system. The fasteners are placed accurately and consistently without the risk of over-torquing. An additional benefit of these systems are the practical jig points provided by the assembly heads.

29 head machine



The assembly heads provide practice jig points



Integration into an assembly line



6-head Avimat®





# Customised Assembly Systems

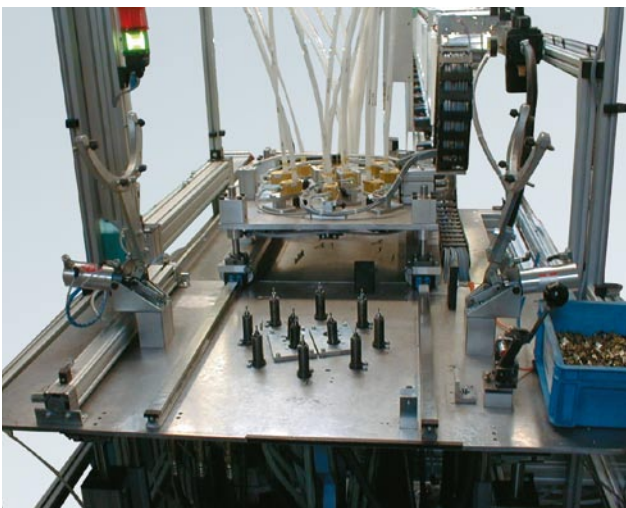
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## Assembly Applications

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### Laundry Dryer

This unit places 12 x 4.0mm Avex® fasteners in one assembly cycle of 20 seconds. It replaced the use of individual screws with an assembly cycle of 60 seconds and has improved product quality by consistent placement of 12 fasteners at a time. It incorporates a blow feed unit to transfer the fasteners to the placing head, the work area is height adjustable and the unit is modular for ease of extending or upgrading.

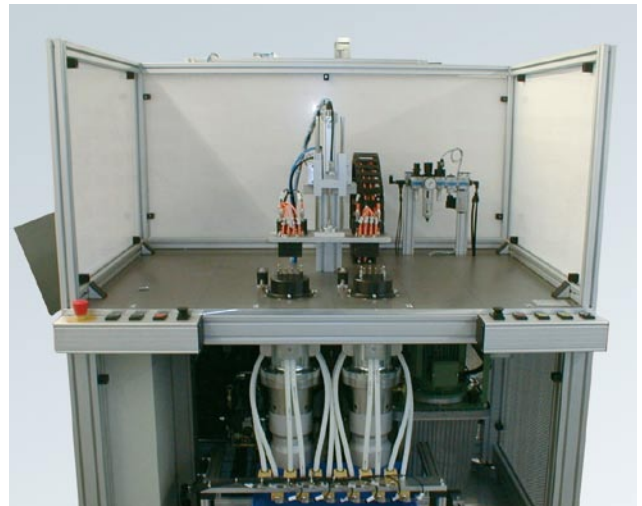
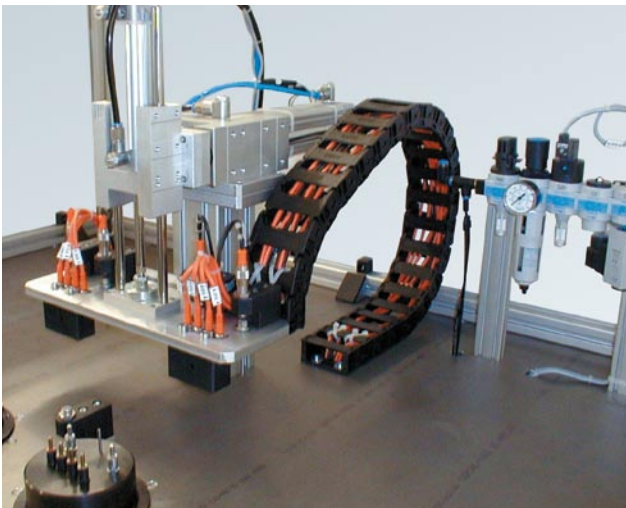
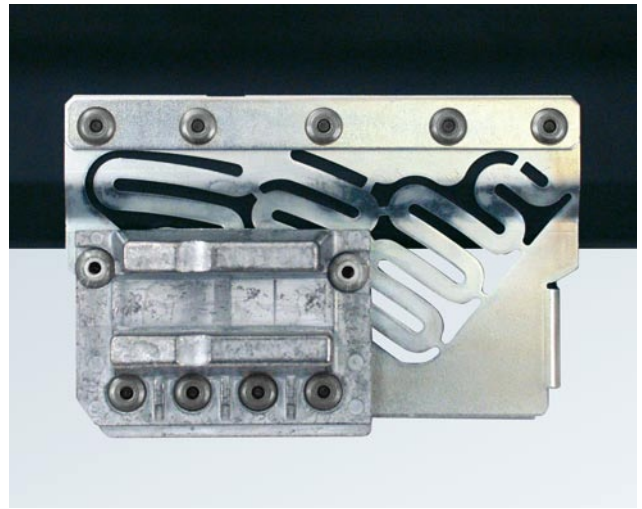
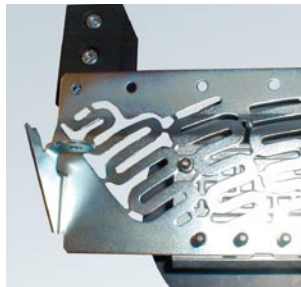


# Customised Assembly Systems

## Assembly Applications

### Station Wagon (restraining nets and sliding luggage cover)

This unit places 8 x 4.8mm Avibulb® and 4 x 4.8mm Avex® (6 fasteners per module) in one assembly cycle of 20 seconds. It replaced the use of handtools with an assembly cycle of 60 seconds and has improved product quality by consistent placement of 12 fasteners at a time. Processing diagnostics are provided by sensors at all stages of the assembly cycle to ensure all the relevant components are present, the correct fasteners are in the placing heads and that the fasteners are correctly installed.



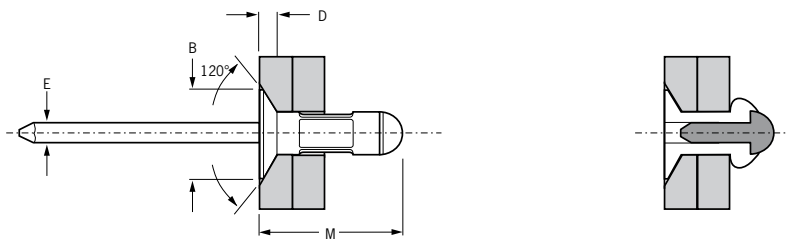
# Avex® 1604



English	Français	Deutsch	Italiano	Español
120° Countersunk head	120° Tête fraisée	120° Senkkopf	120° Testa svasata	120° Cabeza avellanada
Body: Aluminium alloy* (2.5 % Mg) Natural	Corps: Alliage d'aluminium* (2.5% Mg) Brut	Hülse: Aluminium* (2.5 % Mg) Blank	Corpo: Lega di alluminio* (2.5% Mg) Nessuna finitura	Cuerpo: Aluminio* (2.5% Mg) Natural
Stem: Low carbon steel**	Tige: Acier bas carbone**	Dorn: Stahl**	Gambo: Acciaio a basso tenore di carbonio**	Vástago: Acero bajo en carbono**
Zinc coated	Revêtement zingué	Verzinkt	Zincato	Zincado

\*: AA 5052, DIN 1725, AlMg2.5, Werkstoff 3.3523

\*\* : BS3111 Type 0, SAE 1015/1018/1022, DIN 1654, Cq15/Cq22



Ø	[Cross-section diagram]		[Thread diagram]		M	B	D	E	[Torque diagram]	[Torque diagram]	Part No/ref
	min.	max.	min.	max.							
3.2 (1/8")	2.4	6.3	3.3	3.4	12.2	5.5	1.3	1.8	0.7	1.0	01604-00412
	4.0	7.9			13.4						01604-00414
	5.5	9.5			14.8						01604-00416
4.0 (5/32")	2.8	7.9	4.1	4.2	14.3	6.5	1.4	2.2	1.1	1.3	01604-00514
	3.6	8.8			15.1						01604-00515
4.8 (3/16")	3.2	7.9	4.9	5.0	15.5	9.0	1.8	2.9	1.5	2.3	01604-00615
	6.3	12.7			20.4						01604-00621

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

1) typical values / valeurs moyennes / typische Werte / Valori tipici / resistencias máximas recomendadas

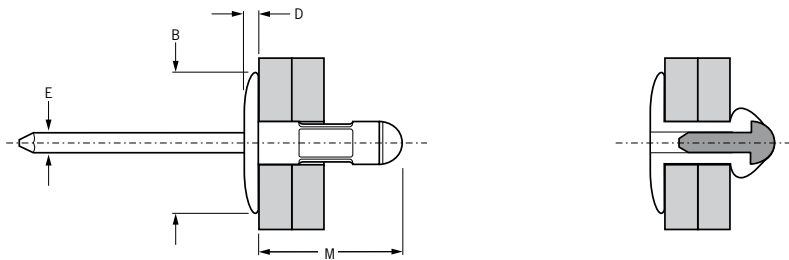
# Avex® 1641



English	Français	Deutsch	Italiano	Español
Large Flange	Tête large	Flachrundkopf extragroß	Testa larga	Cabeza ancha
Body: Aluminium alloy* (2.5 % Mg) Natural	Corps: Alliage d'aluminium* (2.5% Mg) Brut	Hülse: Aluminium* (2.5 % Mg) Blank	Corpo: Lega di alluminio* (2.5% Mg) Nessuna finitura	Cuerpo: Aluminio* (2.5% Mg) Natural
Stem: Low carbon steel**	Tige: Acier bas carbone**	Dorn: Stahl**	Gambo: Acciaio a basso tenore di carbonio**	Vástago: Acero bajo en carbono**
Zinc coated	Revêtement zingué	Verzinkt	Zincato	Zincado

\*: AA 5052, DIN 1725, AlMg2.5, Werkstoff 3.3523

\*\* : BS3111 Type 0, SAE 1015/1018/1022, DIN 1654, Cq15/Cq22



Ø					M	B	D	E	 kN <sup>1)</sup>	 kN <sup>1)</sup>	Part No/ref
	nom.	min.	max.	min.							
4.8 (3/16")	1.6	6.3	4.9	5.0	13.9	16.2	2.2	2.9	1.5	2.1	01641-00613
	3.2	9.3			17.0				1.3		01641-00617
	4.8	11.1			18.7				1.3		01641-00619
	6.4	12.7			20.2				1.3		01641-00621
	12.7	19.8			28.2				1.4		01641-00631

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

1) typical values / valeurs moyennes / typische Werte / Valori tipici / resistencias máximas recomendadas

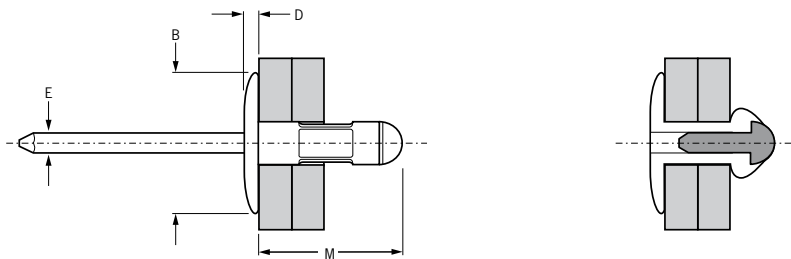
# Avex® 1643



English	Français	Deutsch	Italiano	Español
Large Flange	Tête large	Flachrundkopf extragroß	Testa larga	Cabeza ancha
Body: Aluminium alloy* (2.5 % Mg) Natural	Corps: Alliage d'aluminium* (2.5% Mg) Brut	Hülse: Aluminium* (2.5 % Mg) Blank	Corpo: Lega di alluminio* (2.5% Mg) Nessuna finitura	Cuerpo: Aluminio* (2.5% Mg) Natural
Stem: Stainless steel** Natural	Tige: Inox** Brut	Dorn: Edelstahl** Blank	Gambo: Acciaio inox** Nessuna finitura	Vástago: Acero inoxidable** Natural

\*: AA 5052, DIN 1725, AlMg2.5, Werkstoff 3.3523

\*\* : BS3111, 321S31, AISI 321, Werkstoff 1.4541



ø					M	B	D	E			Part No/ref
	nom.	min.	max.	min.							
4.8 (3/16")	1.6	6.3	4.9	5.0	13.6	16.2	2.2	2.9	1.4	2.0	01643-00613
	6.4	12.7			19.7				1.2		01643-00621
	12.7	19.8			27.6				1.3		01643-00631

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

1) typical values / valeurs moyennes / typische Werte / Valori tipici / resistencias máximas recomendadas

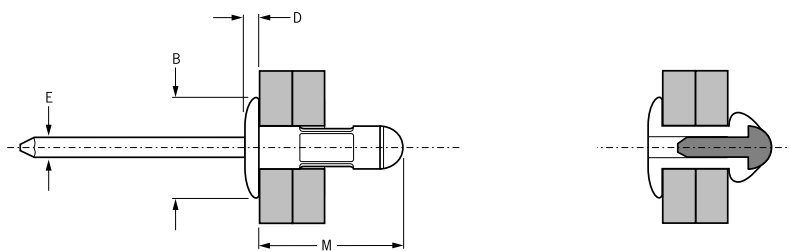
# Avex® 1661



English	Français	Deutsch	Italiano	Español
Dome head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Aluminium alloy* (2.5 % Mg)	Corps: Alliage d'aluminium* (2.5% Mg)	Hülse: Aluminium* (2.5 % Mg)	Corpo: Lega di alluminio* (2.5% Mg)	Cuerpo: Aluminio* (2.5% Mg)
Natural	Brut	Blank	Nessuna finitura	Natural
Stem: Low carbon steel**	Tige: Acier bas carbone**	Dorn: Stahl**	Gambo: Acciaio a basso tenore di carbonio**	Vástago: Acero bajo en carbono**
Zinc coated	Revêtement zingué	Verzinkt	Zincato	Zincado

\*: AA 5052, DIN 1725, AlMg2.5, Werkstoff 3.3523

\*\* : BS3111 Type 0, SAE 1015/1018/1022, DIN 1654, Cq15/Cq22



Ø					M	B	D	E	 kN <sup>1)</sup>	 kN <sup>1)</sup>	Part No/ref
	nom.	min.	max.	min.							
3.0	0.8	4.3	3.1	3.3	9.1	6.7	1.3	1.7	0.7	0.9	01661-05307
3.2 (1/8")	0.8	4.8	3.3	3.4	10.4	6.7	1.3	1.8	0.7	1.0	01661-00410
	1.2	6.3			12.0						01661-00412
	4.0	7.9			13.6						01661-00414
	5.5	9.5			16.0						01661-00416
4.0 (5/32")	0.5	3.2	4.1	4.2	9.3	8.2	1.6	2.2	1.1	1.6	01661-00508
	0.8	4.7			10.7						01661-00510
	1.2	6.3			12.5						01661-00512
	4.0	9.5			16.2						01661-00516
	6.4	12.7			19.6						01661-00521
4.8 (3/16")	1.6	6.3	4.9	5.0	13.9	10.1	1.8	2.9	1.5	2.3	01661-00613
	4.8	11.1			18.7						01661-00619
	4.8	12.7			20.2						01661-00621
	12.7	19.8			28.2						01661-00631
6.4 (1/4")	1.5	8.3	6.6	6.9	16.8	13.5	2.7	4.0	3.1	2.5	01610-04506 <sup>2)</sup>

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

1) typical values / valeurs moyennes / typische Werte / Valori tipici / resistencias máximas recomendadas

2) stem: zinc plated, clear trivalent passivated / tige: revêtement zingué, passivation claire trivalente / Dorn: verzinkt, klar chromatiert Cr6-frei / gambo: zincato, passivazione chiara trivalente / vástago: zincado, pasivado claro trivalente

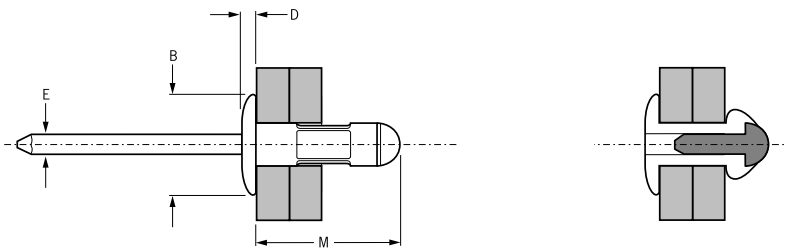
# Avex® 1663



English	Français	Deutsch	Italiano	Español
Dome head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Aluminium alloy* (2.5 % Mg) Natural	Corps: Alliage d'aluminium* (2.5% Mg) Brut	Hülse: Aluminium* (2.5 % Mg) Blank	Corpo: Lega di alluminio* (2.5% Mg) Nessuna finitura	Cuerpo: Aluminio* (2.5% Mg) Natural
Stem: Stainless steel** Natural	Tige: Inox** Brut	Dorn: Edelstahl** Blank	Gambo: Acciaio inox** Nessuna finitura	Vástago: Acero inoxidable** Natural

\*: AA 5052, DIN 1725, AlMg2.5, Werkstoff 3.3523

\*\* : BS3111, 321S31, AISI 321, Werkstoff 1.4541



ø					M	B	D	E			Part No/ref
	nom.	min.	max.	min.							
3.0	0.8	4.3	3.1	3.3	9.1	6.7	1.3	1.7	0.7	0.9	01663-05307
3.2 (1/8")	0.8	4.8	3.3	3.4	10.4	6.7	1.3	1.8	0.7	1.0	01663-00410
	1.2	6.3			12.0						01663-00412
	4.0	7.9			13.6						01663-00414
	5.5	9.5			16.0						01663-00416
4.0 (5/32")	0.5	3.2	4.1	4.2	9.3	8.2	1.6	2.2	1.0	1.6	01663-00508
	0.8	4.7			10.7						01663-00510
	1.2	6.3			12.5						01663-00512
	4.0	9.5			16.2						01663-00516
	6.4	12.7			19.6						01663-00521
4.8 (3/16")	1.6	6.3	4.9	5.0	13.9	10.1	1.8	2.9	1.3	2.3	01663-00613
	4.8	11.1			18.7						01663-00619
	4.8	12.7			20.2						01663-00621
	12.7	19.8			28.2						01663-00631

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

1) typical values / valeurs moyennes / typische Werte / Valori tipici / resistencias máximas recomendadas

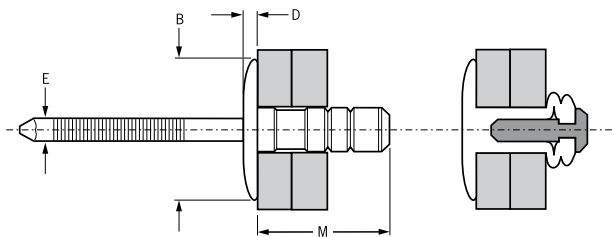
# Stavex® BE34



English	Français	Deutsch	Italiano	Español
Large Flange	Tête large	Flachrundkopf extragroß	Testa larga	Cabeza ancha
Body: Low carbon steel*	Corps: Acier bas carbone*	Hülse: Stahl*	Corpo: Acciaio a basso tenore di carbonio*	Cuerpo: Acero bajo en carbono*
Zinc plated	Revêtement zingué	Verzinkt	Zincato	Zincado
Stem: Low carbon steel**	Tige: Acier bas carbone**	Dorn: Stahl**	Gambo: Acciaio a basso tenore di carbonio**	Vástago: Acero bajo en carbono**
Zinc plated	Revêtement zingué	Verzinkt	Zincato	Zincado

\*: BS3111 Type 0, SAE 1008, DIN 1654, QSt 34-3

\*\* : BS3111 Type 0, SAE 1010/1015/1018/1022, DIN 17210, Cq10 / DIN 1654 Cq10/Cq15/Cq22



ø					M	B	D	E	 kN min.	 kN min.	Part No/ref
	nom.	min.	max.	min.							
4.8 mm (3/16")	1.50	6.35	4.9	5.0	13.8	16.2	2.1	3.0	2.6	2.9	OBE34-00614
	1.50	9.00			17.1						OBE34-00618
	6.30	12.70			20.1						OBE34-00622

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



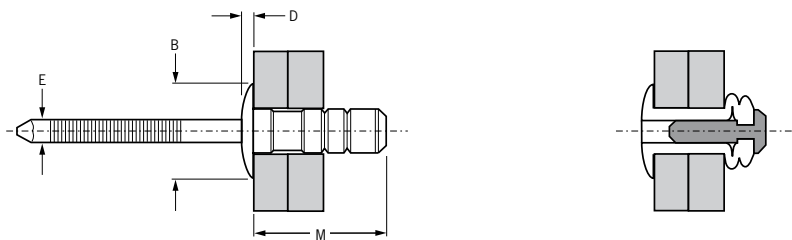
# Stavex® BS01



English	Français	Deutsch	Italiano	Español
Dome head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Low carbon steel*	Corps: Acier bas carbone*	Hülse: Stahl*	Corpo: Acciaio a basso tenore di carbonio*	Cuerpo: Acero bajo en carbono*
Zinc plated	Revêtement zingué	Verzinkt	Zincato	Zincado
Stem: Low carbon steel**	Tige: Acier bas carbone**	Dorn: Stahl**	Gambo: Acciaio a basso tenore di carbonio**	Vástago: Acero bajo en carbono**
Zinc plated	Revêtement zingué	Verzinkt	Zincato	Zincado

\*: BS3111 Type 0, SAE 1008, DIN 1654, QSt 34-3

\*\* : BS3111 Type 0, SAE 1010/1015/1018/1022, DIN 17210, Cq10 / DIN 1654 Cq10/Cq15/Cq22



ø					M	B	D	E	 kN min.	 kN min.	Part No/ref
	nom.	min.	max.	min.							
3.2 (1/8")	1.0	6.0	3.3	3.4	14.5	7.3	1.0	2.2	0.9	1.2	OBS01-00414
4.0 (5/32")	2.0	8.0	4.1	4.2	16.0	8.2	1.4	2.9	1.5	1.8	OBS01-00516
4.8 (3/16")	1.5	5.1	4.9	5.0	12.2	10.1	1.6	3.1	2.6	2.9	OBS01-00612
	1.5	6.3			13.8						OBS01-00614
	1.5	9.0			17.1						OBS01-00618
	6.3	12.7			20.1						OBS01-00622
6.4 (1/4")	1.5	7.6	6.6	6.9	16.8	13.5	2.7	4.0	3.1	3.6	01610-04844 <sup>1)</sup>

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

1) stem: zinc plated, clear trivalent passivated / tige: revêtement zingué, passivation claire trivalente / Dorn: verzinkt, klar chromatiert Cr6-frei / gambo: zincato, passivazione chiara trivalente / vástago: zincado, pasivado claro trivalente

