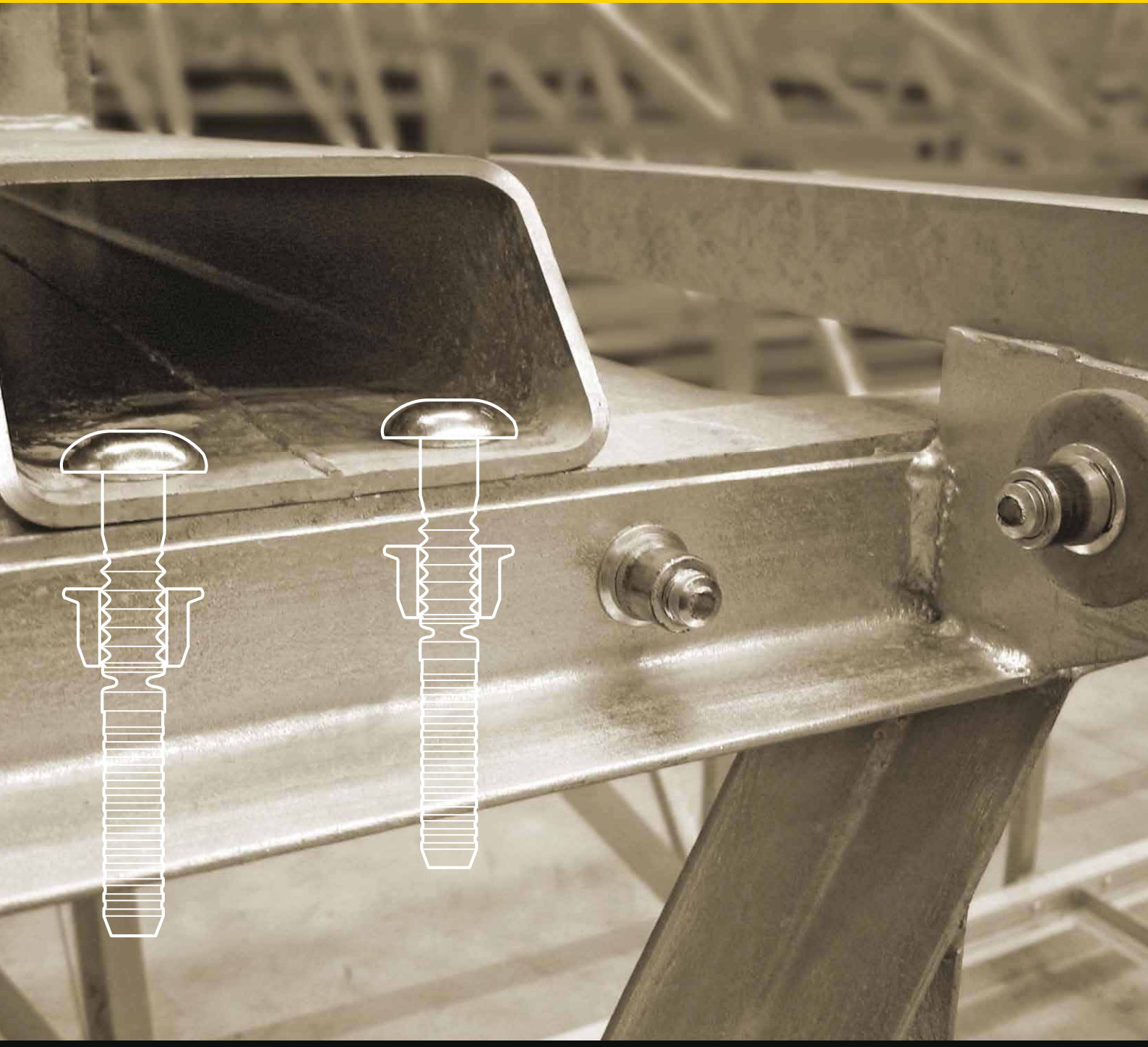
STANLEY®
Engineered Fastening



Lockbolt Systems

POP® Avdel®

POP® Avdel®

Lockbolt Systems

Structural vibration resistant fasteners with high clamp load performance and multi-grip capabilities.