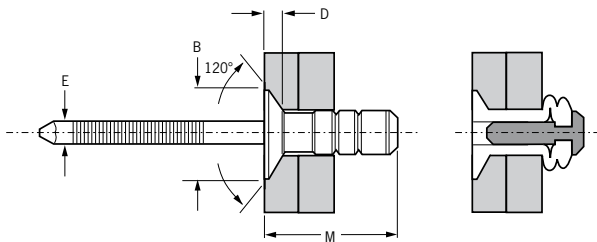
# Stavex® BS04



English	Français	Deutsch	Italiano	Español
120° Countersunk head	120° Tête fraisée	120° Senkkopf	120° Testa svasata	120° Cabeza avellanada
Body: Low carbon steel*	Corps: Acier bas carbone*	Hülse: Stahl*	Corpo: Acciaio a basso tenore di carbonio*	Cuerpo: Acero bajo en carbono*
Zinc plated	Revêtement zingué	Verzinkt	Zincato	Zincado
Stem: Low carbon steel**	Tige: Acier bas carbone**	Dorn: Stahl**	Gambo: Acciaio a basso tenore di carbonio**	Vástago: Acero bajo en carbono**
Zinc plated	Revêtement zingué	Verzinkt	Zincato	Zincado

\*: BS3111 Type 0, SAE 1008, DIN 1654, QSt 34-3

\*\* : BS3111 Type 0, SAE 1010/1015/1018/1022, DIN 17210, Cq10 / DIN 1654 Cq10/Cq15/Cq22



Ø					M	B	D	E	 kN min.	 kN min.	Part No/ref
	nom.	min.	max.	min.							
3.2 (1/8")	1.00	6.00	3.3	3.4	14.0	6.0	1.0	2.2	0.90	1.17	OBS04-00414
4.8 (3/16")	2.36	6.35	4.9	5.0	13.7	8.9	1.4	3.0	2.00	2.89	OBS04-00614
	4.19	6.35			13.7						OBS04-C0614
	2.36	9.52			17.0						OBS04-00618
	6.35	12.70			20.1						OBS04-00622

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

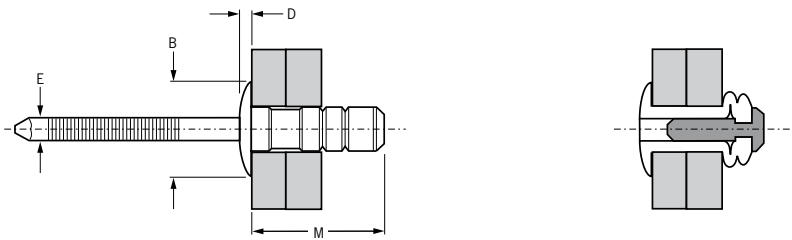
# Stavex® BS11



English	Français	Deutsch	Italiano	Español
Dome head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Stainless steel* Polished	Corps: Inox* Poli	Hülse: Edelstahl* Blank	Corpo: Acciaio inox* Lucido	Cuerpo: Acero inoxidable* Pulido
Stem: Stainless steel** Natural	Tige: Inox** Brut	Dorn: Edelstahl** Unbehandelt	Gambo: Acciaio inox** Nessuna finitura	Vástago: Acero inoxidable** Natural

\*: BS3111 394S17, Werkstoff 1.4567

\*\* : BS3111 304S17, AISI 304, Werkstoff 1.4301 / BS3111 321S31, AISI 321, Werkstoff 1.4541



Ø					M	B	D	E			Part No/ref
	nom.	min.	max.	min.							
3.2 (1/8")	1.0	6.0	3.3	3.4	14.5	7.3	1.0	2.2	1.6	1.9	0BS11-00414
4.0 (5/32")	2.0	8.0	4.1	4.2	16.0	8.2	1.4	2.9	2.4	3.2	0BS11-00516
4.8 (3/16")	1.5	9.0	4.9	5.0	17.1	10.1	1.6	3.1	4.1	4.5	0BS11-00618

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

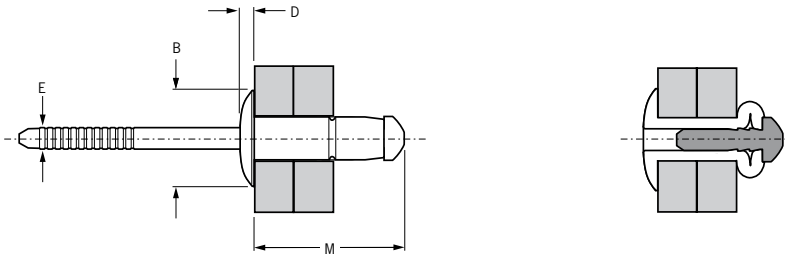
# Avibulb® BN01



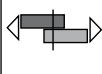



English	Français	Deutsch	Italiano	Español
Dome head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Low carbon steel*	Corps: Acier bas carbone*	Hülse: Stahl*	Corpo: Acciaio a basso tenore di carbonio*	Cuerpo: Acero bajo en carbono*
Zinc plated	Revêtement zingué	Verzinkt	Zincato	Zincado
Clear trivalent passivated	Passivation claire trivalente	Klar chromatiert, Cr6-frei	Passivazione chiara trivalente	Pasivado claro trivalente
Stem: Medium carbon steel**	Tige: Acier au carbone**	Dorn: Stahl**	Gambo: Acciaio a medio tenore di carbonio**	Vástago: Acero medio en carbono**
Zinc plated	Revêtement zingué	Verzinkt	Zincato	Zincado
Clear trivalent passivated	Passivation claire trivalente	Klar chromatiert, Cr6-frei	Passivazione chiara trivalente	Pasivado claro trivalente

\*: BS3111 Type 0, SAE 1008, DIN 1654, QSt 34-3 / BS3111 Type 0, SAE 1015 DIN 1711, RSt 38-2, Werkstoff 1.0401

\*\* : BS3111 Type 1, SAE 1030/1037/1040/1045, Werkstoff 1.1178/1.1176/1.1186/1.1191



ø					M	B	D	E			Part No/ref	
	nom.	min.	max.	min.								max.
3.2 (1/8")	1.0	3.0	3.3	3.4	9.1	6.8	1.4	2.0	1.2	1.3	OBN01-00408	
	3.0	5.0			11.7						1.7	OBN01-00411
	5.0	7.0			14.0						2.5	OBN01-00414
4.0 (5/32")	1.0	3.0	4.1	4.3	10.4	8.0	1.4	2.6	2.4	2.8	OBN01-00509	
	3.0	5.0			12.9						3.5	OBN01-00512
	5.0	7.0			15.7						4.1	OBN01-00516
	7.0	9.0			18.1				3.3	2.5	OBN01-00519	
4.8 (3/16")	1.5	3.5	4.9	5.1	12.1	9.6	1.5	3.2	3.6	3.8	OBN01-00611	
	3.5	6.0			14.7						4.2	OBN01-00614
	6.0	8.5			17.6						5.6	OBN01-00618
6.0	1.5	4.0	6.1	6.3	14.0	12.3	2.1	4.0	4.2	5.4	OBN01-06010	
	3.0	6.0			17.0						5.4	OBN01-06013
	6.0	9.0			20.0						8.5	OBN01-06016
	9.0	12.0			23.0						8.5	OBN01-06019

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

1) typical values / valeurs moyennes / typische Werte / Valori tipici / resistencias máximas recomendadas

2) through stem / avec tige / bei tragendem Restdorn / attraverso il gambo / con el vástago en la zona de cortadura

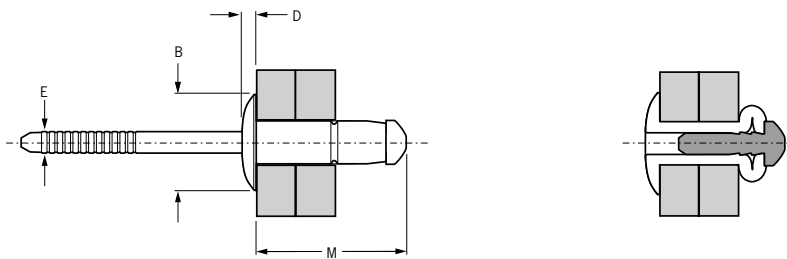
# Avinox® BE61



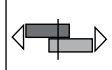



English	Français	Deutsch	Italiano	Español
Dome head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Stainless steel* Polished	Corps: Inox* Poli	Hülse: Edelstahl* Blank	Corpo: Acciaio inox* Lucido	Cuerpo: Acero inoxidable* Pulido
Stem: Stainless steel** Natural	Tige: Inox** Brut	Dorn: Edelstahl** Unbehandelt	Gambo: Acciaio inox** Nessuna finitura	Vástago: Acero inoxidable** Natural

\*: BS 3111 394S17, Werkstoff 1.4567

\*\* : BS 3111 321S31, AISI 321, Werkstoff 1.4541 / AISI 304, Werkstoff 1.4301



ø					M	B	D	E	 kN <sup>(1) (2)</sup>	 kN <sup>(1)</sup>	Part No/ref
	nom.	min.	max.	min.							
3.2 (1/8")	1.0	3.0	3.3	3.4	9.0	6.6	1.1	2.1	1.6	2.0	OBE61-00408
	3.0	5.0			11.5				1.7		OBE61-00411
	5.0	7.0			14.1				3.2		OBE61-00414
4.0 (5/32")	1.0	3.0	4.1	4.3	10.3	8.0	1.5	2.6	2.8	4.0	OBE61-00509
	3.0	5.0			12.9				5.2		OBE61-00512
	5.0	7.0			15.6				5.2		OBE61-00516
4.8 (3/16")	1.5	3.5	4.9	5.1	12.8	9.6	1.5	3.2	5.5	5.0	OBE61-00611
	3.5	6.0			15.4				5.5		OBE61-00614
	6.0	8.5			18.4				5.5		OBE61-00618

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

1) typical values / valeurs moyennes / typische Werte / Valori tipici / resistencias máximas recomendadas

2) includes stem in shear plane, where applicable / Avec présence de la tige dans le plan de cisaillement / mit Restdorn in Scherebene, wo zutreffend / Include il gambo nel taglio piano, dove applicabile / Cuando esté incluido el vástago en la zona de cortadura

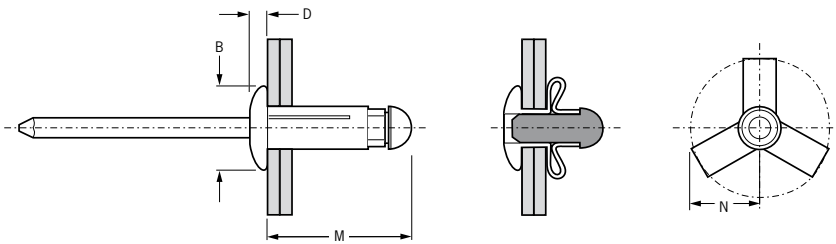
# Bulbex® BF01



English	Français	Deutsch	Italiano	Español
Dome head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Aluminium alloy* Natural	Corps: Alliage d'aluminium* Brut	Hülse: Aluminium* Blank	Corpo: Lega di alluminio* Nessuna finitura	Cuerpo: Aluminio* Natural
Stem: Aluminium alloy** Natural	Tige: Alliage d'aluminium** Brut	Dorn: Aluminium** Blank	Gambo: Lega di alluminio** Nessuna finitura	Vástago: Aluminio** Natural

\*:  $\varnothing$  4.0 = 5754 /  $\varnothing$  4.8 = 5052

\*\* : 5056



$\varnothing$					M	B	D	N			Part No/ref
	nom.	min.	max.	min.							
4.0 (5/32")	1.0	3.0	4.2	4.5	16.0	8.16	1.53	5.79	0.60	1.00	0BF01-00516
	1.0	7.0			21.2			8.00			0BF01-00523
	1.0	8.5			22.9			8.66			0BF01-00525
	5.0	12.0			27.6			9.02			0BF01-00531
4.8 (3/16")	1.0	4.0	5.0	5.25	18.3	10.06	2.04	6.78	0.78	1.07	0BF01-00619
	1.0	9.0			23.3			9.02			0BF01-00625
	4.0	12.0			27.1			11.20			0BF01-00630

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

1) typical values / valeurs moyennes / typische Werte / Valori tipici / resistencias máximas recomendadas

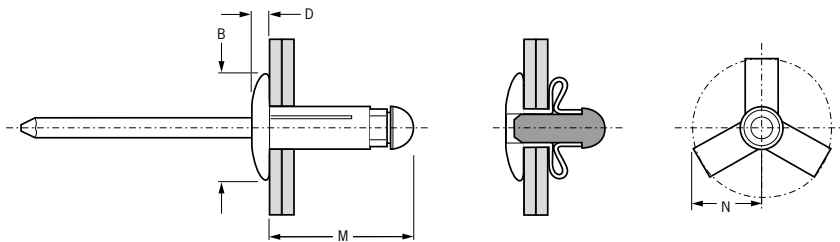
# Bulbex® BF41



English	Français	Deutsch	Italiano	Español
Large flange	Tête large	Flachrundkopf extragroß	Testa larga	Cabeza ancha
Body: Aluminium alloy* Natural	Corps: Alliage d'aluminium* Brut	Hülse: Aluminium* Blank	Corpo: Lega di alluminio* Nessuna finitura	Cuerpo: Aluminio* Natural
Stem: Aluminium alloy** Natural	Tige: Alliage d'aluminium** Brut	Dorn: Aluminium** Blank	Gambo: Lega di alluminio** Nessuna finitura	Vástago: Aluminio** Natural

\* 5052

\*\* 5056



ø					M	B	D	N			Part No/ref
	nom.	min.	max.	min.							
4.8 (3/16")	1.0	4.0	5.00	5.25	18.3	16.0	1.93	6.78	0.78	1.07	0BF41-00619
	1.0	9.0			23.3			9.02			0BF41-00625

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

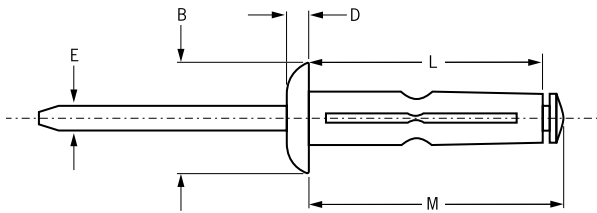
1) typical values / valeurs moyennes / typische Werte / Valori tipici / resistencias máximas recomendadas

# Klamp-Tite® BAPK



English	Français	Deutsch	Italiano	Español
Protruding head	Tête bombée	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Aluminium alloy* Wax lubricated	Corps: Alliage d'aluminium* Lubrifié	Hülse: Aluminium* Gewachst	Corpo: Lega di alluminio* Lubrificato	Cuerpo: Aluminio* Lubricado
Stem: Aluminium alloy** Wax lubricated	Tige: Alliage d'aluminium** Lubrifié	Dorn: Aluminium** Gewachst	Gambo: Lega di alluminio** Lubrificato	Vástago: Aluminio** Lubricado

\*: 5056 \*\*: 2024/5056



ø	[Cross-section diagram]		[Thread diagram]		M	B	D	L	E	[Torque diagram]	[Torque diagram]	Part No/ref
	min.	max.	min.	max.								
4.8 (3/16")	1.27	6.35	5.18	5.31	25.40	11.30	2.37	22.72	2.90	1.3	1.7	BAPK-06-04
	4.75	9.53			27.81			25.13				BAPK-06-06
	9.53	14.27			30.94			28.25				BAPK-06-09
6.4 (1/4")	1.52	6.35	6.40	6.65	26.47	14.22	3.00	23.50	3.84	1.9	2.6	BAPK-08-04
	4.75	9.53			29.64			26.67				BAPK-08-06

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

1) typical values / valeurs moyennes / typische Werte / Valori tipici / resistencias máximas recomendadas

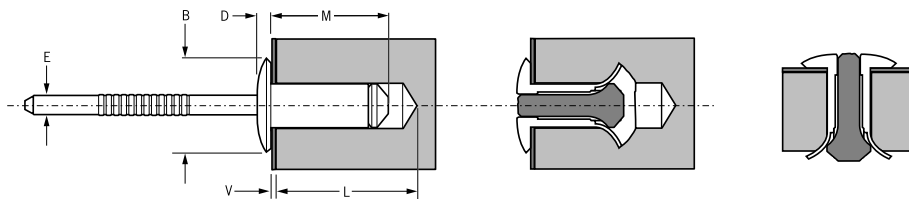


# T-Lok<sup>®</sup> BM01



English	Français	Deutsch	Italiano	Español
Dome head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Body: medium carbon steel*	Corps: Acier au carbone*	Hülse: Stahl*	Corpo: Acciaio carbonio*	Cuerpo: Acero medio en carbono*
Zinc plated	Revêtement zingué	Verzinkt	Zincato	Zincado
Clear trivalent passivated	Passivation claire trivalente	Klar chromatiert, Cr6-frei	Passivazione chiara trivalente	Pasivado claro trivalente
Stem: Low carbon steel**	Tige: Acier bas carbone**	Dorn: Stahl**	Gambo: Acciaio a basso tenore di carbonio**	Vástago: Acero bajo en carbono**
Zinc coated	Revêtement zingué	Verzinkt	Zincato	Zincado

\*: BS970 Type 0, SAE 1015, DIN 17111, RSt 38-2, Werkstoff 1.0401  
 \*\*: BS3111 Type 0, SAE 1015/1018/1022, DIN 1654, Cq15/Cq22



Ø	🌀		M	B	D	E	V		L min.		🏠	Part No/ref
	nom.	min.					max.	max.	max.	max.		
4.3	4.3	4.4	10.9	8.2	1.3	2.6	1.27	0.25	11.2	12.2	0.5	OBM01-00510
			12.4				13.0		13.7	OBM01-00512		
			18.7				12.7		20.1	0.7		OBM01-00520
			20.4				12.7		21.6			OBM01-00522
4.8 (3/16")	4.8	4.9	14.3	10.2	2.1	2.9	0.25	10.4	15.7	1.0	OBM01-00614	
			18.9					13.0	20.3		OBM01-00620	

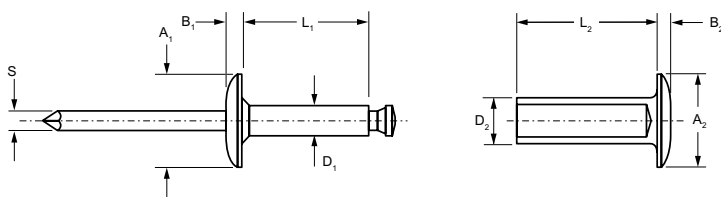
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros




1) typical values / valeurs moyennes / typische Werte / Valori tipici / resistencias máximas recomendadas

# Avdelmate® BALMS



English	Français	Deutsch	Italiano	Español
Body: Aluminium Clear alodine	Corps: Aluminium Passivation claire	Hülse: Aluminium Klar chromatiert	Corpo: Alluminio Passivato chiara	Cuerpo: Aluminio Pasivado claro
Mandrel: Aluminium Natural	Tige: Aluminium Brut	Dorn: Aluminium Blank	Gambo: Alluminio Nessuna finitura	Vástago: Aluminio Natural
Tubular Component: Aluminium Clear alodine	Composant tubulaire: Aluminium Passivation claire	Röhrenförmiges Gegen- stück: Aluminium Klar chromatiert	Componente tubulare: Alluminio Passivazione chiara	Componente tubular: Aluminio Pasivado claro



ø nom.				D <sub>1</sub>	L <sub>1</sub> max.	A <sub>1</sub>	B <sub>1</sub>	S	D <sub>2</sub>	L <sub>2</sub> max.	A <sub>2</sub>	B <sub>2</sub>	 kN <sup>1)</sup>	Part No/ref
	min.	max.												
4.8 (3/16")	15.88	19.05	6.4	3.18	13.34	9.53	1.50	1.93	4.78	14.86	9.53	1.45	N/A	BALMS-06BP-12
	17.48	22.23								16.43				BALMS-06BP-14
	22.23	27.00								20.96				BALMS-06BP-17
	27.00	31.75								25.70				BALMS-06BP-20
	31.75	36.53								30.48				BALMS-06BP-23
	36.53	41.28								35.23				BALMS-06BP-26
	41.28	46.05								40.01				BALMS-06BP-29
	46.05	50.80								44.75				BALMS-06BP-32
	50.80	55.58								49.53				BALMS-06BP-35
	55.58	60.33								54.28				BALMS-06BP-38
6.4 (1/4")	15.88	19.05	7.9	4.75	11.23	15.88	2.41	2.90	6.35	14.73	15.88	2.41	1.1	BALMS-08BP-12
	19.05	22.23			17.65					BALMS-08BP-14				
	22.23	28.58			20.83					BALMS-08BP-18				
	28.58	34.93			27.18					BALMS-08BP-22				
	34.93	41.28			33.53					BALMS-08BP-26				
	41.28	47.63			39.88					BALMS-08BP-30				
	47.63	53.98			46.23					BALMS-08BP-34				
	53.98	60.33			52.58					BALMS-08BP-38				
	60.33	66.68			58.93					BALMS-08BP-42				
	66.68	73.03			65.28					BALMS-08BP-46				
	73.03	79.38			71.63					BALMS-08BP-50				
	79.38	85.73			77.98					BALMS-08BP-54				
	85.73	92.08			84.33					BALMS-08BP-58				
	92.08	98.43			90.68					BALMS-08BP-62				

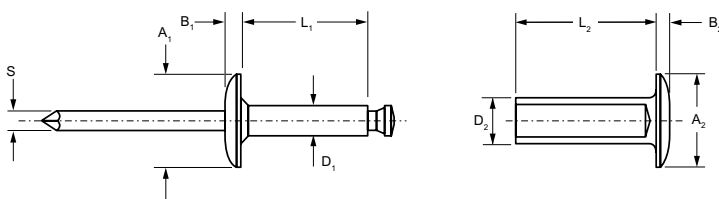
all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

1) typical values / valeurs moyennes / typische Werte / Valori tipici / resistencias máximas recomendadas

# Avdelmate® BSLMS



English	Français	Deutsch	Italiano	Español
Body: Aluminium Clear alodine	Corps: Aluminium Passivation claire	Hülse: Aluminium Klar chromatiert	Corpo: Alluminio Passivato chiara	Cuerpo: Aluminio Pasivado claro
Mandrel: Steel Zinc plated	Tige: Acier Revêtement zingué	Dorn: Stahl Verzinkt	Gambo: Acciaio Zincati	Vástago: Acero Zincado
Tubular Component: Aluminium Clear alodine	Composant tubulaire: Aluminium Passivation claire	Röhrenförmiges Gegen- stück: Aluminium Klar chromatiert	Componente tubulare: Alluminio Passivazione chiara	Componente tubular: Aluminio Pasivado claro



ø nom.	Thread		D <sub>1</sub>	L <sub>1</sub> max.	A <sub>1</sub>	B <sub>1</sub>	S	D <sub>2</sub>	L <sub>2</sub> max.	A <sub>2</sub>	B <sub>2</sub>	kN <sup>1)</sup>	Part No/ref
	min.	max.											
4.8 (3/16")	15.88	19.05	6.4	3.18	13.34	9.53	1.50	1.93	4.78	9.53	1.45	N/A	BSLMS-06BP-12
	17.48	22.23											BSLMS-06BP-14
	22.23	27.00											BSLMS-06BP-17
	27.00	31.75											BSLMS-06BP-20
	31.75	36.53											BSLMS-06BP-23
	36.53	41.28											BSLMS-06BP-26
	41.28	46.05											BSLMS-06BP-29
	46.05	50.80											BSLMS-06BP-32
	50.80	55.58											BSLMS-06BP-35
	55.58	60.33											BSLMS-06BP-38
6.4 (1/4")	15.88	19.05	7.9	4.75	11.23	15.88	2.41	2.90	6.35	15.88	2.41	2.0	BSLMS-08BP-12
	19.05	22.23			BSLMS-08BP-14								
	22.23	28.58			BSLMS-08BP-18								
	28.58	34.93			BSLMS-08BP-22								
	34.93	41.28			BSLMS-08BP-26								
	41.28	47.63		BSLMS-08BP-30									
	47.63	53.98		BSLMS-08BP-34									
	53.98	60.33		BSLMS-08BP-38									
	60.33	66.68		BSLMS-08BP-42									
	66.68	73.03		BSLMS-08BP-46									
	73.03	79.38		BSLMS-08BP-50									
	79.38	85.73		BSLMS-08BP-54									
	85.73	92.08		BSLMS-08BP-58									
	92.08	98.43		BSLMS-08BP-62									

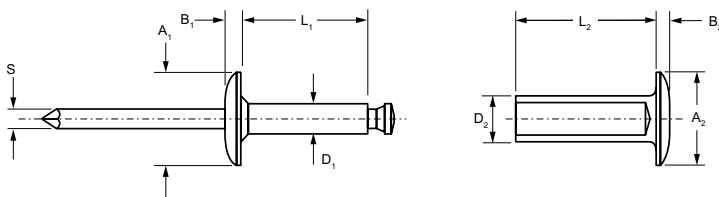
all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros




1) typical values / valeurs moyennes / typische Werte / Valori tipici / resistencias máximas recomendadas

# Avdelmate® SSLMS



English	Français	Deutsch	Italiano	Español
Body: Steel Zinc plated	Corps: Acier Revêtement zingué	Hülse: Stahl Verzinkt	Corpo: Acciaio Zincati	Cuerpo: Acero Zincado
Mandrel: Steel Zinc plated	Tige: Acier Revêtement zingué	Dorn: Stahl Verzinkt	Gambo: Acciaio Zincati	Vástago: Acero Zincado
Tubular Component: Steel Zinc plated	Composant tubulaire: Acier Revêtement zingué	Röhrenförmiges Gegen- stück: Stahl Verzinkt	Componente tubulare: Acciaio Zincati	Componente tubular: Acero Zincado



ø nom.				D <sub>1</sub>	L <sub>1</sub> max.	A <sub>1</sub>	B <sub>1</sub>	S	D <sub>2</sub>	L <sub>2</sub> max.	A <sub>2</sub>	B <sub>2</sub>	 kN <sup>1)</sup>	Part No/ref
	min.	max.												
4.8 (3/16")	15.88	19.05	6.4	3.18	13.34	9.53	1.50	1.93	4.78	14.86	9.53	1.45	N/A	SSLMS-06SP-12
	17.48	22.23								16.43				SSLMS-06SP-14
	22.23	27.00								20.96				SSLMS-06SP-17
	27.00	31.75								25.70				SSLMS-06SP-20
	31.75	36.53								30.48				SSLMS-06SP-23
	36.53	41.28								35.23				SSLMS-06SP-26
	41.28	46.05								40.01				SSLMS-06SP-29
	46.05	50.80								44.75				SSLMS-06SP-32
	50.80	55.58								49.53				SSLMS-06SP-35
	55.58	60.33								54.28				SSLMS-06SP-38
6.4 (1/4")	15.88	19.05	7.9	4.75	11.23	15.88	2.41	2.90	6.35	14.73	15.88	2.41	1.55	SSLMS-08SP-12
	19.05	22.23			17.65					SSLMS-08SP-14				
	22.23	28.58			20.83					SSLMS-08SP-18				
	28.58	34.93			27.18					SSLMS-08SP-22				
	34.93	41.28			33.53					SSLMS-08SP-26				
	41.28	47.63			39.88					SSLMS-08SP-30				
	47.63	53.98			46.23					SSLMS-08SP-34				
	53.98	60.33			52.58					SSLMS-08SP-38				
	60.33	66.68			58.93					SSLMS-08SP-42				
	66.68	73.03			65.28					SSLMS-08SP-46				
	73.03	79.38			71.63					SSLMS-08SP-50				
	79.38	85.73			77.98					SSLMS-08SP-54				
	85.73	92.08			84.33					SSLMS-08SP-58				
	92.08	98.43			90.68					SSLMS-08SP-62				

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

1) typical values / valeurs moyennes / typische Werte / Valori tipici / resistencias máximas recomendadas

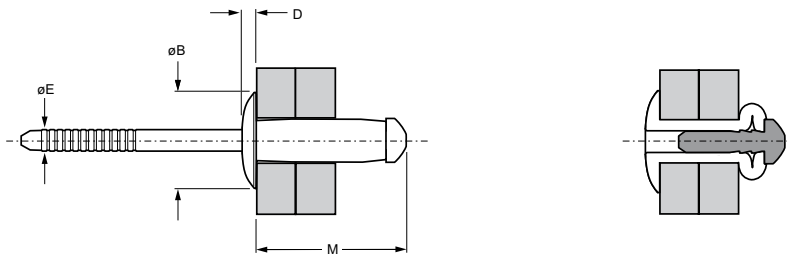
# Avibulb® XT BN01



English	Français	Deutsch	Italiano	Español
Dome head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Low carbon steel*	Corps: Acier bas carbone*	Hülse: Stahl*	Corpo: Acciaio a basso tenore di carbonio*	Cuerpo: Acero bajo en carbono*
Zinc plated Clear trivalent passivated	Revêtement zingué Passivation claire trivalente	Verzinkt Klar chromatiert, Cr6-frei	Zincato Passivazione chiara trivalente	Zincado Pasivado claro trivalente
Stem: Medium carbon steel**	Tige: Acier au carbone**	Dorn: Stahl**	Gambo: Acciaio a medio tenore di carbonio**	Vástago: Acero medio en carbono**
Zinc plated Clear trivalent passivated	Revêtement zingué Passivation claire trivalente	Verzinkt Klar chromatiert, Cr6-frei	Zincato Passivazione chiara trivalente	Zincado Pasivado claro trivalente

\*: SAE 1015, DIN 1711, RSt 38-2, Werkstoff 1.0401

\*\* : SAE 1045, Werkstoff 1.1191



Ø nom.					M	ØB	D	ØE			Part No/ref
	min.	max.	min.	max.							
6.4 (1/4")	1.5	5.5	6.6	7.0	17.3	13.4	3.1	4.87	11.1	6.8	OBN01-00816
	5.0	9.0			21.3						OBN01-00820

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

1) typical values with test method according to ISO 14589 (2000) / Valeurs moyennes obtenues selon la méthode de test de la norme ISO 14589 (2000) / typische Werte ermittelt nach Testmethode ISO 14589 (2000) / valori tipici con il metodo di prova secondo la normativa ISO 14589 (2000) / resistencias máximas recomendadas según ensayos ISO 14589 (2000)

2) through stem / avec tige / bei tragendem Restdorn / attraverso il gambo / con el vástago en la zona de cortadura

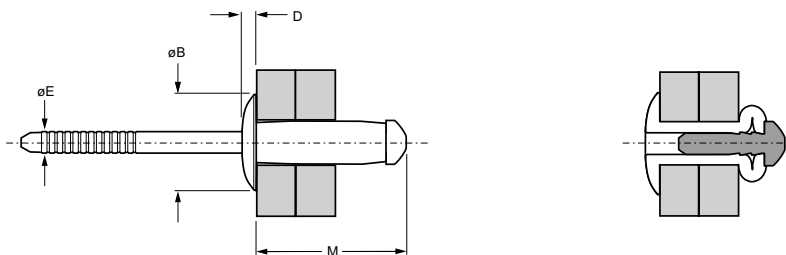
# Avinox® XT BE61



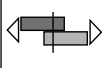



English	Français	Deutsch	Italiano	Español
Dome head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Stainless steel* Bright	Corps: Inox* Poli	Hülse: Edelstahl* Blank	Corpo: Acciaio inox* Lucido	Cuerpo: Acero inoxidable* Pulido
Stem: Stainless steel** Natural	Tige: Inox** Brut	Dorn: Edelstahl** Unbehandelt	Gambo: Acciaio inox** Nessuna finitura	Vástago: Acero inoxidable** Natural

\*: BS 3111 394S17, BS 3111 321S31, Werkstoff 1.4567

\*\* : AISI 321, AISI 304, Werkstoff 1.4541, Werkstoff 1.4301



ø					M	øB	D	øE	 kN <sup>(1 2)</sup>	 kN <sup>(1)</sup>	Part No/ref
	nom.	min.	max.	min.							
6.4 (1/4")	1.5	5.5	6.6	7.0	16.8	13.4	3.1	4.93	14.3	8.0	0BE61-00815
	5.0	9.0			20.8						0BE61-00819

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

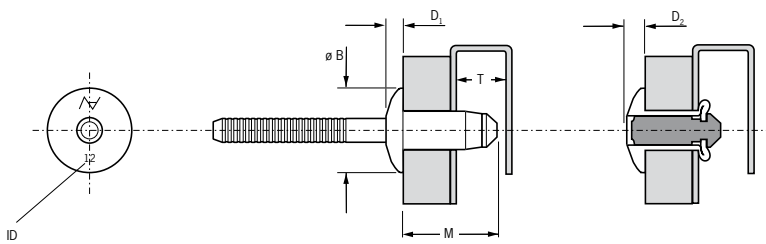
1) typical values with test method according to ISO 14589 (2000) / Valeurs moyennes obtenues selon la méthode de test de la norme ISO 14589 (2000) / typische Werte ermittelt nach Testmethode ISO 14589 (2000) / valori tipici con il metodo di prova secondo la normativa ISO 14589 (2000) / resistencias máximas recomendadas según ensayos ISO 14589 (2000)

2) includes stem in shear plane, where applicable / Avec présence de la tige dans le plan de cisaillement / mit Restdorn in Scherebene, wo zutreffend / Include il gambo nel taglio piano, dove applicabile / Cuando esté incluido el vástago en la zona de cortadura

# Hemlok® 2221



English	Français	Deutsch	Italiano	Español
Protruding head	Tête bombée	Flachrundkopf	Testa tonda	Cabeza alomada
Body: medium carbon steel Zinc plated Clear trivalent passivated	Corps: Acier moyen carbone Revêtement zingué Passivation claire trivalente	Hülse: Stahl Verzinkt Klar passiviert, Cr6-frei	Corpo: Acciaio a medio tenore di carbonio Zincato Passivazione chiara trivalente	Cuerpo: Acero medio en carbono Zincado Pasivado claro trivalente
Stem: medium carbon steel Zinc plated Clear trivalent passivated	Tige: Acier moyen carbone Revêtement zingué Passivation claire trivalente	Dorn: Stahl Verzinkt Klar chromatiert, Cr6-frei	Gambo: Acciaio a medio tenore di carbonio Zincato Passivazione chiara trivalente	Vástago: Acero medio en carbono Zincado Pasivado claro trivalente



ø nom.					ID	M	ø B	D <sub>1</sub>	T	D <sub>2</sub>			Part No/ref		
	min.	max.	min.	max.										max.	max.
6.4 (1/4")	1.50	3.50	6.7	6.9	12	13.7	13.4	2.7	12.2	3.4			8.8	02221-00812	
	2.80	4.80			13	15.0								12.0	02221-00813
	3.35	5.35			14	15.6								12.5	02221-00814
	4.80	6.80			15	17.0								12.5	02221-00815
	6.80	8.80			17	19.0								14.0	02221-00817
	7.50	9.50			18	19.7								15.0	02221-00818
	8.80	10.80			19	21.0								16.0	02221-00819
	10.80	12.80			21	23.0								16.0	02221-00821

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

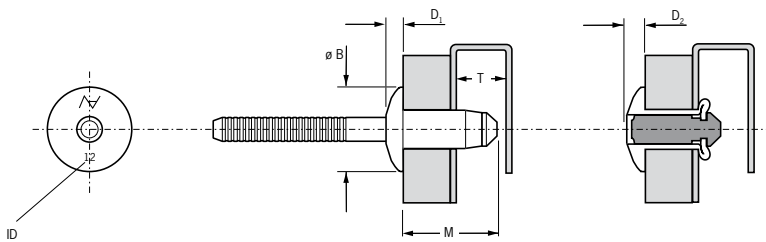
# Hemlok® 2241



English	Français	Deutsch	Italiano	Español
Protruding head	Tête bombée	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Aluminium alloy* (2.5 % Mg)	Corps: Alliage d'aluminium* (2.5% Mg)	Hülse: Aluminium* (2.5 % Mg)	Corpo: Lega di alluminio* (2.5% Mg)	Cuerpo: Aluminio* (2.5% Mg)
Natural	Brut	Blank	Nessuna finitura	Natural
Stem: Aluminium alloy**	Tige: Alliage d'aluminium**	Dorn: Aluminium**	Gambo: Lega di alluminio**	Vástago: Aluminio**
Natural	Brut	Blank	Nessuna finitura	Natural

\*: EN AW-5052, AlMg2.5

\*\* : EN AW-7075 AlZn5.5MgCu



ø					ID	M	ø B	D <sub>1</sub>	T	D <sub>2</sub>			Part No/ref
	min.	max.	min.	max.									
6.4 (1/4")	1.50	3.50	6.7	6.9	12	13.7	13.4	2.7	12.2	3.4	5.0	2.67	02241-00812
	2.80	4.80			13	15.0							02241-00813
	3.35	5.35			14	15.6							02241-00814
	4.80	6.80			15	17.0							02241-00815
	6.80	8.80			17	19.0							02241-00817
	8.80	10.80			19	21.0							02241-00819
	10.80	12.80			21	23.0							02241-00821

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

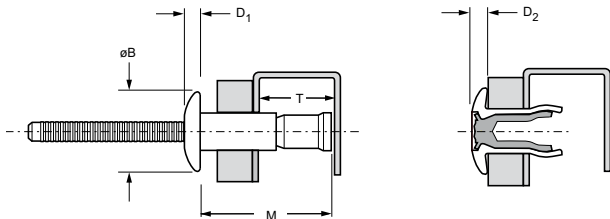


# Monobolt® 2711



English	Français	Deutsch	Italiano	Español
Protruding head	Tête bombée	Flachrundkopf	Testa tonda	Cabeza alomada
Body: stainless steel* Natural	Corps: Inox* Brut	Hülse: Edelstahl* Unbehandelt	Corpo: Acciaio inox* Nessuna finitura	Cuerpo: Acero inoxidable* Natural
Stem: stainless steel* Natural	Tige: Inox* Brut	Dorn: Edelstahl* Unbehandelt	Gambo: Acciaio inox* Nessuna finitura	Vástago: Acero inoxidable* Natural

\*: AISI 304



Ø	ØB		D1		M	Ø B	D <sub>1</sub>	T	D <sub>2</sub>	kN <sup>1)</sup>	kN <sup>1)</sup>	Part No/ref
	min.	max.	min.	max.								
4.8 (3/16")	1.63	6.86	4.9	5.1	18.2	10.1	2.1	10.5	1.9	6.4	5.1	02711-00613
	1.63	11.10			24.5			13.5				02711-00617
6.4 (1/4")	2.03	9.53	6.6	7.0	23.7	13.4	2.9	12.2	2.7	11.7	10.4	02711-00817
	2.03	15.87			33.0			16.4				02711-00824
10.0 (3/8")	3.04	15.88	9.95	10.4	36.2	20.3	4.1	22.3	4.0	26.1	19.4	02711-01228

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

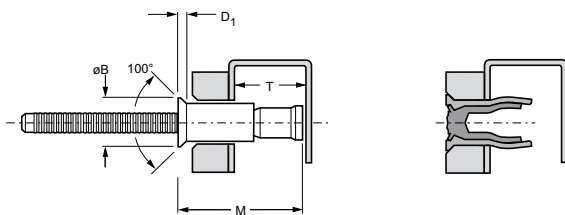
1) typical values / valeurs moyennes / typische Werte / Valori tipici / resistencias máximas recomendadas

# Monobolt® 2721



English	Français	Deutsch	Italiano	Español
Countersunk head	Tête fraisée	Senkkopf	Testa svasata	Cabeza avellanada
Body: austenitic stainless steel* Bright	Corps: Inox austénitique* Poli	Hülse: Edelstahl* Blank	Corpo: Acciaio inox austenitico* Lucido	Cuerpo: Acero inoxidable austenítico* Pulido
Stem: austenitic stainless steel* Natural	Tige: Inox austénitique* Brut	Dorn: Edelstahl* Unbehandelt	Gambo: Acciaio inox austenitico* Nessuna finitura	Vástago: Acero inoxidable austenítico* Natural

\*: AISI 304, modified by addition of 3 - 4 % copper



ø	ØB		M		M	ø B	D <sub>1</sub>	T	kN <sup>1)</sup>	kN <sup>1)</sup>	Part No/ref
	min.	max.	min.	max.							
4.8 (3/16")	3.17	8.41	4.9	5.1	20.0	8.25	2.2	10.41	6.4	5.1	02721-00615
6.4 (1/4")	3.17	12.07	6.6	7.0	26.4	10.03	2.4	12.19	11.7	10.4	02721-00821

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

1) typical values / valeurs moyennes / typische Werte / Valori tipici / resistencias máximas recomendadas

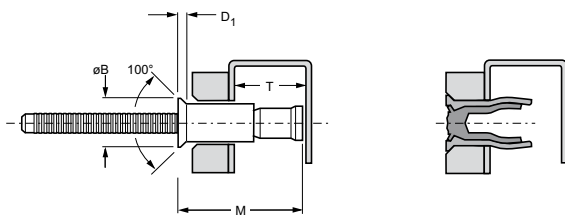
# Monobolt® 2761



English	Français	Deutsch	Italiano	Español
Countersunk head	Tête fraisée	Senkkopf	Testa svasata	Cabeza avellanada
Body: carbon steel* Zinc plated	Corps: Acier au carbone* Revêtement zingué	Hülse: Stahl* Verzinkt	Corpo: Acciaio carbonio* Zincato	Cuerpo: Acero carbono* Zincado
Clear trivalent passivated with top seal	Passivation claire trivalente avec top seal	Klar passiviert, Cr6-frei mit Versiegelung	Passivazione chiara triva- lente con sigillante	Pasivado claro trivalente con sellante
Stem: medium carbon steel** Zinc plated	Tige: Acier au carbone** Revêtement zingué	Dorn: Stahl** Verzinkt	Gambo: Acciaio carbonio** Zincato	Vástago: Acero medio en carbono** Zincado
Clear trivalent passivated with top seal	Passivation claire trivalente avec top seal	Klar chromatiert, Cr6-frei mit Versiegelung	Passivazione chiara triva- lente con sigillante	Pasivado claro trivalente con sellante

\*: BS 3111 Type 9 SAE 10B21 DIN 1654 22B2

\*\* : BS 3111 Type 10 SAE 10B35 DIN 1654 35B2



Ø	ØB		M		M	ØB	D <sub>1</sub>	T	kN <sup>1)</sup>	kN <sup>1)</sup>	Part No/ref
	min.	max.	min.	max.							
4.8 (3/16")	3.17	8.41	4.9	5.1	20.0	8.3	2.2	10.5	6.4	5.1	02761-00615
	3.17	12.22			26.3			13.5			02761-00619
6.4 (1/4")	3.17	12.07	6.6	7.0	26.4	10.1	2.4	12.2	11.7	10.4	02761-00821

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

1) typical values / valeurs moyennes / typische Werte / Valori tipici / resistencias máximas recomendadas

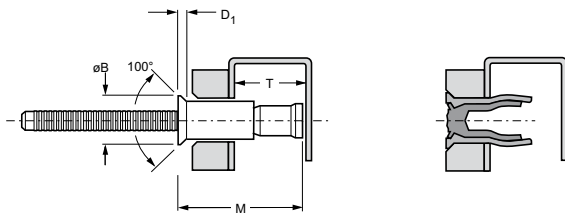
# Monobolt® 2764



English	Français	Deutsch	Italiano	Español
Countersunk head	Tête fraisée	Senkkopf	Testa svasata	Cabeza avellanada
Body: Aluminium alloy* (5 % Mg) Polished	Corps: Alliage d'aluminium* (5% Mg) Poli	Hülse: Aluminium* (5 % Mg) Poliert	Corpo: Lega di alluminio* (5% Mg) Lucido	Cuerpo: Aluminio* (5% Mg) Pulido
Stem: Aluminium alloy** Natural	Tige: Alliage d'aluminium** Brut	Dorn: Aluminium** Blank	Gambo: Lega di alluminio** Nessuna finitura	Vástago: Aluminio** Natural

\*: BS 1473 5056A DIN 1725 AlMg5 Werkstoff 3.3555

\*\* : BS 1473 2014A DIN 1725 AlCuSiMn Werkstoff 3.1255



ø	[Cross-section diagram]		[Thread diagram]		M	ø B	D <sub>1</sub>	T	[Shear diagram]	[Tension diagram]	Part No/ref
	min.	max.	min.	max.							
4.8 (3/16")	3.17	8.41	4.9	5.1	20.0	8.3	2.2	10.5	2.8	2.1	02764-00615
	3.17	12.22			26.3			13.5			02764-00619
6.4 (1/4")	3.17	12.07	6.6	7.0	27.2	10.1	2.4	13.0	6.0	4.2	02764-00821

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

1) typical values / valeurs moyennes / typische Werte / Valori tipici / resistencias máximas recomendadas