Holding your world together®

Lockbolt fasteners

Lockbolts are specified whenever robust and reliable fastening is desired. Our intelligent fastening systems and durable, ergonomic installation tools create an ideal assembly solution in any manufacturing environment.

Structural lockbolts consist of a separate pin and collar which are mechanically locked during installation. These fasteners form joints capable of withstanding the toughest applications and environments that traditional rivet and screw joints often cannot provide. They offer exceptional resistance to vibration and material fatigue due to the swaged lock which forms collar material permanently into the circular grooves of the bolt.

Installation

Structural lockbolts can be installed quickly and easily without the need for special training or the skilled labour that's often required for other fastening methods. This simple installation process eliminates negative manufacturing influences including examples of RSI (Repetitive Strain Injury) – thus ensuring safety & quality from the first to the last installation.

Applications

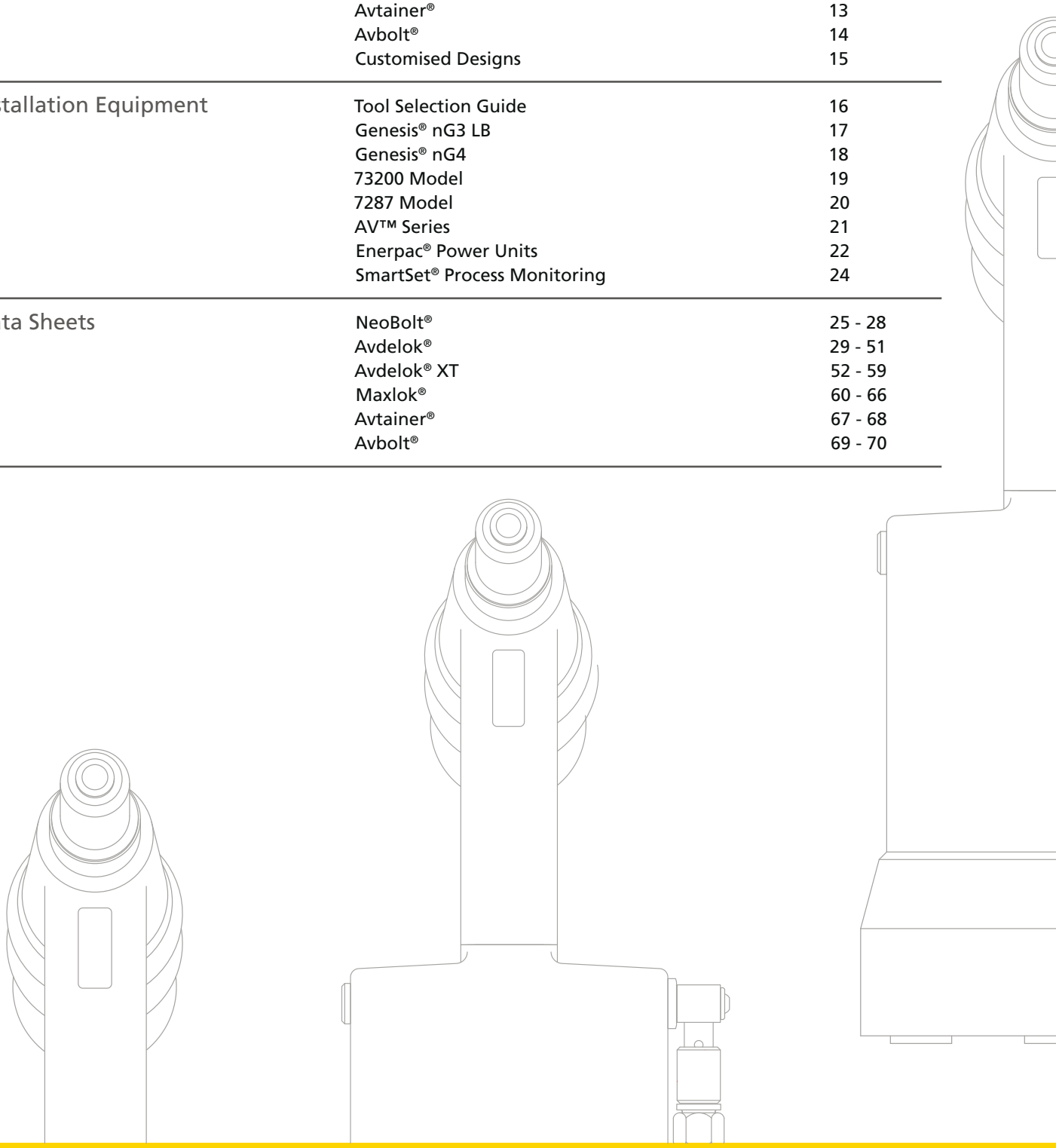
Structural lockbolts are mostly used in the automotive, HGV & transportation markets as well as machinery and equipment manufacturing, heating and ventilation, and metal fabrication and construction.