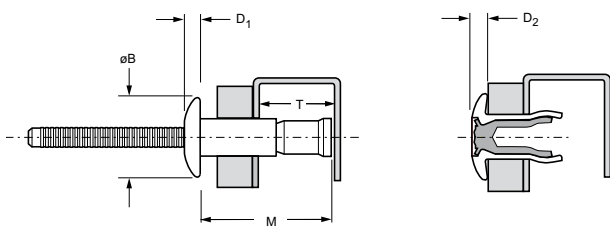
# Monobolt® 2771



English	Français	Deutsch	Italiano	Español
Protruding head	Tête bombée	Flachrundkopf	Testa tonda	Cabeza alomada
Body: carbon steel* Zinc plated Clear trivalent passivated with top seal	Corps: Acier au carbone* Revêtement zingué Passivation claire trivalente avec top seal	Hülse: Stahl* Verzinkt Klar passiviert, Cr6-frei mit Versiegelung	Corpo: Acciaio carbonio* Zincato Passivazione chiara triva- lente con sigillante	Cuerpo: Acero carbono* Zincado Pasivado claro trivalente con sellante
Stem: medium carbon steel** Zinc plated Clear trivalent passivated with top seal	Tige: Acier au carbone** Revêtement zingué Passivation claire trivalente avec top seal	Dorn: Stahl** Verzinkt Klar chromatiert, Cr6-frei mit Versiegelung	Gambo: Acciaio carbonio** Zincato Passivazione chiara triva- lente con sigillante	Vástago: Acero medio en carbono** Zincado Pasivado claro trivalente con sellante

\*: BS 3111 Type 9 SAE 10B21 DIN 1654 22B2

\*\* : BS 3111 Type 10 SAE 10B35 DIN 1654 35B2



Ø	ØB		D1		M	Ø B	D <sub>1</sub>	T	D <sub>2</sub>	kN <sup>1)</sup>	kN <sup>1)</sup>	Part No/ref
	min.	max.	min.	max.								
4.8 (3/16")	1.63	6.86	4.9	5.1	18.2	10.1	2.1	10.5	1.9	6.4	5.1	02771-00613
	1.63	11.10			24.5			13.5				02771-00617
6.4 (1/4")	2.03	9.53	6.6	7.0	23.7	13.4	2.9	12.2	2.7	11.7	10.4	02771-00817
	2.03	15.87			33.0			16.4				02771-00824
10.0 (3/8")	3.04	15.88	9.95	10.4	36.2	20.3	4.1	22.3	4.0	26.3	17.5	02771-01228

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

1) typical values / valeurs moyennes / typische Werte / Valori tipici / resistencias máximas recomendadas

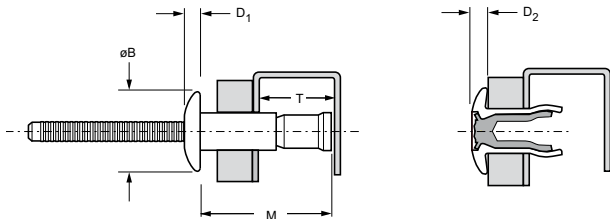
# Monobolt® 2774



English	Français	Deutsch	Italiano	Español
Protruding head	Tête bombée	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Aluminium alloy* (5 % Mg)	Corps: Alliage d'aluminium* (5% Mg)	Hülse: Aluminium* (5 % Mg)	Corpo: Lega di alluminio* (5% Mg)	Cuerpo: Aluminio* (5% Mg)
Polished	Poli	Poliert	Lucido	Pulido
Stem: Aluminium alloy**	Tige: Alliage d'aluminium**	Dorn: Aluminium**	Gambo: Lega di alluminio**	Vástago: Aluminio**
Natural	Brut	Blank	Nessuna finitura	Natural

\*: BS 1473 5056A DIN 1725 AlMg5 Werkstoff 3.3555

\*\* : BS 1473 2014A DIN 1725 AlCuSiMn Werkstoff 3.1255



ø					M	ø B	D <sub>1</sub>	T	D <sub>2</sub>			Part No/ref
	nom.	min.	max.	min.								
4.8 (3/16")	1.63	6.86	4.9	5.1	18.4	10.1	2.1	10.5	1.9	3.0	2.2	02774-00613
	1.63	11.10			24.1			13.0				
6.4 (1/4")	2.03	9.53	6.6	7.0	24.6	13.4	2.9	13.0	2.7	6.0	4.2	02774-00817
	2.03	15.87			34.7			18.1				
10.0 (3/8")	3.04	15.88	9.95	10.4	36.2	20.3	4.1	22.3	4.0	12.6	9.3	02774-01228

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

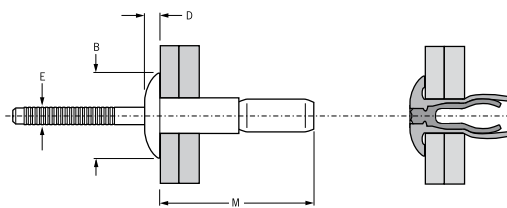
1) typical values / valeurs moyennes / typische Werte / Valori tipici / resistencias máximas recomendadas

# Interlock® BAPI



English	Français	Deutsch	Italiano	Español
Protruding head	Tête bombée	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Aluminium alloy* (5 % Mg) Natural	Corps: Alliage d'aluminium* (5% Mg) Brut	Hülse: Aluminium* (5 % Mg) Blank	Corpo: Lega di alluminio* (5% Mg) Nessuna finitura	Cuerpo: Aluminio* (5% Mg) Natural
Stem: Aluminium alloy** Natural	Tige: Alliage d'aluminium** Brut	Dorn: Aluminium** Blank	Gambo: Lega di alluminio** Nessuna finitura	Vástago: Aluminio** Natural

\*: BS 1473 5056 DIN 1725 AIMg5 Werkstoff 3.3555  
 \*\*: 7178



ø					M	B	D	E			Part No/ref
	min.	max.	min.	max.							
4.8 (3/16")	1.57	6.35	4.93	5.18	21.4	10.2	2.3	3.1	2.4	2.0	BAPI-06-04
	5.44	11.10			22.3						BAPI-06-07
	9.53	15.88			27.7						BAPI-06-10
	1.57	11.10			24.8						BAPI-E06-07
6.4 (1/4")	2.03	9.53	6.63	7.01	30.0	13.5	3.0	4.1	5.6	3.6	BAPI-08-06
	8.89	15.88			33.1						BAPI-08-10
	2.03	15.88			35.6						BAPI-E08-10

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

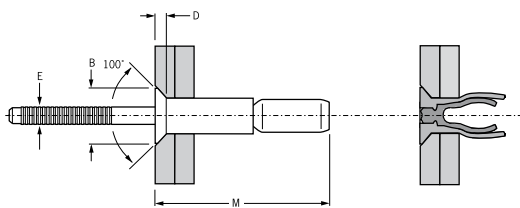
1) typical values / valeurs moyennes / typische Werte / Valori tipici / resistencias máximas recomendadas

# Interlock® SSCI



English	Français	Deutsch	Italiano	Español
Countersunk head	Tête fraisée	Senkkopf	Testa svasata	Cabeza avellanada
Body: Steel*	Corps: Acier*	Hülse: Stahl*	Corpo: Acciaio*	Cuerpo: Acero*
Zinc plated	Revêtement zingué	verzinkt	Zincati	Zincado
Clear trivalent chromated	Passivation claire trivalente	Klar chromatiert, Cr6-frei	Passivazione chiara trivalente	Passivado claro trivalente
Stem: Steel*	Tige: Acier*	Dorn: Stahl*	Gambo: Acciaio*	Vástago: Acero*
Zinc plated	Revêtement zingué	verzinkt	Zincati	Zincado
Clear trivalent chromated	Passivation claire trivalente	Klar chromatiert, Cr6-frei	Passivazione chiara trivalente	Passivado claro trivalente

\*: BS 3111 Type 1 SAE 1038



ø					M	B	D	E			Part No/ref
	nom.	min.	max.	min.							
4.8 (3/16")	3.18	8.41	4.93	5.18	20.2	9.2	1.8	3.1	5.7	4.4	SSCI-06-06
6.4 (1/4")	4.32	12.07	6.63	7.01	28.4	11.4	2.0	4.1	10.6	8.2	SSCI-08-08

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

1)These grips are not defined in IFI-134 and therefore the strength values should be considered typical and not a minimum / Ces épaisseurs de serrage ne sont pas définies dans la IFI-134 par conséquent les valeurs de tenue doivent considérées comme moyenne et non minimum / Diese Klemmbereiche sind nicht in IFI-134 definiert, deshalb sollten die Festigkeitswerte als typisch und nicht minimum betrachtet werden / Questi spessori non sono definiti nella IFI-134 e pertanto i valori di resistenza debbono considerarsi come tipici, non come valori minimi / Estos espesores a remachar no están definidos en IFI-134 por lo que los valores de resistencias deben considerarse como típicos, no como valores mínimos.

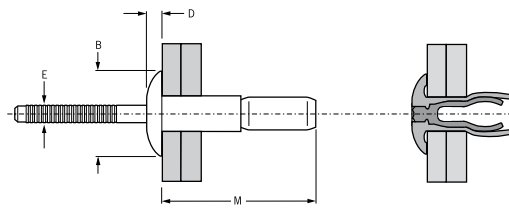


# Interlock® SSPI



English	Français	Deutsch	Italiano	Español
Protruding head	Tête bombée	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Steel* Zinc plated	Corps: Acier* Revêtement zingué	Hülse: Stahl* verzinkt	Corpo: Acciaio* Zincati	Cuerpo: Acero* Zincado
Stem: Steel* Zinc plated Clear trivalent chromated	Tige: Acier* Revêtement zingué Passivation claire trivalente	Dorn: Stahl* verzinkt Klar chromatiert, Cr6-frei	Gambo: Acciaio* Zincati Passivazione chiara trivalente	Vástago: Acero* Zincado Passivado claro trivalente

\*: BS 3111 Type 1 SAE 1038



Ø					M	B	D	E			Part No/ref	
	min.	max.	min.	max.								max.
4.8 (3/16")	1.57	6.35	4.93	5.18	18.2	10.2	2.3	3.1		5.7	4.4	SSPI-06-04
	5.44	11.10			25.5							SSPI-06-07
	9.53	15.88			27.7							SSPI-06-10
	1.57	11.10			25.5							SSPI-E06-07
6.4 (1/4")	2.03	9.53	6.63	7.01	30.0	13.5	3.0	4.1		10.6	8.2	SSPI-08-06
	8.89	15.88			36.4							SSPI-08-10
	2.03	15.88			36.4							SSPI-E08-10

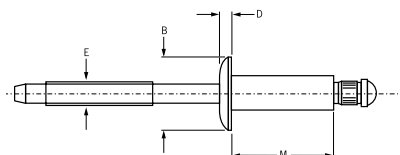
all dimensions in mm / en millimètres / alle Maße in mm / in millimetri / en milímetros

1) typical values / valeurs moyennes / typische Werte / Valori tipici / resistencias máximas recomendadas

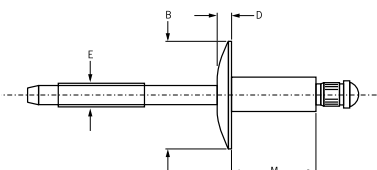
# Q Rivet AAPQ / AALQ / AACQ



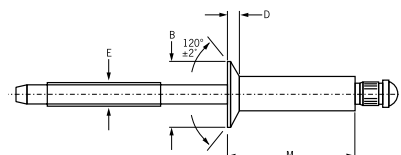
English	Français	Deutsch	Italiano	Español
Body: Aluminium 5052 Natural	Corps: Aluminium 5052 Brut	Hülse: Aluminium 5052 Blank	Corpo: Alluminio 5052 Nessuna finitura	Cuerpo: Aluminio 5052 Natural
Stem: Aluminium 7178 Natural	Tige: Aluminium 7178 Brut	Dorn: Aluminium 7178 Blank	Gambo: Alluminio 7178 Nessuna finitura	Vástago: Aluminio 7178 Natural



**Q Rivet AAPQ**  
Protruding head / Tête bombée /  
Flachrundkopf / Testa tonda /  
Cabeza alomada



**Q Rivet AALQ**  
Large flange / Tête large /  
Flachrundkopf, extragroß /  
Testa larga / Cabeza ancha



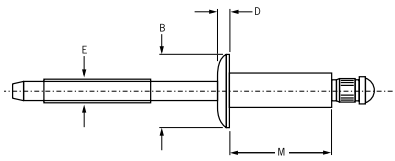
**Q Rivet AACQ**  
Countersunk / Tête fraisée  
Senkkopf / Testa svasata  
Cabeza avellanada

ø nom.						M max.	ø E ref.	AAPQ Protruding head			AALQ Large flange			AACQ Countersunk		
	min.	mid. <sup>1)</sup>	max.	min.	max.			ø B	D max.	Part No. /ref AAPQ-	ø B	D max.	Part No. /ref AALQ-	ø B ±0.2	D ref.	Part No. /ref AACQ-
3.2 mm (1/8")			1.57	3.3	3.4	5.38	1.9	6.3 ±0.3	1.1	-04-01	9.5 ±0.4	1.7	-04-04	5.7	0.8	-04-03
	1.60	2.36	3.18			6.99				-04-02						-04-04
	2.39	3.18	4.75			8.56				-04-03						-04-04
	3.20	4.75	6.35			10.16				-04-04						-04-04
	4.78	6.35	7.92			11.73				-04-05						-04-04
	6.38	7.92	9.53			13.59				-04-06						-04-04
	7.95	9.53	11.10			15.29				-04-07						-04-04
	9.55	11.10	12.70			17.02				-04-08						-04-04
4.0 mm (5/32")	1.57	2.36	3.18	4.1	4.2	7.62	2.4	7.9 ±0.4	1.3	-05-02	11.9 ±0.5	1.9	-05-04	7.1	1.0	-05-04
	3.20	4.75	6.35			10.80				-05-04			-05-04			
	6.38	7.92	9.53			13.97				-05-06			-05-06			
	9.55	11.10	12.70			17.65				-05-08			-05-08			
4.8 mm (3/16")	1.57	2.36	3.18	4.9	5.0	8.26	2.9	9.5 ±0.5	1.5	-06-02	15.9 ±0.7	2.4	-06-04	8.7	1.3	-06-04
	3.20	4.75	6.35			11.43				-06-04			-06-04			
	6.38	7.92	9.53			14.61				-06-06			-06-06			
	9.55	11.10	12.70			17.78				-06-08			-06-08			
	12.73	14.27	15.88			21.59				-06-10			-06-10			
	15.90	17.45	19.05			24.89				-06-12			-06-12			
	19.08	20.62	22.23			28.19				-06-14			-06-14			

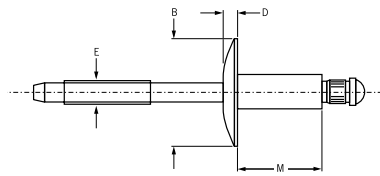
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros

1) Mandrels break flush with rivet head at mid. grip (except -04-01s, which break at 1.57 mm) / La tige rompt affleurante à la tête du rivet en milieu de plage de serrage (sauf pour -04-01s qui rompt à 1.57) / Bei mittlerem Klemmbereich (mid.) reißt der Dorn bündig mit dem Nietkopf ab (außer -04-01, der bei 1.57 abreißt) / Q Rivet rottura del chiodo a livello della testa del rivetto per grip medio (eccetto -04-01s rottura a 1.57) / El punto de rotura del Q Rivet es a ras con la cabeza del remache en su grip intermedio (excepto el -04-01s. que rompe a 1.57)

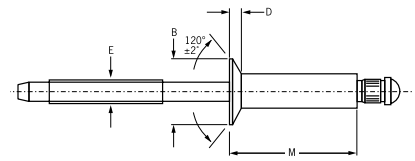
# Q Rivet AAPQ / AALQ / AACQ



**Q Rivet AAPQ**  
Protruding head / Tête bombée /  
Flachrundkopf / Testa tonda /  
Cabeza alomada



**Q Rivet AALQ**  
Large flange / Tête large /  
Flachrundkopf, extragroß /  
Testa larga / Cabeza ancha



**Q Rivet AACQ**  
Countersunk / Tête fraisée  
Senkkopf / Testa svasata  
Cabeza avellanada

Ø nom.						M max.	Ø E ref.	AAPQ Protruding head			AALQ Large flange			AACQ Countersunk		
	min.	mid. <sup>1)</sup>	max.	min.	max.			Ø B	D max.	Part No. /ref AAPQ-	Ø B	D max.	Part No. /ref AALQ-	Ø B ±0.2	D ref.	Part No. /ref AACQ-
6.4mm (1/4")	1.57	2.36	3.18	6.5	6.6	9.53	3.8	12.7 ±0.7	2.0	19.1 ±0.7	2.8	11.9	1.8	-08-02	-08-02	-08-02
	3.20	4.75	6.35			12.70								-08-04	-08-04	-08-04
	6.38	7.92	9.53			15.88								-08-06	-08-06	-08-06
	9.55	11.10	12.70			19.05								-08-08	-08-08	-08-08
	12.73	14.27	15.88			22.86								-08-10	-08-10	-08-10
	15.90	17.45	19.05			26.16								-08-12	-08-12	-08-12
	19.08	20.62	22.23			29.46								-08-14	-08-14	-08-14
	22.25	23.80	25.40			32.77								-08-16	-08-16	-08-16

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

1) Mandrels break flush with rivet head at mid. grip (except -04-01s, which break at 1.57 mm) / La tige rompt affleurante à la tête du rivet en milieu de plage de serrage (sauf pour -04-01s qui rompt à 1.57) / Bei mittlerem Klemmbereich (mid.) reißt der Dorn bündig mit dem Nietkopf ab (außer -04-01, der bei 1.57 abreißt) / Q Rivet rottura del chiodo a livello della testa del rivetto per grip medio (eccetto -04-01s rottura a 1.57) / El punto de rotura del Q Rivet es a ras con la cabeza del remache en su grip intermedio (excepto el -04-01s. que rompe a 1.57)

Ø nom.		
	kN <sup>2</sup>	kN <sup>2</sup>
3.2 mm (1/8")	1.0	1.1
4.0 mm (5/32")	1.4	1.4
4.8 mm (3/16")	2.2	2.0
6.4 mm (1/4")	3.8	3.3

2) typical values / valeurs moyennes / typische Werte /  
Valori tipici / resistencias máximas recomendadas

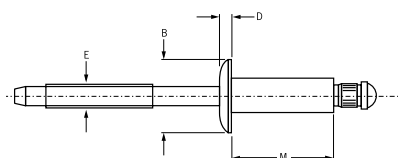
# Q Rivet BSPQ / BSLQ / BSCQ



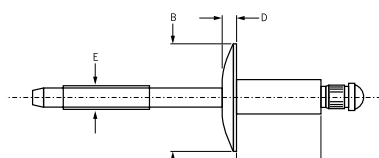
English	Français	Deutsch	Italiano	Español
Body: Aluminium alloy* (5 % Mg) Natural	Corps: Alliage d'aluminium* (5% Mg) Brut	Hülse: Aluminium* (5 % Mg) Blank	Corpo: Lega di alluminio* (5% Mg) Nessuna finitura	Cuerpo: Aluminio* (5% Mg) Natural
Stem: Steel** Zinc plated	Tige: Acier** Revêtement zingué	Dorn: Stahl** verzinkt	Gambo: Acciaio** Zincati	Vástago: Acero** Zincado

\*: BS 1473 5056 DIN 1725 AlMg5 Werkstoff 3.3555

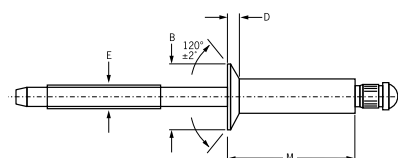
\*\* : BS3111 Type 1 SAE 1038 DIN 1654 Cq35



**Q Rivet BSPQ**  
Protruding head / Tête bombée /  
Flachrundkopf / Testa tonda /  
Cabeza alomada



**Q Rivet BSLQ**  
Large flange / Tête large /  
Flachrundkopf, extragroß /  
Testa larga / Cabeza ancha



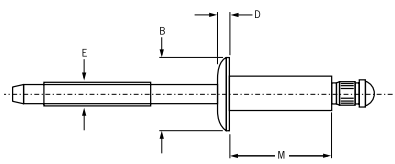
**Q Rivet BSCQ**  
Countersunk / Tête fraisée  
Senkkopf / Testa svasata  
Cabeza avellanada

Ø nom.	Ø			Ø E		M max.	Ø E ref.	BSPQ Protruding head			BSLQ Large flange			BSCQ Countersunk		
	min.	mid. <sup>1)</sup>	max.	min.	max.			Ø B	D max.	Part No. /ref BSPQ-	Ø B	D max.	Part No. /ref BSLQ-	Ø B ±0.2	D ref.	Part No. /ref BSCQ-
3.2 mm (1/8")	1.60	2.36	3.18	3.3	3.4	5.38	1.9	6.3 ±0.3	1.1	-04-01	9.5 ±0.4	1.7	5.74	0.8		
	2.39	3.56	4.75			6.99				-04-02					-04-02	
	3.20	4.75	6.35			8.56				-04-03						-04-03
	4.78	6.35	7.92			10.16				-04-04						-04-04
	6.38	7.92	9.53			11.73				-04-05						-04-05
	7.95	9.53	11.10			13.59				-04-06						-04-06
	9.55	11.10	12.70			15.29				-04-07						-04-07
						17.02				-04-08						-04-08
4.0 mm (5/32")	1.57	2.36	3.18	4.1	4.2	7.62	2.4	7.9 ±0.4	1.3	-05-02	11.9 ±0.5	1.9	7.14	1.0		
	2.39	3.56	4.75			9.19				-05-03						
	3.20	4.75	6.35			10.80				-05-04						-05-04
	6.38	7.92	9.53			13.97				-05-06						-05-06
	9.55	11.10	12.70			17.65				-05-08						-05-08
4.8 mm (3/16")	1.57	2.36	3.18	4.9	5.0	8.26	2.9	9.5 ±0.5	1.5	-06-02	15.9 ±0.7	2.4	8.74	1.3		
	2.39	3.56	4.75			9.83				-06-03						
	3.20	4.75	6.35			11.43				-06-04						-06-04
	4.78	6.35	7.92			13.00				-06-05						-06-05
	6.38	7.92	9.53			14.61				-06-06						-06-06
	9.55	11.10	12.70			17.78				-06-08						-06-08
	12.73	14.27	15.88			21.59				-06-10						-06-10
	15.90	17.45	19.05			24.89				-06-12						-06-12
	19.08	20.62	22.23			28.19				-06-14						-06-14

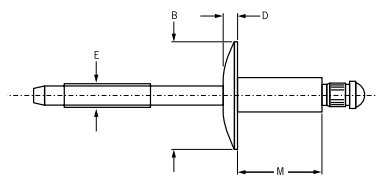
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros

1) Mandrels break flush with rivet head at mid. grip (except -04-01s, which break at 1.57 mm) / La tige rompt affleurante à la tête du rivet en milieu de plage de serrage (sauf pour -04-01s qui rompt à 1.57) / Bei mittlerem Klemmbereich (mid.) reißt der Dorn bündig mit dem Nietkopf ab (außer -04-01, der bei 1.57 abreißt) / Q Rivet rottura del chiodo a livello della testa del rivetto per grip medio (eccetto -04-01s rottura a 1.57) / El punto de rotura del Q Rivet es a ras con la cabeza del remache en su grip intermedio (excepto el -04-01s. que rompe a 1.57)

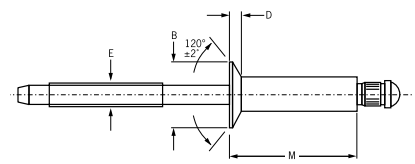
# Q Rivet BSPQ / BSLQ / BSCQ



**Q Rivet BSPQ**  
Protruding head / Tête bombée /  
Flachrundkopf / Testa tonda /  
Cabeza alomada



**Q Rivet BSLQ**  
Large flange / Tête large /  
Flachrundkopf, extragroß /  
Testa larga / Cabeza ancha



**Q Rivet BSCQ**  
Countersunk / Tête fraisée  
Senkkopf / Testa svasata  
Cabeza avellanada

Ø nom.						M max.	Ø E ref.	BSPQ Protruding head			BSLQ Large flange			BSCQ Countersunk									
	min.	mid. <sup>1)</sup>	max.	min.	max.			Ø B	D max.	Part No. /ref BSPQ-	Ø B	D max.	Part No. /ref BSLQ-	Ø B ±0.2	D ref.	Part No. /ref BSCQ-							
6.4mm (1/4")	1.57	2.36	3.18	6.5	6.6	9.53	3.8	12.7 ±0.7	2.0	19.1 ±0.7	2.8	11.9	1.8	-08-02	-08-04	-08-06	-08-08	-08-10	-08-12	-08-14	-08-16	-08-18	-08-20
	3.20	4.75	6.35			12.70								-08-04	-08-06	-08-08	-08-10	-08-12	-08-14	-08-16			
	6.38	7.92	9.53			15.88								-08-06	-08-08	-08-10	-08-12	-08-14	-08-16				
	9.55	11.10	12.70			19.05								-08-08	-08-10	-08-12	-08-14	-08-16					
	12.73	14.27	15.88			22.86								-08-10	-08-12	-08-14	-08-16						
	15.90	17.45	19.05			26.16								-08-12	-08-14	-08-16							
	19.08	20.62	22.23			29.46								-08-14	-08-16								
	22.25	23.80	25.40			32.77								-08-16									
	25.43	26.97	28.58			36.07																	
	28.60	30.15	31.75			39.37																	

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

1) Mandrels break flush with rivet head at mid. grip (except -04-01s, which break at 1.57 mm) / La tige rompt affleurante à la tête du rivet en milieu de plage de serrage (sauf pour -04-01s qui rompt à 1.57) / Bei mittlerem Klemmbereich (mid.) reißt der Dorn bündig mit dem Nietkopf ab (außer -04-01, der bei 1.57 abreißt) / Q Rivet rottura del chiodo a livello della testa del rivetto per grip medio (eccetto -04-01s rottura a 1.57) / El punto de rotura del Q Rivet es a ras con la cabeza del remache en su grip intermedio (excepto el -04-01s. que rompe a 1.57)

Ø nom.		
	kN <sup>2)</sup>	kN <sup>2)</sup>
3.2 mm (1/8")	1.6	1.4
4.0 mm (5/32")	2.3	2.0
4.8 mm (3/16")	3.3	2.9
6.4 mm (1/4")	5.6	4.7

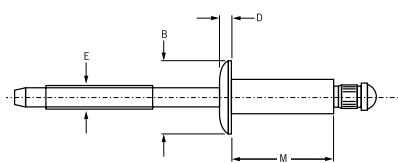
2) typical values / valeurs moyennes / typische Werte /  
Valori tipici / resistencias máximas recomendadas

# Q Rivet CCPQ / CCLQ / CCCQ

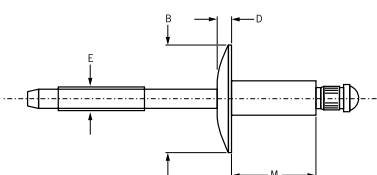


English	Français	Deutsch	Italiano	Español
Body: Stainless steel* Natural	Corps: Inox* Brut	Hülse: Edelstahl* Unbehandelt	Corpo: Acciaio inox* Nessuna finitura	Cuerpo: Acero inoxidable* Natural
Stem: Stainless steel** Natural	Tige: Inox** Brut	Dorn: Edelstahl** Unbehandelt	Gambo: Acciaio inox** Nessuna finitura	Vástago: Acero inoxidable** Natural

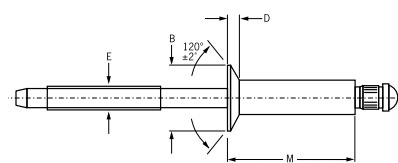
\*: BS 970 302S31 AISI302  
\*\*: A286



**Q Rivet CCPQ**  
Protruding head / Tête bombée /  
Flachrundkopf / Testa tonda /  
Cabeza alomada



**Q Rivet CCLQ**  
Large flange / Tête large /  
Flachrundkopf, extragroß /  
Testa larga / Cabeza ancha



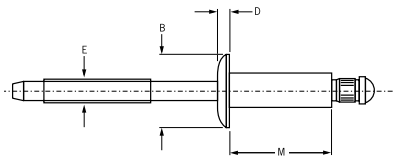
**Q Rivet CCCQ**  
Countersunk / Tête fraisée  
Senkkopf / Testa svasata  
Cabeza avellanada

Ø nom.	Ø			Ø		M max.	Ø E ref.	CCPQ Protruding head			CCLQ Large flange			CCCQ Countersunk			
	min.	mid. <sup>1)</sup>	max.	min.	max.			Ø B	D max.	Part No. /ref CCPQ-	Ø B	D max.	Part No. /ref CCLQ-	Ø B ±0.2	D ref.	Part No. /ref CCCQ-	
3.2 mm (1/8")	1.60	2.36	3.18	3.3	3.4	5.38	1.9	6.3 ±0.4	1.1	-04-01	9.5 ±0.4	1.7	5.74	0.8	-04-03		
	2.39	3.56	4.75			6.99				-04-02					-04-04	-04-05	-04-06
	3.20	4.75	6.35			8.56				-04-03					-04-04	-04-05	-04-06
	4.78	6.35	7.92			10.16				-04-04					-04-05	-04-06	-04-06
	6.38	7.92	9.53			11.73				-04-05					-04-06	-04-06	-04-06
						13.59				-04-06					-04-06	-04-06	-04-06
4.0 mm (5/32")	1.57	2.36	3.18	4.1	4.2	7.62	2.4	7.9 ±0.4	1.3	-05-02	11.9 ±0.5	1.9	7.14	1.0	-05-04		
	2.39	3.56	4.75			9.19				-05-03					-05-04	-05-06	
	3.20	4.75	6.35			10.80				-05-04					-05-06	-05-06	
	6.38	7.92	9.53			13.97				-05-06					-05-06	-05-06	
4.8 mm (3/16")	1.57	2.36	3.18	4.9	5.0	8.26	2.9	9.5 ±0.5	1.5	-06-02	15.9 ±0.7	2.4	8.74	1.3	-06-04		
	3.20	4.75	6.35			11.43				-06-04					-06-06	-06-06	
	6.38	7.92	9.53			14.61				-06-06					-06-06	-06-06	
	9.55	11.10	12.70			17.78				-06-08					-06-08	-06-08	

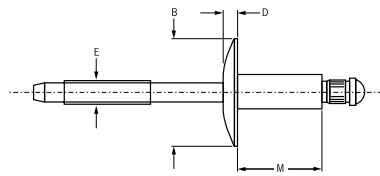
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros

1) Mandrels break flush with rivet head at mid. grip (except -04-01s, which break at 1.57 mm) / La tige rompt affleurante à la tête du rivet en milieu de plage de serrage (sauf pour -04-01s qui rompt à 1.57) / Bei mittlerem Klemmbereich (mid.) reißt der Dorn bündig mit dem Nietkopf ab (außer -04-01, der bei 1.57 abreißt) / Q Rivet rottura del chiodo a livello della testa del rivetto per grip medio (eccetto -04-01s rottura a 1.57) / El punto de rotura del Q Rivet es a ras con la cabeza del remache en su grip intermedio (excepto el -04-01s. que rompe a 1.57)

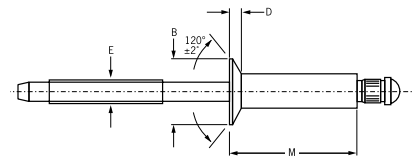
# Q Rivet CCPQ / CCLQ / CCCQ



**Q Rivet CCPQ**  
Protruding head / Tête bombée /  
Flachrundkopf / Testa tonda /  
Cabeza alomada



**Q Rivet CCLQ**  
Large flange / Tête large /  
Flachrundkopf, extragroß /  
Testa larga / Cabeza ancha



**Q Rivet CCCQ**  
Countersunk / Tête fraisée  
Senkkopf / Testa svasata  
Cabeza avellanada

Ø nom.						M max.	Ø E ref.	CCPQ Protruding head			CCLQ Large flange			CCCQ Countersunk				
	min.	mid. <sup>1)</sup>	max.	min.	max.			Ø B	D max.	Part No. /ref CCPQ-	Ø B	D max.	Part No. /ref CCLQ-	Ø B ±0.2	D ref.	Part No. /ref CCCQ-		
6.4mm (1/4")	1.57	2.36	3.18	6.5	6.6	9.53	3.8	12.7 ±0.7	2.0				11.9	1.8				
	3.20	4.75	6.35			12.70										-08-02	-08-04	-08-04
	6.38	7.92	9.53			15.88										-08-06	-08-06	-08-06
	9.55	11.10	12.70			19.05										-08-08	-08-08	-08-08
	12.73	14.27	15.88			22.86										-08-10	-08-10	-08-10

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

1) Mandrels break flush with rivet head at mid. grip (except -04-01s, which break at 1.57 mm) / La tige rompt affleurante à la tête du rivet en milieu de plage de serrage (sauf pour -04-01s qui rompt à 1.57) / Bei mittlerem Klemmbereich (mid.) reißt der Dorn bündig mit dem Nietkopf ab (außer -04-01, der bei 1.57 abreißt) / Q Rivet rottura del chiodo a livello della testa del rivetto per grip medio (eccetto -04-01s rottura a 1.57) / El punto de rotura del Q Rivet es a ras con la cabeza del remache en su grip intermedio (excepto el -04-01s. que rompe a 1.57)

Ø nom.		
	kN <sup>2</sup>	kN <sup>2</sup>
3.2 mm (1/8")	3.1	2.7
4.0 mm (5/32")	4.7	4.4
4.8 mm (3/16")	7.3	5.8
6.4 mm (1/4")	10.9	10.0

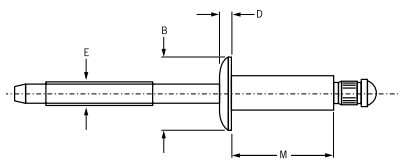
2) typical values / valeurs moyennes / typische Werte /  
Valori tipici / resistencias máximas recomendadas

# Q Rivet SSPQ / SSLQ / SSCQ

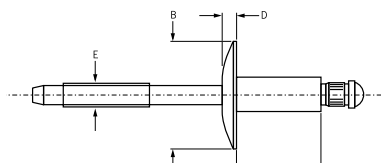


English	Français	Deutsch	Italiano	Español
Body: Steel* Zinc plated	Corps: Acier* Revêtement zingué	Hülse: Stahl* verzinkt	Corpo: Acciaio* Zincati	Cuerpo: Acero* Zincado
Stem: Steel** Zinc plated	Tige: Acier** Revêtement zingué	Dorn: Stahl** verzinkt	Gambo: Acciaio** Zincati	Vástago: Acero** Zincado

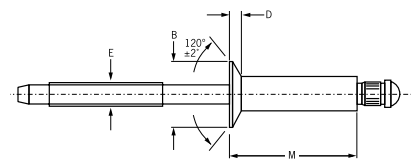
\*: BS 3111 Type 0 SAE 1006 DIN 1654 QSt 32-3  
 \*\*: BS3111 Type 1 SAE 1038 DIN 1654 Cq35



**Q Rivet SSPQ**  
 Protruding head / Tête bombée /  
 Flachrundkopf / Testa tonda /  
 Cabeza alomada



**Q Rivet SSLQ**  
 Large flange / Tête large /  
 Flachrundkopf, extragroß /  
 Testa larga / Cabeza ancha



**Q Rivet SSCQ**  
 Countersunk / Tête fraisée  
 Senkkopf / Testa svasata  
 Cabeza avellanada

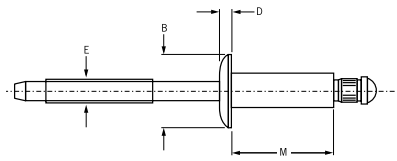
Ø nom.	Ø			Ø		M max.	Ø E ref.	SSPQ Protruding head			SSLQ Large flange			SSCQ Countersunk					
	min.	mid. <sup>1)</sup>	max.	min.	max.			Ø B	D max.	Part No. /ref SSPQ-	Ø B	D max.	Part No. /ref SSLQ-	Ø B ±0.2	D ref.	Part No. /ref SSCQ-			
3.2 mm (1/8")	1.60	2.36	3.18	3.3	3.4	5.38	1.9	6.3 ±0.4	1.1	-04-01	9.5 ±0.4	1.7	-04-04	5.74	0.8	-04-02			
	2.39	3.56	4.75			6.99				-04-03						-04-05	-04-06	-04-07	-04-08
	3.20	4.75	6.35			8.56				-04-04						-04-06	-04-08		
	4.78	6.35	7.92			10.16				-04-05						-04-08			
	6.38	7.92	9.53			11.73				-04-06									
	7.95	9.53	11.10			13.59				-04-07									
	9.55	11.10	12.70			15.29				-04-08									
	17.02																		
4.0 mm (5/32")	1.57	2.36	3.18	4.1	4.2	7.62	2.4	7.9 ±0.5	1.3	-05-02	11.9 ±0.5	1.9	-05-04	7.14	1.0	-05-03			
	2.39	3.56	4.75			9.19				-05-04						-05-06	-05-08		
	3.20	4.75	6.35			10.80				-05-05									
	4.78	6.35	7.92			12.37				-05-06									
	6.38	7.92	9.53			13.97				-05-08									
	9.55	11.10	12.70			17.65													
4.8 mm (3/16")	1.57	2.36	3.18	4.9	5.0	8.26	2.9	9.5 ±0.5	1.5	-06-02	15.9 ±0.7	2.4	-06-06	8.74	1.3	-06-04			
	3.20	4.75	6.35			11.43				-06-05						-06-08	-06-10	-06-12	
	4.78	6.35	7.92			13.00				-06-06									
	6.38	7.92	9.53			14.61				-06-08									
	9.55	11.10	12.70			17.78				-06-10									
	12.73	14.27	15.88			21.59				-06-12									
	15.90	17.45	19.05			24.89													
	19.08	20.62	22.23			28.19													

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

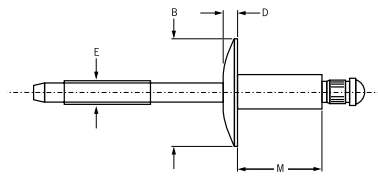
1) Mandrels break flush with rivet head at mid. grip (except -04-01s, which break at 1.57 mm) / La tige rompt affleurante à la tête du rivet en milieu de plage de serrage (sauf pour -04-01s qui rompt à 1.57) / Bei mittlerem Klemmbereich (mid.) reißt der Dorn bündig mit dem Nietkopf ab (außer -04-01, der bei 1.57 abreißt) / Q Rivet rottura del chiodo a livello della testa del rivetto per grip medio (eccetto -04-01s rottura a 1.57) / El punto de rotura del Q Rivet es a ras con la cabeza del remache en su grip intermedio (excepto el -04-01s. que rompe a 1.57)



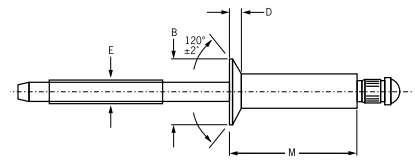
# Q Rivet SSPQ / SSLQ / SSCQ



**Q Rivet SSPQ**  
Protruding head / Tête bombée /  
Flachrundkopf / Testa tonda /  
Cabeza alomada



**Q Rivet SSLQ**  
Large flange / Tête large /  
Flachrundkopf, extragroß /  
Testa larga / Cabeza ancha



**Q Rivet SSCQ**  
Countersunk / Tête fraisée  
Senkkopf / Testa svasata  
Cabeza avellanada

Ø nom.						M max.	Ø E ref.	SSPQ Protruding head			SSLQ Large flange			SSCQ Countersunk									
	min.	mid. <sup>1)</sup>	max.	min.	max.			Ø B	D	Part No. /ref SSPQ-	Ø B	D	Part No. /ref SSLQ-	Ø B ±0.2	D ref.	Part No. /ref SSCQ-							
6.4mm (1/4")	1.57	2.36	3.18	6.5	6.6	9.53	3.8	12.7 ±0.7	2.0	19.1 ±0.7	2.8	11.9	1.8	-08-02	-08-04	-08-06	-08-08	-08-10	-08-12	-08-14	-08-16	-08-18	-08-20
	3.20	4.75	6.35			12.70								-08-04	-08-06	-08-08	-08-10	-08-12	-08-14	-08-16			
	6.38	7.92	9.53			15.88								-08-06	-08-08	-08-10	-08-12	-08-14	-08-16				
	9.55	11.10	12.70			19.05								-08-08	-08-10	-08-12	-08-14	-08-16					
	12.73	14.27	15.88			22.86								-08-10	-08-12	-08-14	-08-16						
	15.90	17.45	19.05			26.16								-08-12	-08-14	-08-16							
	19.08	20.62	22.23			29.46								-08-14	-08-16								
	22.25	23.80	25.40			32.77								-08-16									
	25.43	26.97	28.58			36.07																	
	28.60	30.15	31.75			39.37																	

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

1) Mandrels break flush with rivet head at mid. grip (except -04-01s, which break at 1.57 mm) / La tige rompt affleurante à la tête du rivet en milieu de plage de serrage (sauf pour -04-01s qui rompt à 1.57) / Bei mittlerem Klemmbereich (mid.) reißt der Dorn bündig mit dem Nietkopf ab (außer -04-01, der bei 1.57 abreißt) / Q Rivet rottura del chiodo a livello della testa del rivetto per grip medio (eccetto -04-01s rottura a 1.57) / El punto de rotura del Q Rivet es a ras con la cabeza del remache en su grip intermedio (excepto el -04-01s. que rompe a 1.57)

Ø nom.		
	kN <sup>2)</sup>	kN <sup>2)</sup>
3.2 mm (1/8")	2.2	1.8
4.0 mm (5/32")	3.1	2.4
4.8 mm (3/16")	4.7	3.7
6.4mm (1/4")	7.8	6.4

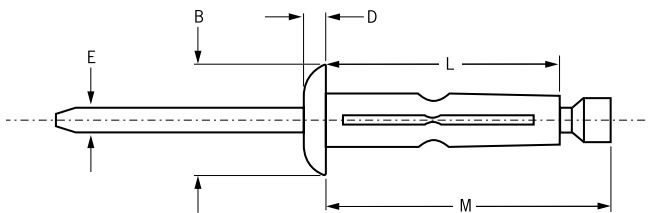
2) typical values / valeurs moyennes / typische Werte /  
Valori tipici / resistencias máximas recomendadas

# Klamp-Tite® BAPKTR



English	Français	Deutsch	Italiano	Español
Protruding head	Tête bombée	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Aluminium alloy* Wax lubricated	Corps: Alliage d'aluminium* Lubrifié	Hülse: Aluminium* Gewachst	Corpo: Lega di alluminio* Lubrificato	Cuerpo: Aluminio* Lubricado
Stem: Aluminium alloy** Wax lubricated	Tige: Alliage d'aluminium** Lubrifié	Dorn: Aluminium** Gewachst	Gambo: Lega di alluminio** Lubrificato	Vástago: Aluminio** Lubricado

\*: 5056    \*\*: 7075



Ø	[Diagram]		[Diagram]		M	B	D	L	E	[Diagram]	[Diagram]	Part No/ref
	min.	max.	min.	max.								
4.8 (3/16")	1.27	6.35	5.18	5.31	26.42	11.30	2.24	22.61	2.62	3.1	2.0	BAPKTR-06-04
	4.75	9.53			28.70			25.02				BAPKTR-06-06
	9.53	14.27			31.75			28.45				BAPKTR-06-09
	14.27	19.05			36.57			33.02				BAPKTR-06-12
6.4 (1/4")	1.52	6.35	6.40	6.65	33.02	14.22	2.87	23.50	3.45	5.5	3.1	BAPKTR-08-04
	4.75	9.53			36.07			26.67				BAPKTR-08-06

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

1) typical values / valeurs moyennes / typische Werte / Valori tipici / resistencias máximas recomendadas

#### Option:

A synthetic rubber washer can be ordered to fit under protruding head fasteners e.g.: BAPKTR-06W-06

Une rondelle en caoutchouc disposée sous la tête peut être commandée ex : BAPKTR-06W-06

Flachrundkopf mit Unterkopf-Gummidichtung ist ebenfalls verfügbar, z.B. BAPKTR-06W-06

Testa tonda con una guarnizione di gomma e disponibile, p. e. BAPKTR-06W-06

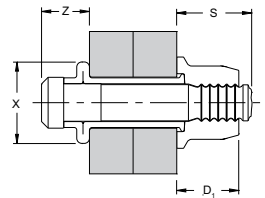
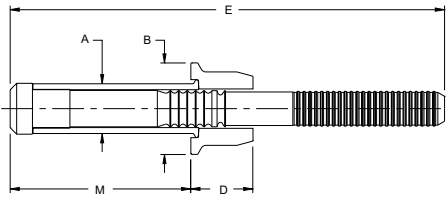
Para el sellado de la cabeza hay una version con junta de goma sintética, p.ej: BAPKTR-06W-06

# Avbolt® 21001



English	Français	Deutsch	Italiano	Español	****
Stem: Chromium Molybdenum steel* Black oxide	Tige: Acier* Noir	Dorn: Stahl* Schwarz	Gambo: Acciaio* Passivato nero	Vástago: Acero* Pavonado	 8 h
Sleeve: Carbon steel** Zinc plated Clear trivalent passivated	Douille: Acier** Revêtement zingué Passivation claire trivalente	Hülse: Stahl** Verzinkt Klar chromatiert, Cr6-frei	Bussola: Acciaio** Zincata Passivazione chiara trivalente	Cuerpo: Acero al carbono** Zincado Pasivado claro trivalente	 240 h
Collar: Carbon steel*** Zinc plated Clear trivalent passivated	Bague: Acier*** Revêtement zingué Passivation claire trivalente	Schließring: Stahl*** Verzinkt Klar chromatiert, Cr6-frei	Collare: Acciaio*** Zincato Passivazione chiara trivalente	Collar: Acero al carbono*** Zincado Pasivado claro trivalente	 240 h

\*: EN 10263-4 34CrMo4 SAE 4135 SCM435 \*\*: EN 10263-2 C8C SAE 1008 \*\*\*: EN 10263-4 23MnB4  
\*\*\*\*: to red rust / à la rouille rouge / bis Rotrost / alla ruggine rossa / al óxido rojo (ASTM B117)



ø nom.	Ø		Thread		ø A max.	ø B max.	D max.	D <sub>1</sub> max.	E min.	M max.	S max.	X nom.	Z max.	kN min.	kN min.	Part No/ref
	min.	max.	min.	max.												
10.0 (3/8")	4.78	7.95							73.78	25.10						21001-01204
	7.95	11.13							76.98	28.27						21001-01206
	11.13	14.30							80.18	31.45						21001-01208
	14.30	17.48							83.38	34.62						21001-01210
	17.48	20.65	10.49	11.05	10.47	18.77	12.65	14.51	86.58	37.80	18.34	15.5	9.58	45.00	32.25	21001-01212
	20.65	23.83							89.68	40.97						21001-01214
	23.83	27.00							92.88	44.15						21001-01216
	27.00	30.18							96.08	47.32						21001-01218
	30.18	33.35							99.28	50.50						21001-01220
12.7 (1/2")	6.38	9.55							80.57	31.82						21001-01604
	9.55	12.73							83.75	35.00						21001-01606
	12.73	15.90							86.93	38.18						21001-01608
	15.90	19.08							90.11	41.36						21001-01610
	19.08	22.25							93.28	44.53						21001-01612
	22.25	25.43	13.87	14.76	13.79	24.30	15.00	16.10	96.45	47.70	20.50	20.63	13.10	90.00	57.00	21001-01614
	25.43	28.60							99.62	50.87						21001-01616
	28.60	31.78							102.77	54.02						21001-01618
	31.78	34.95							105.91	57.16						21001-01620
	34.95	38.13							109.02	60.27						21001-01622
38.13	41.30							112.10	63.35						21001-01624	
16.0 (5/8")	6.35	12.70							102.71	39.35						21001-02004
	12.70	19.05							109.06	45.70						21001-02008
	19.05	25.40	17.45	18.49	17.30	29.47	17.45	20.07	115.41	52.05	30.48	25.4	16.01	129.00	91.19	21001-02012
	25.40	31.75							121.76	58.40						21001-02016
	31.75	38.10							128.11	64.75						21001-02020

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

Notes / Notes / Hinweise / Note / Notas

Avbolt® fasteners are supplied with lubricated collars and must not be degreased. / Avbolt® sont lubrifiées et ne doivent pas être dégraissées. / Avbolt® sind mit einem Gleitmittel beschichtet, welches nicht entfernt werden darf. / I Avbolt® sono forniti lubrificati e non devono essere sgrassati. / Los Avbolt® se suministran lubricados y no deben ser desengrasados.