Our structural lockbolt range can provide a cost effective solution for any application, often reducing total assembly cost and time as well as inventory.

Mission

Together with our customers we develop fastening systems that simplify your production process and improve the quality and functionality of your products. We are not just a provider of fasteners and equipment but a design and development partner helping you to improve assembly and product performance.

Contents Page



Structural Lockbolt Systems

Lockbolt systems are designed for high strength, secure assembly. Quick and simple to place, durable and long lasting, they are the ideal solution where spot welding is not practical and other methods are costly, time consuming or not possible. Our lockbolt systems have been widely used for many years in demanding engineering industries throughout the world, including vehicle body building, railways, construction, mining and containers.

Benefits of assembly

High speed assembly

Lockbolts are placed in seconds, to provide a secure, long-lasting joint.

High shear and tensile strength

Lockbolts have been designed to deliver the high strength performance required in load-bearing, structural applications.

Consistent, high performance

Designed and manufactured to close tolerances, our lockbolt systems ensure consistently accurate and secure, high strength assembly. Combined with a special purpose tool, our lockbolts eliminate installation errors or variability of clamp associated with conventional assembly methods.

Robust and rugged tools

Designed for use in demanding engineering environments, these tools have a long and reliable track record. They provide consistently accurate and secure installation within a few seconds.

Excellent vibration resistance

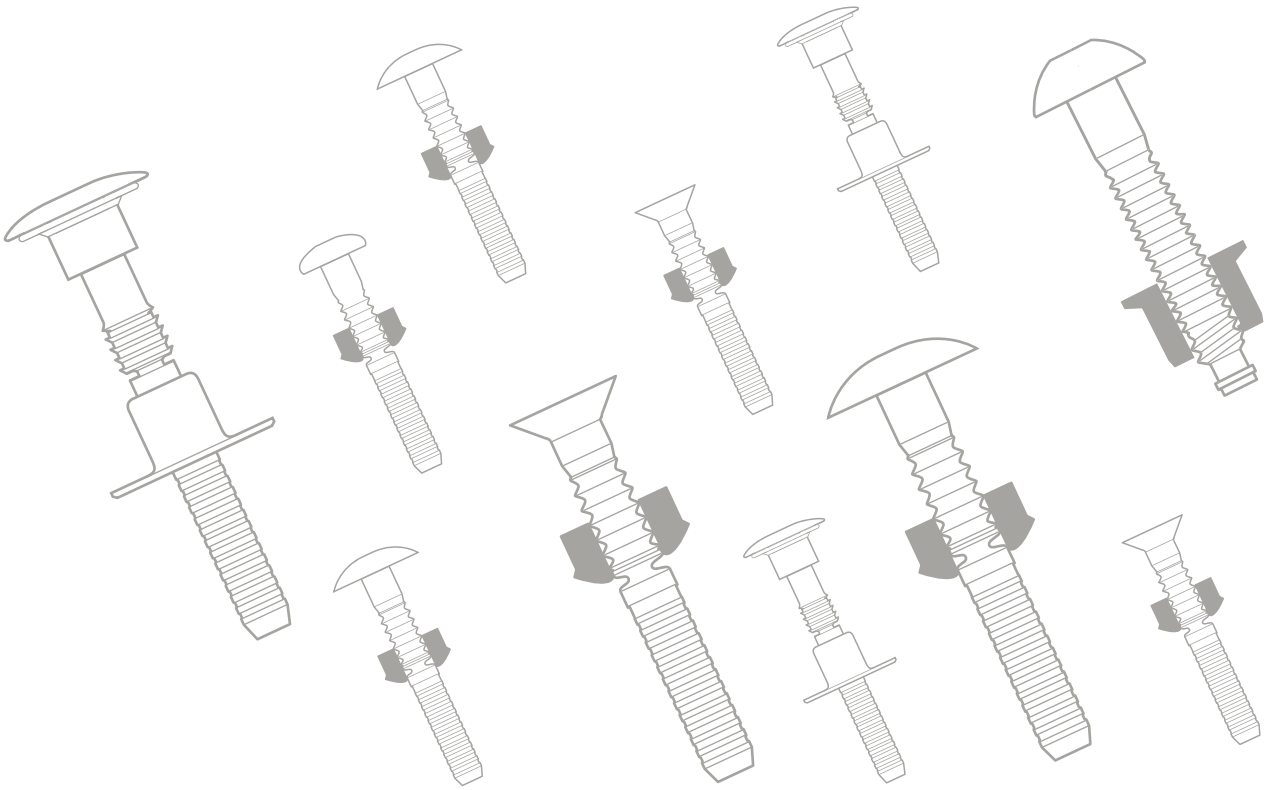
As permanent as a weld, lockbolts resist loosening when all other methods fail.