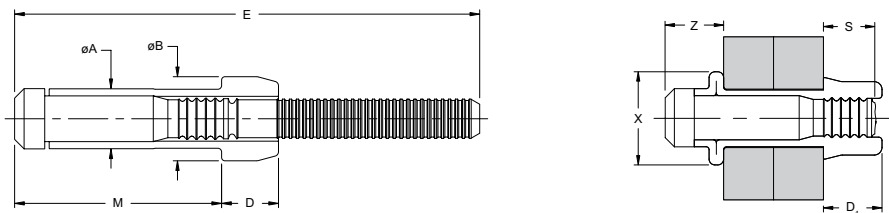
# Avbolt® 21021



English	Français	Deutsch	Italiano	Español	***
Body: Carbon steel* Zinc plated Clear trivalent passivated	Corps: Acier* Revêtement zingué Passivation claire trivalente	Hülse: Stahl* Verzinkt Klar chromatiert, Cr6-frei	Corpo: Acciaio* Zincata Passivazione chiara trivalente	Cuerpo: Acero al carbono* Zincado Pasivado claro trivalente	 240 h
Stem: Carbon steel** Black oxide	Tige: Acier** Noir	Dorn: Stahl** Schwarz brüniert	Gambo: Acciaio** Passivato nero	Vástago: Acero al car- bono** Pavonado	 8 h

\*: SAE 1008 EN 10263-2 C8C \*\*: SCM 435 SAE 4135 EN 10263-4 34CrMo4

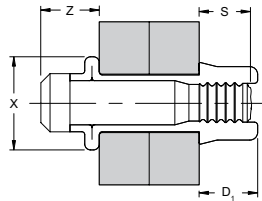
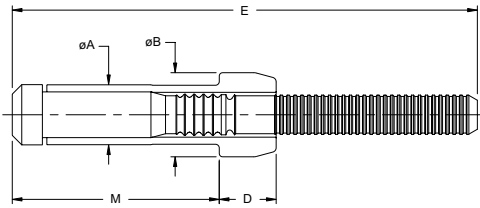
\*\*\*: to red rust / à la rouille rouge / bis Rotrost / alla ruggine rossa / al óxido rojo (ASTM B117)



ø					øA	øB	D	D <sub>1</sub>	E	M	S	X	Z			Part No/ref	
	nom.	min.	max.	min.													max.
4.8 (3/16")		2.36	3.99	5.28	5.64	5.20	7.32	4.95	5.26	37.11	12.41	6.38	7.54	5.35	12.40	8.00	21021-00602
		3.99	5.59							38.69	14.01						21021-00603
		5.59	7.16							40.27	15.59						21021-00604
		7.16	8.76							41.84	17.19						21021-00605
		8.76	10.34							43.41	18.76						21021-00606
		10.34	11.94							44.99	20.36						21021-00607
		11.94	13.51							46.56	21.94						21021-00608
		13.51	15.11							48.14	23.54						21021-00609
		15.11	16.69							49.71	25.11						21021-00610
		16.69	18.29							51.29	26.71						21021-00611
		18.29	19.89							52.86	28.29						21021-00612
	6.4 (1/4")		2.36							3.99	7.04						7.42
		3.99	5.59	47.32	18.11	21021-00803											
		5.59	7.16	48.89	19.69	21021-00804											
		7.16	8.76	50.47	21.29	21021-00805											
		8.76	10.34	52.04	22.86	21021-00806											
		10.34	11.94	53.62	24.46	21021-00807											
		11.94	13.51	55.19	26.04	21021-00808											
		13.51	15.11	56.77	27.64	21021-00809											
		15.11	16.69	58.34	29.21	21021-00810											
		16.69	18.29	59.92	30.81	21021-00811											
		18.29	19.89	61.49	32.39	21021-00812											

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

# Avbolt® 21021



ø nom.					øA max.	øB max.	D max.	D <sub>1</sub> max.	E min.	M max.	S max.	X nom.	Z max.	 kN min.	 kN min.	Part No/ref
	min.	max.	min.	max.												
8.0 (5/16")	4.78	7.95	8.84	9.35	8.76	12.39	8.61	9.20	62.42	23.31	10.25	12.28	9.10	36.47	23.57	21021-01004
	7.95	11.13							65.57	26.49						21021-01006
	11.13	14.30							68.72	29.66						21021-01008
	14.30	17.48							71.87	32.84						21021-01010
	17.48	20.65							75.02	36.01						21021-01012
	20.65	23.83							78.17	39.19						21021-01014
	23.83	26.97							81.32	42.36						21021-01016

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

Note / Note / Hinweis / Nota / Nota

Bodies are supplied lubricated and must not be degreased.

Les corps sont lubrifiés et ne doivent pas être dégraissés.

Hülsen sind mit einem Gleitmittel beschichtet, welches nicht entfernt werden darf.

I corpi sono forniti lubrificati e non devono essere sgrassati.

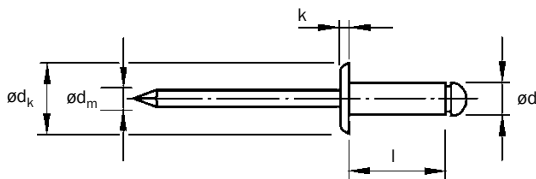
Los cuerpos se suministran lubricados y no deben ser desengrasados.





# Avdel® Standard Breakstem BD01



English	Français	Deutsch	Italiano	Español
Dome head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Aluminium alloy*	Corps: Alliage d'aluminium*	Hülse: Aluminium*	Corpo: Lega di alluminio*	Cuerpo: Aluminio*
Polished	Poli	Blank	Lucido	Pulido
Stem: Steel	Tige: Acier	Dorn: Stahl	Gambo: Acciaio	Vástago: Acero
Zinc plated	Revêtement zingué	Verzinkt	Zincato	Zincado

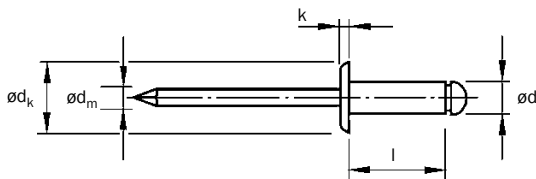
\*: AlMg2.5/3.5



ø nom.				ød	l	ød <sub>k</sub>	k	ød <sub>m</sub>	 kN	 kN	Part No/ref
	min.	max.									
2.4 (3/32")		2.0	2.5	2.4	4.0	5.0	0.7	1.45	0.315	0.355	OBD01-02404
	2.0	4.0			6.0						OBD01-02406
	4.0	6.0			8.0						OBD01-02408
	6.0	8.0			10.0						OBD01-02410
3.0		1.5	3.1	3.0	4.0	6.5	0.8	1.75	0.62	0.81	OBD01-03004
	1.5	3.5			6.0						OBD01-03006
	3.5	5.5			8.0						OBD01-03008
	5.5	7.5			10.0						OBD01-03010
	7.5	9.5			12.0						OBD01-03012
	9.5	11.5			14.0						OBD01-03014
3.2 (1/8")		1.5	3.3	3.2	4.0	6.5	0.8	1.75	0.76	0.98	OBD01-03016
	1.5	3.5			6.0						OBD01-03204
	3.5	5.5			8.0						OBD01-03206
	5.5	7.5			10.0						OBD01-03208
	7.5	9.5			12.0						OBD01-03210
	9.5	11.5			14.0						OBD01-03212
	11.5	13.5			16.0						OBD01-03214
	13.5	15.5			18.0						OBD01-03216
15.5	17.5	20.0	OBD01-03218								
4.0 (5/32")		3.0	4.1	4.0	6.0	8.0	1.0	2.1	1.2	1.6	OBD01-03220
	1.5	5.0			8.0						OBD01-04006
	3.0	6.5			10.0						OBD01-04008
	4.5	8.5			12.0						OBD01-04010
	6.0	10.5			14.0						OBD01-04012
	7.5	12.5			16.0						OBD01-04014
	9.0	14.5			18.0						OBD01-04016
	10.5	16.5			20.0						OBD01-04018
	12.0	19.0			23.0						OBD01-04020
	13.5	21.5			25.0						OBD01-04023
										OBD01-04025	

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

# Avdel® Standard Breakstem BD01



$\varnothing$ nom.				$\varnothing d$ +0.08 -0.15	$l$ +1.0 -0.2	$\varnothing d_k$ -1.0	$k$ $\pm 0.3$	$\varnothing d_m$			Part No/ref
	min.	max.									
4.8 (3/16")	1.0	3.0	4.9	4.8	6.0	9.5	1.1	2.7	1.69	2.23	OBD01-04806
	3.0	4.5			8.0						OBD01-04808
	4.5	6.0			10.0						OBD01-04810
	6.0	8.0			12.0						OBD01-04812
	8.0	10.0			14.0						OBD01-04814
	10.0	12.0			16.0						OBD01-04816
	12.0	14.0			18.0						OBD01-04818
	14.0	16.0			20.0						OBD01-04820
	16.0	18.0			22.0						OBD01-04822
	18.0	21.0			25.0						OBD01-04825
	21.0	23.5			28.0						OBD01-04828
	23.5	25.0			30.0						OBD01-04830
	25.0	30.0			35.0						OBD01-04835
30.0	35.0	40.0	OBD01-04840								
5.0	1.0	3.0	5.1	5.0	6.0	9.5	1.1	2.7	2.0	2.5	OBD01-05006
	3.0	4.5			8.0						OBD01-05008
	4.5	6.0			10.0						OBD01-05010
	6.0	8.0			12.0						OBD01-05012
	8.0	10.0			14.0						OBD01-05014
	10.0	12.0			16.0						OBD01-05016
	12.0	14.0			18.0						OBD01-05018
	14.0	17.0			21.0						OBD01-05021
	17.0	20.0			25.0						OBD01-05025
	20.0	23.0			27.0						OBD01-05027
	23.0	25.0			30.0						OBD01-05030
	25.0	30.0			35.0						OBD01-05035
	30.0	35.0			40.0						OBD01-05040
6.0	2.0	4.0	6.1	6.0	8.0	12.0 [-1.5]	1.5	3.6	3.0	3.9	OBD01-06008
	4.0	6.0			10.0						OBD01-06010
	6.0	8.0			12.0						OBD01-06012
	7.0	9.0			14.0						OBD01-06014
	9.0	11.0			16.0						OBD01-06016
	11.0	13.0			18.0						OBD01-06018
	13.0	17.0			22.0						OBD01-06022
	17.0	20.0			26.0						OBD01-06026
	20.0	24.0			30.0						OBD01-06030
	6.4 (1/4")				2.5						6.5
4.0		6.0	12.0	OBD01-06412							
6.0		9.0	15.0	OBD01-06415							
9.0		13.0	18.0	OBD01-06418							
13.0		16.0	22.0	OBD01-06422							
16.0		20.0	26.0	OBD01-06426							
18.0		24.0	30.0	OBD01-06430							

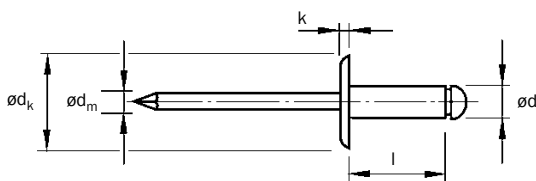
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros

# Avdel® Standard Breakstem BD02



English	Français	Deutsch	Italiano	Español
Large head	Tête large	Flachrundkopf extragroß	Testa larga	Cabeza ancha
Body: Aluminium alloy*	Corps: Alliage d'aluminium*	Hülse: Aluminium*	Corpo: Lega di alluminio*	Cuerpo: Aluminio*
Polished	Poli	Blank	Lucido	Pulido
Stem: Steel	Tige: Acier	Dorn: Stahl	Gambo: Acciaio	Vástago: Acero
Zinc plated	Revêtement zingué	Verzinkt	Zincato	Zincado

\*: AlMg3.5

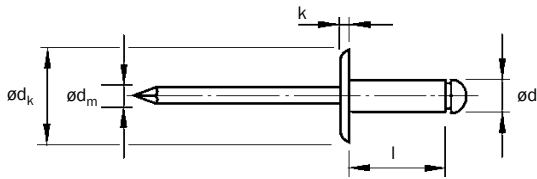


$\varnothing$ nom.				$\varnothing d$ +0.08 -0.15	$l$ +1.0 -0.2	$\varnothing d_k$ -0.5	$k$ max.	$\varnothing d_m$			Part No/ref
	min.	max.									
3.2 (1/8")	1.5	3.5	3.3	3.2	6.0	9.5	2.0	1.7	0.76	0.98	OBD02-03206
	3.5	5.5			8.0						OBD02-03208
	5.5	7.5			10.0						OBD02-03210
	7.5	9.5			12.0						OBD02-03212
	9.5	11.5			14.0						OBD02-03214
4.0 (5/32")	1.5	3.0	4.1	4.0	6.0	12.0	2.5	2.1	1.20	1.60	OBD02-04006
	3.0	5.0			8.0						OBD02-04008
	5.0	6.5			10.0						OBD02-04010
	6.5	8.5			12.0						OBD02-04012
	8.5	10.5			14.0						OBD02-04014
	10.5	12.5			16.0						OBD02-04016

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



# Avdel® Standard Breakstem BD02



$\varnothing$ nom.				$\varnothing d$ +0.08 -0.15	$l$ +1.0 -0.2	$\varnothing d_k$ -0.5	$k$ max.	$\varnothing d_m$			Part No/ref
	min.	max.									
4.8 (3/16")	3.0	4.5	4.9	4.8	8.0	14.0	2.5	2.7	1.69	2.23	OBD02-04808
	4.5	6.0			10.0						OBD02-04810
	6.0	8.0			12.0						OBD02-04812
	8.0	10.0			14.0						OBD02-04814
	10.0	12.0			16.0						OBD02-04816
	12.0	14.0			18.0						OBD02-04818
	14.0	16.0			20.0						OBD02-04820
	16.0	18.0			22.0						OBD02-04822
	18.0	21.0			24.0						OBD02-04824
	19.5	22.0			26.0						OBD02-04826
	21.0	23.5			28.0						OBD02-04828
	23.0	25.0			30.0						OBD02-04830
25.0	30.0	35.0	OBD02-04835								
5.0	3.0	4.5	5.1	5.0	8.0	14.0	2.5	2.7	2.00	2.50	OBD02-05008
	4.5	6.0			10.0						OBD02-05010
	6.0	8.0			12.0						OBD02-05012
	8.0	10.0			14.0						OBD02-05014
	10.0	12.0			16.0						OBD02-05016
	12.0	14.0			18.0						OBD02-05018
	14.0	17.0			21.0						OBD02-05021
	17.0	20.0			24.0						OBD02-05024

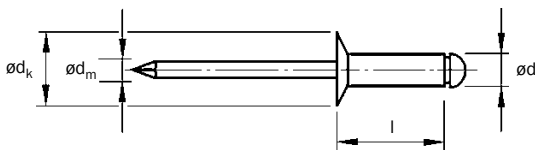
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros

# Avdel® Standard Breakstem BD03



English	Français	Deutsch	Italiano	Español
120° Countersunk head	120° Tête fraisée	120° Senkkopf	120° Testa svasata	120° Cabeza avellanada
Body: Aluminium alloy*	Corps: Alliage d'aluminium*	Hülse: Aluminium*	Corpo: Lega di alluminio*	Cuerpo: Aluminio*
Polished	Poli	Blank	Lucido	Pulido
Stem: Steel	Tige: Acier	Dorn: Stahl	Gambo: Acciaio	Vástago: Acero
Zinc plated	Revêtement zingué	Verzinkt	Zincato	Zincado

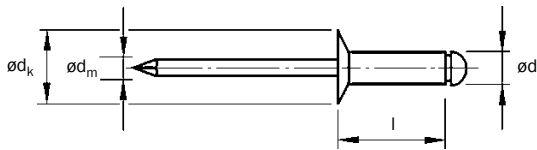
\*: AlMg2.5/3.5



ø nom.				ød	l	ød <sub>k</sub>	ød <sub>m</sub>	 kN	 kN	Part No/ref
	min.	max.								
2.4 (3/32")	2.0	4.0	2.5	2.4	6.0	5.0	1.45	0.315	0.355	OBD03-02406
	4.0	6.0			8.0					OBD03-02408
	6.0	8.0			10.0					OBD03-02410
3.0	1.5	3.5	3.1	3.0	6.0	6.0	1.75	0.62	0.81	OBD03-03006
	3.5	5.5			8.0					OBD03-03008
	5.5	7.5			10.0					OBD03-03010
	7.5	9.5			12.0					OBD03-03012
3.2 (1/8")	1.5	3.5	3.3	3.2	6.0	6.0	1.75	0.76	0.98	OBD03-03206
	3.5	5.5			8.0					OBD03-03208
	5.5	7.5			10.0					OBD03-03210
	7.5	9.5			12.0					OBD03-03212
	9.5	11.5			14.0					OBD03-03214

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

# Avdel® Standard Breakstem BD03



$\varnothing$ nom.				$\varnothing d$ +0.08 -0.15	$l$ +1.0 -0.2	$\varnothing d_k$ -0.5	$\varnothing d_m$			Part No/ref
	min.	max.								
4.0 (5/32")	1.5	3.0	4.1	4.0	6.0	7.5	2.1	1.20	1.60	OBD03-04006
	3.0	5.0			8.0					OBD03-04008
	5.0	6.5			10.0					OBD03-04010
	6.5	8.6			12.0					OBD03-04012
	8.5	10.5			14.0					OBD03-04014
	10.5	12.5			16.0					OBD03-04016
4.8 (3/16")	3.0	4.5	4.9	4.8	8.0	9.0	2.7	1.69	2.23	OBD03-04808
	4.5	6.0			10.0					OBD03-04810
	6.0	8.0			12.0					OBD03-04812
	8.0	10.0			14.0					OBD03-04814
	10.0	12.0			16.0					OBD03-04816
	12.0	14.0			18.0					OBD03-04818
	14.0	16.0			20.0					OBD03-04820
	18.0	21.0			25.0					OBD03-04825
5.0	3.0	4.5	5.1	5.0	8.0	9.0	2.7	2.00	2.50	OBD03-05008
	4.5	6.0			10.0					OBD03-05010
	6.0	8.0			12.0					OBD03-05012
	8.0	10.0			14.0					OBD03-05014
	10.0	12.0			16.0					OBD03-05016
	12.0	14.0			18.0					OBD03-05018
	14.0	17.0			21.0					OBD03-05020
	17.0	20.0			25.0					OBD03-05025

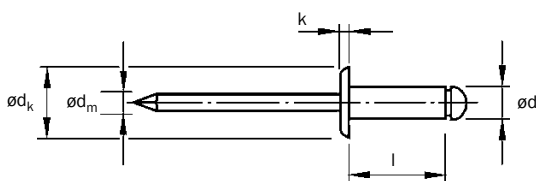
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros

# Avdel® Standard Breakstem BD05



English	Français	Deutsch	Italiano	Español
Dome head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Aluminium alloy*	Corps: Alliage d'aluminium*	Hülse: Aluminium*	Corpo: Lega di alluminio*	Cuerpo: Aluminio*
Polished	Poli	Blank	Lucido	Pulido
Stem: Stainless steel**	Tige:Inox**	Dorn: Edelstahl**	Gambo: Acciaio inox**	Vástago: Acero inoxidable**

\*: AlMg3  
 \*\*: A2



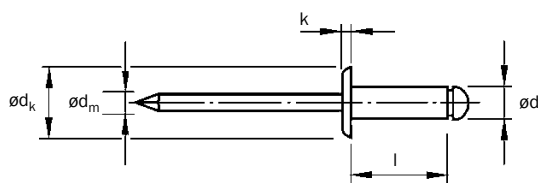
ø nom.				ød	l	ød <sub>k</sub>	k	ød <sub>m</sub>			Part No/ref
	min.	max.									
3.0	1.5	3.5	3.1	3.0 [+0.08 -0.10]	6.0	6.5 [-0.7]	0.8 [±0.2]	1.75	0.62	0.81	OBD05-03006
	3.5	5.5			8.0						OBD05-03008
	5.5	7.0			10.0						OBD05-03010
	7.0	9.0			12.0						OBD05-03012
3.2 (1/8")	1.5	3.5	3.3	3.2 [+0.08 -0.10]	6.0	6.5 [-0.7]	0.8 [±0.2]	1.95	0.76	0.98	OBD05-03206
	3.5	5.5			8.0						OBD05-03208
	5.5	7.0			10.0						OBD05-03210
	7.0	9.0			12.0						OBD05-03212
4.0 (5/32")	1.0	3.0	4.1	4.0 [+0.08 -0.15]	6.0	8.0 [-1.0]	1.0 [±0.3]	2.1	1.20	1.60	OBD05-04006
	3.0	5.0			8.0						OBD05-04008
	5.0	7.0			10.0						OBD05-04010
	7.0	9.0			12.0						OBD05-04012
4.8 (3/16")	2.5	4.5	4.9	4.8 [+0.08 -0.15]	8.0	9.5 [-1.0]	1.1 [±0.3]	2.7	1.69	2.23	OBD05-04808
	4.5	6.5			10.0						OBD05-04810
	6.5	8.5			12.0						OBD05-04812
	8.5	10.5			14.0						OBD05-04814
	10.5	12.5			16.0						OBD05-04816
	12.5	14.5			18.0						OBD05-04818
	14.5	16.5			20.0						OBD05-04820
5.0	2.5	4.5	5.1	5.0 [+0.08 -0.15]	8.0	9.5 [-1.0]	1.1 [±0.3]	2.7	2.00	2.50	OBD05-05008
	4.5	6.5			10.0						OBD05-05010
	6.5	8.5			12.0						OBD05-05012
	10.5	12.5			16.0						OBD05-05016

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

# Avdel® Standard Breakstem BD11



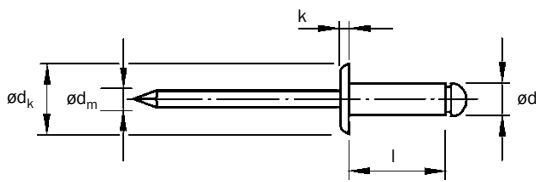
English	Français	Deutsch	Italiano	Español
Dome head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Steel Zinc plated	Corps: Acier Revêtement zingué	Hülse: Stahl Verzinkt	Corpo: Acciaio Zincato	Cuerpo: Acero Zincado
Stem: Steel Zinc plated	Tige: Acier Revêtement zingué	Dorn: Stahl Verzinkt	Gambo: Acciaio Zincato	Vástago: Acero Zincado







ø nom.				ød	l	ød <sub>k</sub>	k	ød <sub>m</sub>	 kN	 kN	Part No/ref
	min.	max.									
3.0	1.5	3.0	3.1	3.0 [+0.08 -0.10]	6.0	6.5 [-0.7]	0.8 [±0.2]	1.9	0.915	1.125	OBD11-03006
	3.0	5.0			8.0						OBD11-03008
	5.0	7.0			10.0						OBD11-03010
	7.0	9.0			12.0						OBD11-03012
	9.0	11.0			14.0						OBD11-03014
3.2 (1/8")	1.5	3.0	3.3	3.2 [+0.08 -0.10]	6.0	6.5 [-0.7]	0.8 [±0.2]	2.0	1.06	1.285	OBD11-03206
	3.0	5.0			8.0						OBD11-03208
	5.0	7.0			10.0						OBD11-03210
	7.0	9.0			12.0						OBD11-03212
	9.0	11.0			14.0						OBD11-03214
11.0	13.0	16.0	OBD11-03216								
4.0 (5/32")	1.5	2.5	4.1	4.0 [+0.08 -0.15]	6.0	8.0 [-1.0]	1.0 [±0.3]	2.5	1.55	1.99	OBD11-04006
	2.5	4.5			8.0						OBD11-04008
	4.5	6.5			10.0						OBD11-04010
	6.5	8.5			12.0						OBD11-04012
	8.5	10.5			14.0						OBD11-04014
	10.5	12.5			16.0						OBD11-04016
	12.5	14.5			18.0						OBD11-04018
	14.5	16.5			20.0						OBD11-04020

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

# Avdel® Standard Breakstem BD11



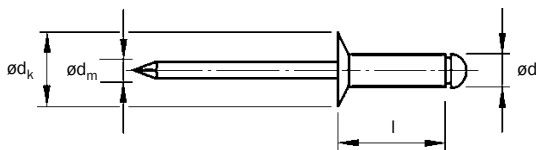
ø nom.				ød +0.08 -0.15	l +1.0 -0.2	ød <sub>k</sub>	k	ød <sub>m</sub>	 kN	 kN	Part No/ref
	min.	max.									
4.8 (3/16")	1.0	2.5	4.9	4.8	6.0	9.5 [-1.0]	1.1 [±0.3]	2.9	2.30	2.92	OBD11-04806
	2.5	4.5			8.0						OBD11-04808
	4.5	6.0			10.0						OBD11-04810
	6.0	8.0			12.0						OBD11-04812
	8.0	10.0			14.0						OBD11-04814
	10.0	11.5			16.0						OBD11-04816
	11.5	13.5			18.0						OBD11-04818
	13.5	15.0			20.0						OBD11-04820
	15.0	17.0			22.0						OBD11-04822
	17.0	20.0			25.0						OBD11-04825
	20.0	23.0			28.0						OBD11-04828
	23.0	26.0			30.0						OBD11-04830
	5.0	2.5			4.0						5.1
4.0		6.0	10.0	OBD11-05010							
6.0		8.0	12.0	OBD11-05012							
8.0		10.0	14.0	OBD11-05014							
10.0		11.5	16.0	OBD11-05016							
11.5		13.5	18.0	OBD11-05018							
13.5		15.0	20.0	OBD11-05020							
6.0	3.5	6.5	6.1	6.0	12.0	12.0 [-1.5]	1.5 [±0.4]	3.6	4.04	5.02	OBD11-06012
	6.5	9.5			15.0						OBD11-06015
	9.5	12.5			18.0						OBD11-06018
	13.5	16.5			22.0						OBD11-06022
	17.5	20.5			26.0						OBD11-06026
	21.5	24.5			30.0						OBD11-06030
6.4 (1/4")	3.5	6.5	6.5	6.4	12.0	13.0 [-1.5]	1.8 [±0.4]	3.85	4.355	5.415	OBD11-06412
	6.5	9.5			15.0						OBD11-06415
	9.5	12.5			18.0						OBD11-06418
	14.5	16.5			22.0						OBD11-06422
	18.5	20.5			26.0						OBD11-06426
	22.5	24.5			30.0						OBD11-06430

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

# Avdel® Standard Breakstem BD13



English	Français	Deutsch	Italiano	Español
120° Countersunk head	120° Tête fraisée	120° Senkkopf	120° Testa svasata	120° Cabeza avellanada
Body: Steel Zinc plated	Corps: Acier Revêtement zingué	Hülse: Stahl Verzinkt	Corpo: Acciaio Zincato	Cuerpo: Acero Zincado
Stem: Steel Zinc plated	Tige: Acier Revêtement zingué	Dorn: Stahl Verzinkt	Gambo: Acciaio Zincato	Vástago: Acero Zincado



$\varnothing$ nom.				$\varnothing d$	$l$	$\varnothing d_k$	$\varnothing d_m$			Part No/ref
	min.	max.								
3.0	1.5	3.0	3.1	3.0 [+0.08 -0.10]	6.0	6.0 [-0.4]	1.9	0.915	1.125	OBD13-03006
	3.0	5.0			8.0					OBD13-03008
	5.0	7.0			10.0					OBD13-03010
	7.0	9.0			12.0					OBD13-03012
3.2 (1/8")	1.5	3.0	3.3	3.2 [+0.08 -0.10]	6.0	6.0 [-0.4]	2.0	1.06	1.285	OBD13-03206
	3.0	5.0			8.0					OBD13-03208
	5.0	7.0			10.0					OBD13-03210
	7.0	9.0			12.0					OBD13-03212
4.0 (5/32")	1.5	2.5	4.1	4.0 [+0.08 -0.15]	6.0	7.5 [-0.5]	2.5	1.55	1.99	OBD13-04006
	2.5	4.5			8.0					OBD13-04008
	4.5	6.5			10.0					OBD13-04010
	6.5	8.5			12.0					OBD13-04012
	8.5	10.5			14.0					OBD13-04014
	10.5	12.5			16.0					OBD13-04016
4.8 (3/16")	2.5	4.5	4.9	4.8 [+0.08 -0.15]	8.0	9.0 [-0.5]	2.9	2.30	2.92	OBD13-04808
	4.5	6.0			10.0					OBD13-04810
	6.0	8.0			12.0					OBD13-04812
	8.0	10.0			14.0					OBD13-04814
	10.0	11.5			16.0					OBD13-04816
	11.5	13.5			18.0					OBD13-04818
	13.5	15.5			20.0					OBD13-04820

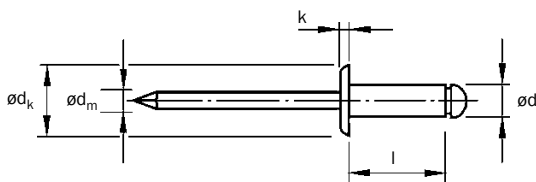
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros

# Avdel® Standard Breakstem BD21



English	Français	Deutsch	Italiano	Español
Dome head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Stainless steel* Polished	Corps: Inox* Poli	Hülse: Edelstahl* Blank	Corpo: Acciaio inox* Lucido	Cuerpo: Acero inoxidable* Pulido
Stem: Stainless steel* Polished	Tige: Inox* Poli	Dorn: Edelstahl* Blank	Gambo: Acciaio inox* Lucido	Vástago: Acero inoxidable* Pulido

\*: A2

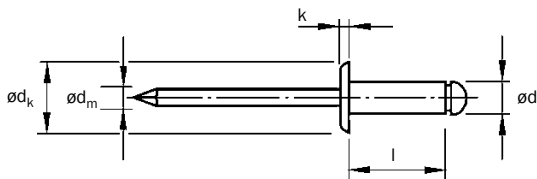


$\varnothing$ nom.				$\varnothing d$	$l$	$\varnothing d_k$	$k$	$\varnothing d_m$			Part No/ref
	min.	max.									
3.0	1.5	2.5	3.1	3.0 [+0.08 -0.10]	6.0	6.5 [-0.7]	0.8 [±0.2]	1.9	1.6	2.0	OBD21-03006
	2.5	4.5			8.0						OBD21-03008
	4.5	6.5			10.0						OBD21-03010
	6.5	8.5			12.0						OBD21-03012
3.2 (1/8")		1.5	3.3	3.2 [+0.08 -0.10]	4.0	6.5 [-0.7]	0.8 [±0.2]	2.0	1.8	2.5	OBD21-03204
	1.5	2.5			6.0						OBD21-03206
	2.5	4.5			8.0						OBD21-03208
	4.5	6.5			10.0						OBD21-03210
	6.5	8.5			12.0						OBD21-03212
	8.5	12.0			15.0						OBD21-03215
	12.0	15.0			18.0						OBD21-03218
4.0 (5/32")		2.0	4.1	4.0 [+0.08 -0.15]	6.0	8.0 [-1.0]	1.0 [±0.3]	2.5	3.1	3.8	OBD21-04006
	2.0	4.0			8.0						OBD21-04008
	4.0	6.0			10.0						OBD21-04010
	7.0	9.0			13.0						OBD21-04013
	10.0	12.0			16.0						OBD21-04016
	12.0	14.0			18.0						OBD21-04018
	14.0	16.0			20.0						OBD21-04020

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



# Avdel® Standard Breakstem BD21



$\varnothing$ nom.				$\varnothing d$	$l$ +1.0 -0.2	$\varnothing d_k$	$k$	$\varnothing d_m$			Part No/ref
	min.	max.									
4.8 (3/16")	1.5	3.0	4.9	4.8 [+0.08 -0.15]	8.0	9.5 [-1.0]	1.1 [±0.3]	2.9	4.5	6.0	OBD21-04808
	3.0	5.0			10.0						OBD21-04810
	5.0	7.0			12.0						OBD21-04812
	7.0	9.0			14.0						OBD21-04814
	9.0	11.0			16.0						OBD21-04816
	11.0	13.0			18.0						OBD21-04818
	13.0	15.0			20.0						OBD21-04820
5.0	1.5	3.0	5.1	5.0 [+0.08 -0.15]	8.0	9.5 [-1.0]	1.1 [±0.3]	2.9	5.0	6.5	OBD21-05008
	3.0	5.0			10.0						OBD21-05010
	5.0	7.0			12.0						OBD21-05012
	9.0	11.0			16.0						OBD21-05016
6.0	4.0	6.0	6.1	6.0 [+0.08 -0.15]	12.0	12.0 [-1.5]	1.5 [±0.4]	3.6	6.5	8.83	OBD21-06012
	6.0	9.0			15.0						OBD21-06015
	9.0	12.0			18.0						OBD21-06018
	11.0	14.0			20.0						OBD21-06020
6.4 (1/4")	4.5	6.5	6.5	6.4 [+0.08 -0.15]	12.0	12.0 [-1.5]	2.1 [±0.4]	3.85	6.5	8.85	OBD21-06412
	6.5	9.5			15.0						OBD21-06415
	9.5	12.5			18.0						OBD21-06418
	11.5	14.5			20.0						OBD21-06420
	17.0	20.0			25.0						OBD21-06425

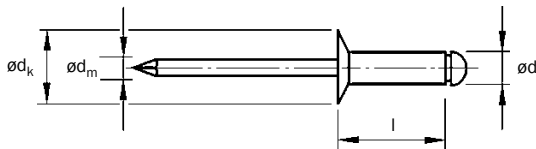
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros

# Avdel® Standard Breakstem BD23



English	Français	Deutsch	Italiano	Español
120° Countersunk head	120° Tête fraisée	120° Senkkopf	120° Testa svasata	120° Cabeza avellanada
Body: Stainless steel* Polished	Corps: Inox* Poli	Hülse: Edelstahl* Blank	Corpo: Acciaio inox* Lucido	Cuerpo: Acero inoxidable* Pulido
Stem: Stainless steel* Polished	Tige: Inox* Poli	Dorn: Edelstahl* Blank	Gambo: Acciaio inox* Lucido	Vástago: Acero inoxidable* Pulido

\*: A2



ø nom.				ød	l	ød <sub>k</sub>	ød <sub>m</sub>			Part No/ref
	min.	max.								
3.2 (1/8")	1.5	2.5	3.3	3.2 [+0.08 -0.10]	6.0	6.0 [-0.4]	2.0	1.8	2.5	OBD23-03206
	2.5	4.5			8.0					OBD23-03208
	4.5	6.5			10.0					OBD23-03210
	6.5	8.5			12.0					OBD23-03212
4.0 (5/32")		2.0	4.1	4.0 [+0.08 -0.15]	6.0	7.5 [-0.5]	2.5	3.1	3.8	OBD23-04006
	2.0	4.0			8.0					OBD23-04008
	4.0	6.0			10.0					OBD23-04010
	6.0	8.0			12.0					OBD23-04012
	9.0	11.0			15.0					OBD23-04015
4.8 (3/16")	1.5	3.0	4.9	4.8 [+0.08 -0.15]	8.0	9.0 [-0.5]	2.9	4.5	6.0	OBD23-04808
	3.0	5.0			10.0					OBD23-04810
	5.0	7.0			12.0					OBD23-04812
	8.0	10.0			15.0					OBD23-04815
	11.0	13.0			18.0					OBD23-04818
	14.0	16.0			21.0					OBD23-04821
	18.0	20.0			25.0					OBD23-04825

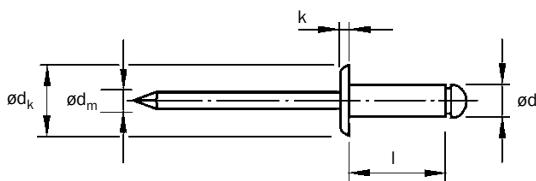
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros

# Avdel® Standard Breakstem BD24



English	Français	Deutsch	Italiano	Español
Dome head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Stainless steel* Polished	Corps: Inox* Poli	Hülse: Edelstahl* Blank	Corpo: Acciaio inox* Lucido	Cuerpo: Acero inoxidable* Pulido
Stem: Stainless steel* Polished	Tige: Inox* Poli	Dorn: Edelstahl* Blank	Gambo: Acciaio inox* Lucido	Vástago: Acero inoxidable* Pulido

\*: A4



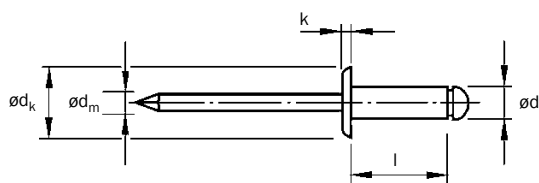
ø nom.				ød	l	ød <sub>k</sub>	k	ød <sub>m</sub>	 kN	 kN	Part No/ref
	min.	max.									
3.0	1.5	2.5	3.1	3.0 [+0.08 -0.10]	6.0	6.5 [-0.7]	0.8 [±0.2]	1.9	1.6	2.0	OBD24-03006
	2.5	4.5			8.0						OBD24-03008
	4.5	6.5			10.0						OBD24-03010
3.2 (1/8")	1.5	2.5	3.3	3.2 [+0.08 -0.10]	6.0	6.5 [-0.7]	0.8 [±0.2]	2.0	1.8	2.5	OBD24-03206
	2.5	4.5			8.0						OBD24-03208
	4.5	6.5			10.0						OBD24-03210
	6.5	8.5			12.0						OBD24-03212
4.0 (5/32")		2.0	4.1	4.0 [+0.08 -0.15]	6.0	8.0 [-1.0]	1.0 [±0.3]	2.5	3.1	3.8	OBD24-04006
	2.0	4.0			8.0						OBD24-04008
	4.0	6.0			10.0						OBD24-04010
	7.0	9.0			13.0						OBD24-04013
	10.0	12.0			16.0						OBD24-04016
4.8 (3/16")	1.5	3.0	4.9	4.8 [+0.08 -0.15]	8.0	9.5 [-1.0]	1.1 [±0.3]	2.9	4.5	6.0	OBD24-04808
	3.0	5.0			10.0						OBD24-04810
	5.0	7.0			12.0						OBD24-04812
	7.0	9.0			14.0						OBD24-04814
	9.0	11.0			16.0						OBD24-04816
	11.0	13.0			18.0						OBD24-04818

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

# Avdel® Standard Breakstem BD31



English	Français	Deutsch	Italiano	Español
Dome head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Copper Polished	Corps: Cuivre Poli	Hülse: Kupfer Blank	Corpo: Rame Lucido	Cuerpo: Cobre Pulido
Stem: Steel Zinc plated	Tige: Acier Revêtement zingué	Dorn: Stahl Verzinkt	Gambo: Acciaio Zincato	Vástago: Acero Zincado



Ø nom.	Ød_m		Ød	l	Ød_k	k	Ød_m	kN	kN	Part No/ref
	min.	max.								
3.0	1.0	3.0	3.0 [+0.08 -0.10]	6.0	6.5 [-0.7]	0.8 [±0.2]	1.75	0.6	0.7	OBD31-03006
	3.0	5.0		8.0						OBD31-03008
	5.0	7.0		10.0						OBD31-03010
	7.0	9.0		12.0						OBD31-03012
3.2 (1/8")	1.0	3.0	3.2 [+0.08 -0.10]	6.0	6.5 [-0.7]	0.8 [±0.2]	1.95	0.7	0.8	OBD31-03206
	3.0	5.0		8.0						OBD31-03208
	5.0	7.0		10.0						OBD31-03210
	7.0	9.0		12.0						OBD31-03212
4.0 (5/32")	1.0	2.5	4.0 [+0.08 -0.15]	6.0	8.0 [-1.0]	1.0 [±0.3]	2.10	1.0	1.5	OBD31-04006
	2.5	4.5		8.0						OBD31-04008
	4.5	6.5		10.0						OBD31-04010
	6.5	8.5		12.0						OBD31-04012
	8.5	10.5		14.0						OBD31-04014
	10.5	12.5		16.0						OBD31-04016
4.8 (3/16")	1.5	3.5	4.8 [+0.08 -0.15]	8.0	9.5 [-1.0]	1.1 [±0.3]	2.70	1.5	2.0	OBD31-04808
	3.5	5.5		10.0						OBD31-04810
	5.5	7.5		12.0						OBD31-04812
	7.5	9.5		14.0						OBD31-04814
	9.5	11.5		16.0						OBD31-04816

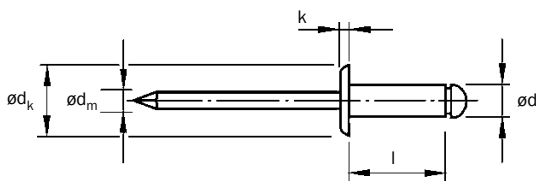
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros

# Avdel® Standard Breakstem BD41



English	Français	Deutsch	Italiano	Español
Dome head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Aluminium alloy*	Corps: Alliage d'aluminium*	Hülse: Aluminium*	Corpo: Lega di alluminio*	Cuerpo: Aluminio*
Polished	Poli	Blank	Lucido	Pulido
Stem: Aluminium alloy	Tige: Alliage d'aluminium	Dorn: Aluminium	Gambo: Lega di alluminio	Vástago: Aluminio
Polished	Poli	Blank	Lucido	Pulido

\*: AlMg2.5



ø nom.				ød	l	ød <sub>k</sub>	k	ød <sub>m</sub>	 kN	 kN	Part No/ref
	min.	max.									
3.2 (1/8")	1.5	3.5	3.3	3.2 [+0.08 -0.10]	6.0	6.5 [-0.7]	0.8 [±0.2]	1.95	0.535	0.670	OBD41-03206
	3.5	5.5			8.0						OBD41-03208
	5.5	7.5			10.0						OBD41-03210
	7.5	9.5			12.0						OBD41-03212
	9.5	11.5			14.0						OBD41-03214
	11.5	13.5			16.0						OBD41-03216
4.0 (5/32")	1.5	3.0	4.1	4.0 [+0.08 -0.15]	6.0	8.0 [-1.0]	1.0 [±0.3]	2.45	0.845	1.025	OBD41-04006
	3.0	5.0			8.0						OBD41-04008
	5.0	7.0			10.0						OBD41-04010
	7.0	9.0			12.0						OBD41-04012
	9.0	11.0			14.0						OBD41-04014
	11.0	13.0			16.0						OBD41-04016
4.8 (3/16")	2.5	4.5	4.9	4.8 [+0.08 -0.15]	8.0	9.5 [-1.0]	1.1 [±0.3]	2.90	1.155	1.425	OBD41-04808
	4.5	6.5			10.0						OBD41-04810
	6.5	8.5			12.0						OBD41-04812
	8.5	10.5			14.0						OBD41-04814
	10.5	12.5			16.0						OBD41-04816
	12.5	14.5			18.0						OBD41-04818
	14.5	16.5			20.0						OBD41-04820
	19.5	21.5			25.0						OBD41-04825