Ease of inspection

A quick and simple visual inspection is sufficient to check that the lockbolt has been correctly installed. Tampering is immediately obvious and enables lockbolt fasteners to be TIR (Transports Internationaux Routiers) approved.

Range overview

Brand	Material	Key features
NeoBolt® 	Steel	No pin break High strength and superior vibration resistance Fast and consistent intallation
Avdelok® 	Aluminium Alloy Steel Stainless Steel	High shear strength High controlled clamp
Avdelok® XT 	Steel	Exceptional shear and tensile strength Sizes from 12.7 mm (1/2") to 28.6 mm (1-1/8")
Maxlok® 	Aluminium Alloy Steel	Wide grip range High shear strength
Avtainer® 	Steel	High shear strength Joins composite panels to metal Leak resistant High speed installation
Avbolt® 	Steel	One side access installation High tensile and shear strength High grip capability



Selecting a Lockbolt Fastener

Selecting a structural lockbolt fastener is a simple process. The factors detailed below are designed to help you identify a fastener suitable for your application:

Fastener selection

Accessibility

If there is only access from one side the Avbolt® structural blind fastener is the only choice. NeoBolt®, Avdelok®, Avdelok® XT, Maxlok® and Avtainer® lockbolts require access from both sides of the component.

Grip range

The fastener should be selected to ensure that the total thicknesses of the parent materials fall within the grip range.