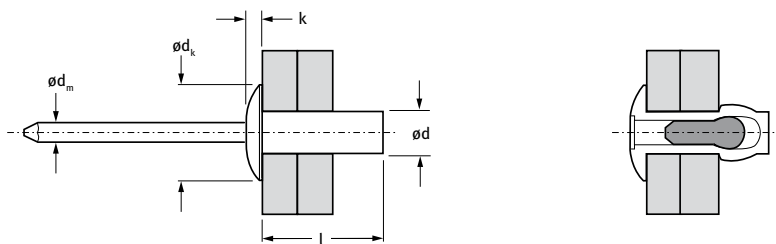
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros

# Avdel® SR SR01



English	Français	Deutsch	Italiano	Español
Dome head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Aluminium alloy* Polished	Corps: Alliage d'aluminium* Poli	Hülse: Aluminium* Blank	Corpo: Lega di alluminio* Lucido	Cuerpo: Aluminio* Pulido
Stem: Steel Phosphated	Tige: Acier Phosphaté	Dorn: Stahl Phosphatiert	Gambo: Acciaio Fosfatato	Vástago: Acero Fosfatado

\*: AlMg5



$\varnothing$ nom.				$\varnothing d$	$l$	$\varnothing d_k$	$k$ max.	$\varnothing d_m$			Part No/ref
	min.	max.									
3.2 (1/8")	0.5	2.0	3.3	3.2 [±0.08]	6.5	6.0 [±0.24]	1.4	1.7	1.07	1.25	OSR01-03265
	2.0	3.5			8.0						OSR01-03280
	3.5	5.0			9.5						OSR01-03295
	5.0	6.5			10.7						OSR01-03211
	6.5	8.0			12.7						OSR01-03212
4.0 (5/32")	0.5	3.5	4.1	4.0 [±0.08]	8.0	8.0 [±0.29]	1.7	2.18	1.70	2.24	OSR01-04080
	3.5	4.5			9.5						OSR01-04095
	4.5	6.5			11.0						OSR01-04011
	6.5	8.0			12.7						OSR01-04012
	8.0	10.5			15.0						OSR01-04014
4.8 (3/16")	1.0	3.0	4.9	4.8 [±0.08]	8.0	9.5 [±0.29]	2.0	2.63	2.20	3.10	OSR01-04880
	3.0	4.5			9.5						OSR01-04895
	4.5	6.0			11.0						OSR01-04811
	6.0	7.5			12.5						OSR01-04812
	7.5	9.0			14.0						OSR01-04814
	9.0	11.0			16.0						OSR01-04816
	11.0	13.0			18.0						OSR01-04818
	13.0	16.0			21.0						OSR01-04821
	16.0	20.0			25.0						OSR01-04825
6.4 (1/4")	1.5	6.0	6.5	6.4 [±0.11]	12.5	12.7 [±0.35]	2.5	3.7	3.95	4.90	OSR01-06412
	6.0	8.0			16.0						OSR01-06416

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

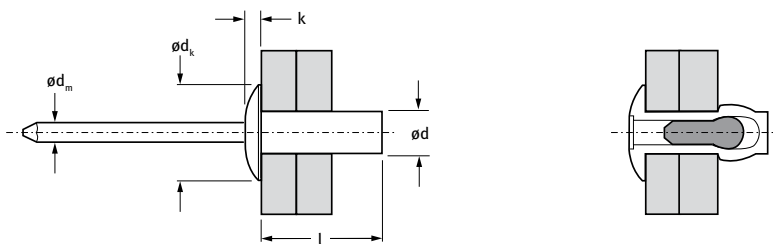
# Avdel® SR SR02







English	Français	Deutsch	Italiano	Español
Dome head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Aluminium alloy*	Corps: Alliage d'aluminium*	Hülse: Aluminium*	Corpo: Lega di alluminio*	Cuerpo: Aluminio*
Polished	Poli	Blank	Lucido	Pulido
Stem: Stainless steel**	Tige: Inox**	Dorn: Edelstahl**	Gambo: Acciaio inox**	Vástago: Acero inoxidable**
Polished	Poli	Blank	Lucido	pulido

\*: AlMg5

\*\* : A2



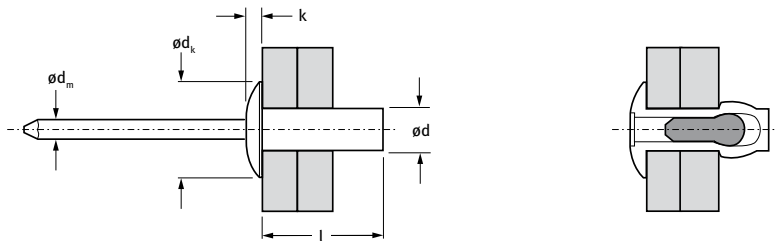
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	min.	max.									
3.2 (1/8")	0.5	2.0	3.3	3.2	6.5	6.0 [ $\pm 0.24$ ]	1.4	1.7	1.07	1.25	OSR02-03265
	2.0	3.5			8.0						OSR02-03280
	3.5	5.0			9.5						OSR02-03295
	5.0	6.5			11.0						OSR02-03211
	6.5	8.0			12.7						OSR02-03212
4.0 (5/32")	0.5	3.5	4.1	4.0	8.0	8.0 [ $\pm 0.29$ ]	1.7	2.18	1.70	2.24	OSR02-04080
	3.5	4.5			9.5						OSR02-04095
	4.5	6.5			11.0						OSR02-04011
	6.5	8.0			12.7						OSR02-04012
4.8 (3/16")	1.0	3.0	4.9	4.8	8.0	9.5 [ $\pm 0.29$ ]	2.0	2.63	2.20	3.10	OSR02-04880
	3.0	4.5			9.5						OSR02-04895
	4.5	6.0			11.0						OSR02-04811
	6.0	7.5			12.5						OSR02-04812
	7.5	9.0			14.0						OSR02-04814
	9.0	11.0			16.0						OSR02-04816
	11.0	13.0			18.0						OSR02-04818
	13.0	16.0			21.0						OSR02-04821

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

# Avdel® SR SR03



English	Français	Deutsch	Italiano	Español
Dome head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Copper Polished	Corps: Cuivre Poli	Hülse: Kupfer Blank	Corpo: Rame Lucido	Cuerpo: Cobre Pulido
Stem: Steel Protection layer	Tige: Acier Couche protectrice	Dorn: Stahl Schutzschicht	Gambo: Acciaio Strato protettivo	Vástago: Acero Coupa protectora



$\varnothing$ nom.				$\varnothing d$ +0.08 -0.1	$l$ +1.0 -0.2	$\varnothing d_k$	$k$ max.	$\varnothing d_m$			Part No/ref
	min.	max.									
3.2 (1/8")	0.5	1.5	3.3	3.2	6.5	6.0 [±0.24]	1.4	1.7	0.85	1.3	OSR03-03265
	1.5	3.0			8.0						OSR03-03280
	2.5	4.5			9.5						OSR03-03295
	4.5	7.5			12.5						OSR03-03212
4.0 (5/32")	0.5	2.0	4.1	4.0	8.0	8.0 [±0.29]	1.7	2.18	1.35	2.0	OSR03-04080
	2.0	4.0			10.0						OSR03-04010
4.8 (3/16")	1.0	2.5	4.9	4.8	9.5	9.5 [±0.29]	2.0	2.63	1.95	2.8	OSR03-04895
	2.5	4.5			11.5						OSR03-04811

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

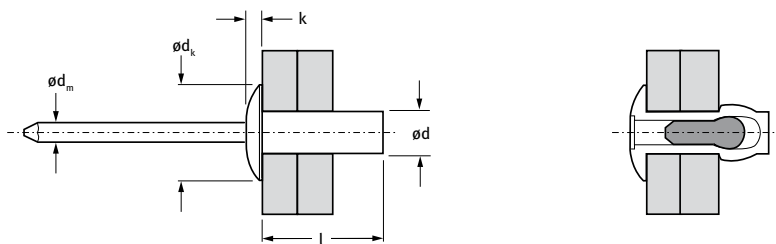


# Avdel® SR SR04



English	Français	Deutsch	Italiano	Español
Dome head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Aluminium alloy* Polished	Corps: Alliage d'aluminium* Poli	Hülse: Aluminium* Blank	Corpo: Lega di alluminio* Lucido	Cuerpo: Aluminio* Pulido
Stem: Aluminium alloy Polished	Tige: Alliage d'aluminium Poli	Dorn: Aluminium Blank	Gambo: Lega di alluminio Lucido	Vástago: Aluminio Pulido

\*: Al99,5



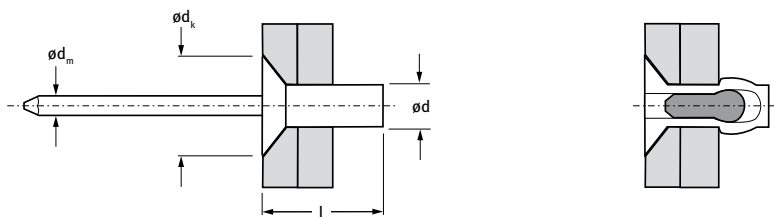
$\varnothing$ nom.				$\varnothing d$ $\pm 0.08$	$l$ $+1.0$ $-0.2$	$\varnothing d_k$ $6.0$ $[\pm 0.24]$	$k$ max.	$\varnothing d_m$			Part No/ref
	min.	max.									
3.2 (1/8")	0.5	3.5	3.3	3.2	8.0	6.0 [ $\pm 0.24$ ]	1.4	1.8	0.45	0.49	OSR04-03280
	3.5	5.5									9.5
4.0 (5/32")	0.5	5.0	4.1	4.0	9.5	8.0 [ $\pm 0.29$ ]	1.7	2.2	0.58	0.82	OSR04-04095
	5.0	8.0									12.5
4.8 (3/16")	1.0	4.5	4.9	4.8	9.5	9.5 [ $\pm 0.29$ ]	2.0	2.65	0.90	1.12	OSR04-04895
	4.5	6.5			11.5						OSR04-04811
	6.5	9.5			14.5						OSR04-04814
	9.5	13.0			18.0						OSR04-04818

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

# Avdel® SR SR21

English	Français	Deutsch	Italiano	Español
120° Countersunk head	120° Tête fraisée	120° Senkkopf	120° Testa svasata	120° Cabeza avellanada
Body: Aluminium alloy* Polished	Corps: Alliage d'aluminium* Poli	Hülse: Aluminium* Blank	Corpo: Lega di alluminio* Lucido	Cuerpo: Aluminio* Pulido
Stem: Steel Phosphated	Tige: Acier Phosphaté	Dorn: Stahl Phosphatiert	Gambo: Acciaio Fosfatato	Vástago: Acero Fosfatado

\*: AlMg5



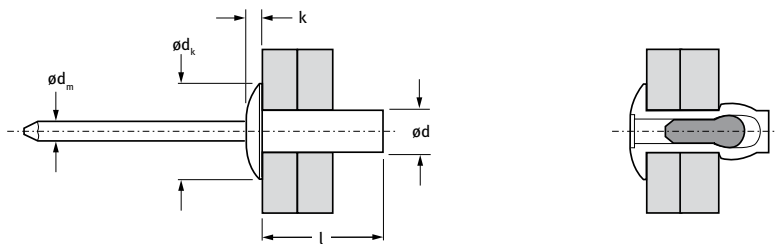
$\varnothing$ nom.				$\varnothing d$ $\pm 0.8$	$l$ $+1.0$ $-0.2$	$\varnothing d_k$	$\varnothing d_m$			Part No/ref
	min.	max.								
3.2 (1/8")	1.5	3.5	3.3	3.2	7.5	6.0 [-0.4]	1.7	1.07	1.245	OSR21-03207
	3.0	5.0			9.0					OSR21-03209
	4.5	6.5			10.5					OSR21-03210
4.0 (5/32")	3.0	5.0	4.1	4.0	9.5	7.5 [-0.5]	2.2	1.71	2.24	OSR21-04009
	4.5	6.5			11.0					OSR21-04011
	6.0	8.0			12.5					OSR21-04012
4.8 (3/16")	2.5	4.5	4.9	4.8	9.5	9.0 [-0.5]	2.65	2.23	3.07	OSR21-04809
	4.0	6.0			11.0					OSR21-04811
	5.5	7.5			12.5					OSR21-04812
	7.0	9.0			14.0					OSR21-04814
	8.5	10.5			15.5					OSR21-04815
	12.0	14.0			19.0					OSR21-04819





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

# Avdel® SR SR31



English	Français	Deutsch	Italiano	Español
Dome head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Steel Zinc plated	Corps: Acier Revêtement zingué	Hülse: Stahl Verzinkt	Corpo: Acciaio Zincato	Cuerpo: Acero Zincado
Stem: Steel Zinc plated	Tige: Acier Revêtement zingué	Dorn: Stahl Verzinkt	Gambo: Acciaio Zincato	Vástago: Acero Zincado



$\varnothing$ nom.				$\varnothing d$ +0.08 -0.10	$l$ +1.0 -0.2	$\varnothing d_k$	$k$ $\pm 0.3$	$\varnothing d_m$	 kN	 kN	Part No/ref
	min.	max.									
3.2 (1/8")	0.5	1.5	3.3	3.2	6.0	6.0 [ $\pm 0.24$ ]	1.0	1.9	1.6	2.2	OSR31-03260
	1.5	3.0			8.0						OSR31-03280
	3.0	5.0			9.5						OSR31-03295
	5.0	7.0			12.0						OSR31-03212
4.0 (5/32")	0.5	1.5	4.1	4.0	6.0	8.0 [ $\pm 0.29$ ]	1.4	2.3	2.3	2.5	OSR31-04060
	1.5	3.0			8.0						OSR31-04080
	3.0	5.0			10.0						OSR31-04010
	5.0	6.5			12.0						OSR31-04012
	6.5	10.5			15.0						OSR31-04015
4.8 (3/16")	1.0	3.0	4.9	4.8	8.0	9.5 [ $\pm 0.29$ ]	1.7	2.9	2.9	3.8	OSR31-04880
	3.0	5.0			9.5						OSR31-04810
	5.0	6.5			12.0						OSR31-04812
	6.5	10.5			16.0						OSR31-04816

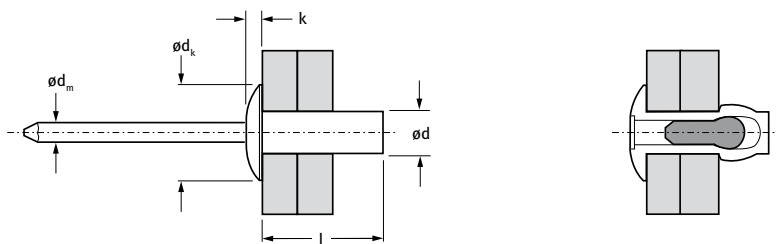
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros

# Avdel® SR SR41



English	Français	Deutsch	Italiano	Español
Dome head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Stainless steel* Polished	Corps: Inox* Poli	Hülse: Edelstahl* Blank	Corpo: Acciaio inox* Lucido	Cuerpo: Acero inoxidable* Pulido
Stem: Stainless steel* Polished	Tige: Inox* Poli	Dorn: Edelstahl* Blank	Gambo: Acciaio inox* Lucido	Vástago: Acero inoxidable* Pulido

\*: A2



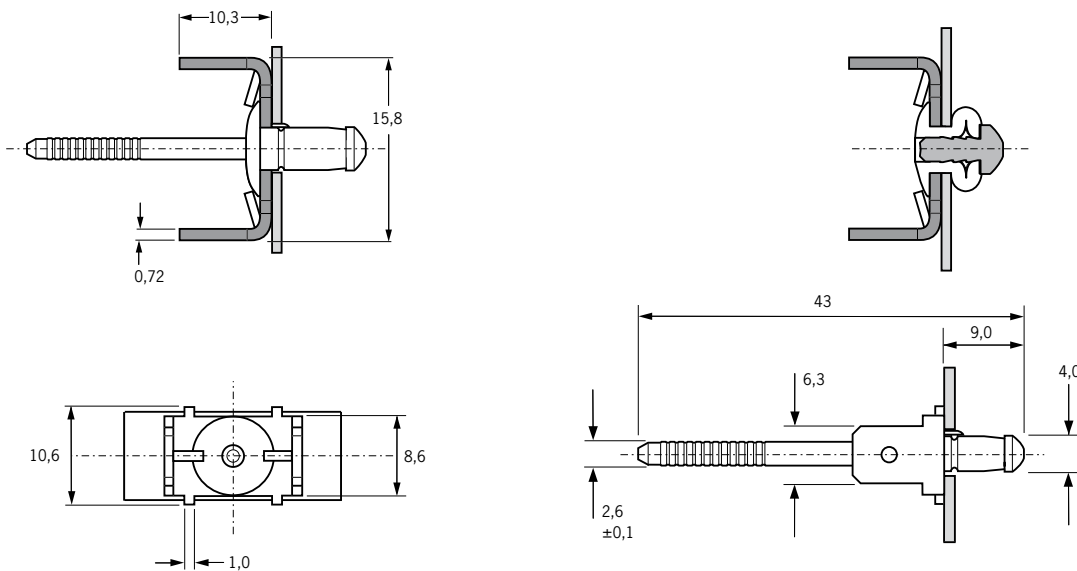
$\varnothing$ nom.				$\varnothing d$ +0.08 -0.10	$l$ +1.0 -0.2	$\varnothing d_k$	$k$ max.	$\varnothing d_m$	 kN	 kN	Part No/ref
	min.	max.									
3.2 (1/8")	0.5	1.5	3.3	3.2	6.0	6.0 [±0.24]	1.4	1.9	2.0	2.5	OSR41-03260
	1.5	3.0									OSR41-03280
	3.0	5.0									OSR41-03210
	5.0	7.0									OSR41-03212
4.0 (5/32")	0.5	1.5	4.1	4.0	6.0	8.0 [±0.29]	1.7	2.3	3.0	4.0	OSR41-04060
	1.5	3.0									OSR41-04080
	3.0	5.0									OSR41-04010
	5.0	6.5									OSR41-04012
	6.5	10.5									OSR41-04016
4.8 (3/16")	1.0	3.0	4.9	4.8	8.0	9.5 [±0.29]	2.0	2.9	4.5	5.5	OSR41-04880
	3.0	5.0									OSR41-04895
	5.0	6.5									OSR41-04812
	6.5	10.5									OSR41-04816
	10.5	14.0									OSR41-04820

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

# Earth Tab Rivet BN11



English	Français	Deutsch	Italiano	Español
Earthing/grounding point	Rivet masse	Erdungsniet	Punto di messa a terra	Toma de tierra
Body: Low carbon steel*	Corps: Acier bas carbone*	Hülse: Stahl*	Corpo: Acciaio a basso tenore di carbonio*	Cuerpo: Acero bajo en carbono*
Zinc plated	Revêtement zingué	Verzinkt	Zincato	Zincado
Clear trivalent passivated	Passivation claire trivalente	Klar chromatiert, Cr6-frei	Passivazione chiara trivalente	Pasivado claro trivalente
Stem: medium carbon boron steel**	Tige: Acier au carbone**	Dorn: Stahl**	Gambo: Acciaio a medio tenore di carbonio**	Vástago: Acero medio en carbono**
Zinc plated	Revêtement zingué	Verzinkt	Zincato	Zincado
Clear trivalent passivated	Passivation claire trivalente	Klar chromatiert, Cr6-frei	Passivazione chiara trivalente	Pasivado claro trivalente
Tab: Brass***	Languette: Laiton***	Fahne: Messing***	Linguette: Ottone***	Lengüeta: Latón***
*: SAE 1008, Werkstoff 1.0313    **: SAE 1045, Werkstoff 1.0517    ***: CuZn 30, DIN 17660				



Ø				Part No/ref
	nom.	min.		
4.0 (5/32")	1.0	1.5	± 0.05 5.2	OBN11-00509

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

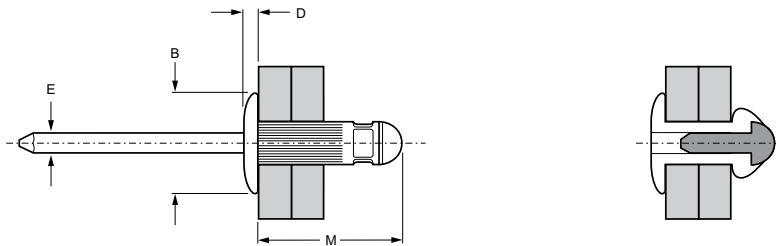
# Avex® Splined 1610



English	Français	Deutsch	Italiano	Español
Dome head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Body: Low carbon steel*	Corps: Acier bas carbone*	Hülse: Stahl*	Corpo: Acciaio a basso tenore di carbonio*	Cuerpo: Acero bajo en carbono*
Zinc plated	Revêtement zingué	Verzinkt	Zincato	Zincado
Stem: Low carbon steel**	Tige: Acier bas carbone**	Dorn: Stahl**	Gambo: Acciaio a basso tenore di carbonio**	Vástago: Acero bajo en carbono**
Zinc coated	Revêtement zingué	Verzinkt	Zincato	Zincado

\*: BS3111 Type 0, SAE 1008, DIN 1654, QSt 34-3

\*\* : BS3111 Type 0, SAE 1010/1015/1018/1022, DIN 17210, Cq10 / DIN 1654 Cq15/Cq22



ø					M	B	D	E			Part No/ref
	nom.	min.	max.	min.							
4.0 (5/32")	1.4	5.0	4.1	4.2	13.7	8.5	1.6	2.8	1.9	2.3	01610-06196
4.8 (3/16")	1.2	4.0	5.05	5.2	13.45	10.1	2.1	3.4	3.6	3.3	01610-06197

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

1) typical values / valeurs moyennes / typische Werte / Valori tipici / resistencias máximas recomendadas

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## The Range of Avdel® Blind Fastening Systems

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### Speed Fastening® Systems

Extra fast and reliable fastening from one side.  
Rivets are fed automatically.



### Breakstem Systems

Blind fastening systems with various features from multi-grip capability to high strength stainless steel rivets.



### Lockbolt Systems

High clamp force and vibration resistance for the highest strength joints.



### Blind Threaded Inserts

Fast system for sustainable threads with high torque-to-turn.



### Installation Equipment

From manually operated handtools to customised assembly workstations.