Hole size

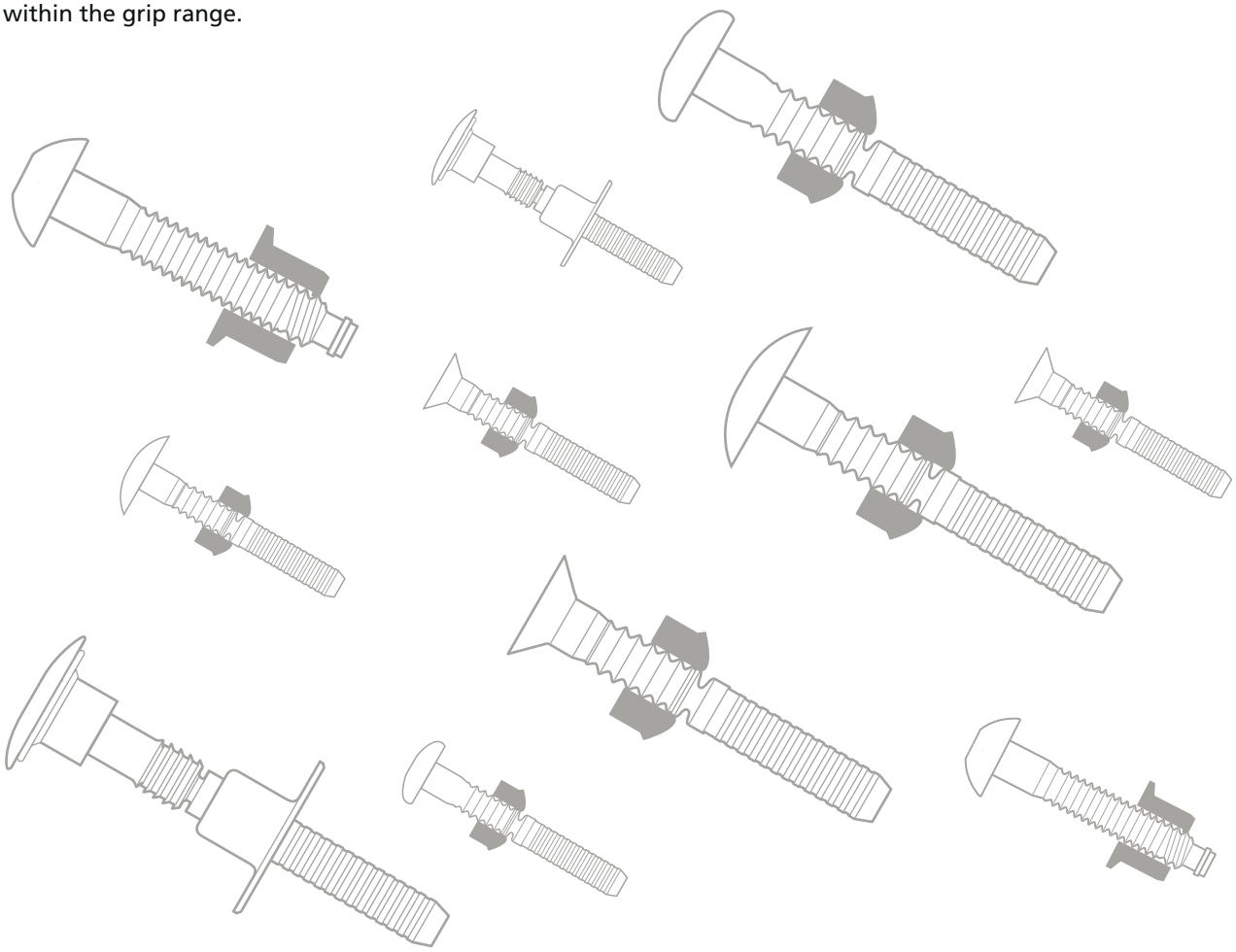
This is specified on the relevant technical data sheet for the structural fastener. It is important to control the hole size accurately in order to ensure the performance of the fastener.

Corrosion Resistance

Material and plating selection should be based on the level of 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.

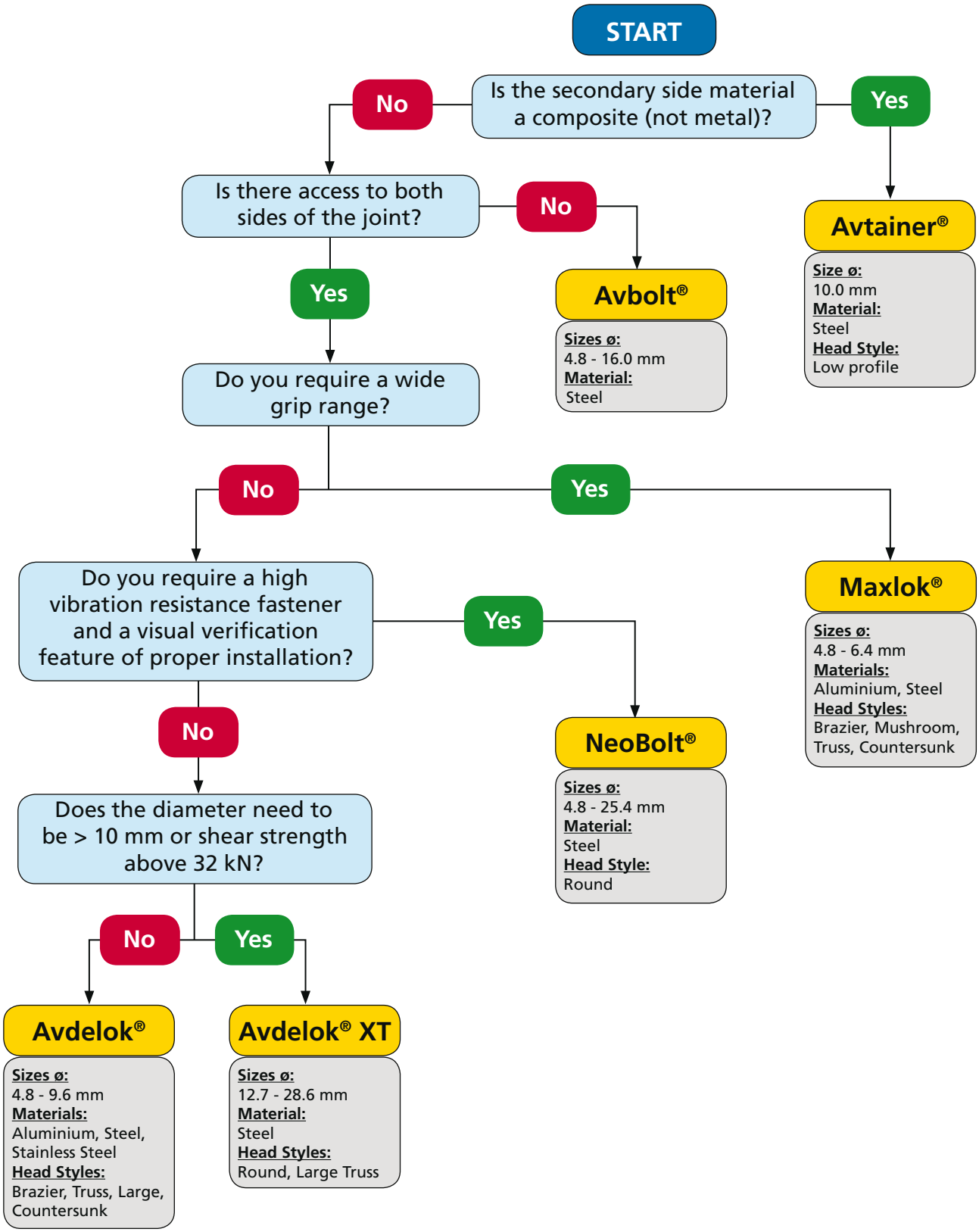
Important Information

The information on this page should be used in conjunction with the technical data available on our website where you can also find additional information about corrosion, safety and RoHS.



Selection Guide

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



Selection Guide

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

Product Range	Material Pin & Collar			Head Style Pin							Collar			Fastener Size (nom)										Series	Page	
	Aluminium	Steel	Stainless Steel	Brazier head	90° Countersunk	Truss head	Large head	Round head	Mushroom head	Low profile	Full	Half	Flanged	4.8 mm	6.4 mm	8.0 mm	9.6 mm	10.0 mm	12.7 mm	15.9/16 mm	19.1 mm	22.2 mm	25.4 mm	28.6 mm		Description	Data Sheet
NeoBolt®		●						●					●	●	●	●	●		●	●	●		●		12851	9	25
Avdelok®		●		●							●	●	●	●	●	●	●								2621	10	29
		●			●						●	●	●	●	●	●	●								2622	10	32
		●				●					●	●	●	●	●	●	●								2624	10	35
			●	●							●		●	●	●	●	●								2691	10	38
	●			●							●	●	●	●	●	●	●								2801	10	41
	●				●						●	●	●	●	●	●	●								2802	10	44
	●					●					●	●	●	●	●	●	●								2803	10	47
	●						●				●	●	●				●								2804	10	50
Avdelok® XT		●						●			●		●						●	●	●	●	●	●	2851	11	52
		●				●					●		●						●	●	●	●	●		2854	11	56
Maxlok®		●		●							●			●	●										1901	12	60
		●			●						●			●											1902	12	61
		●							●		●			●	●										1903	12	62
		●				●					●			●	●										1905	12	63
	●			●							●			●	●										1921	12	64
	●								●		●			●											1923	12	65
	●					●					●			●	●										1925	12	66
Avtainer®		●								●								●							2311	13	67
Avbolt®		●																●	●	●					21001	14	69
		●												●	●	●									21021	14	70

NeoBolt®

High strength, unmatched vibration resistant lockbolts without pin break for heavy duty structural applications, providing a collar 'fit-up' feature for easy pre-assembly.

Key features and benefits

No Pin Break:
- No metal waste, eco-friendly
- No dropped stems improving working area safety
- Avoid corrosion at stem break point (vs. traditional lockbolts)
- Reduced pin size and weight for lower warehousing and shipping cost

Maintenance Free:
- No torque or re-torque is required

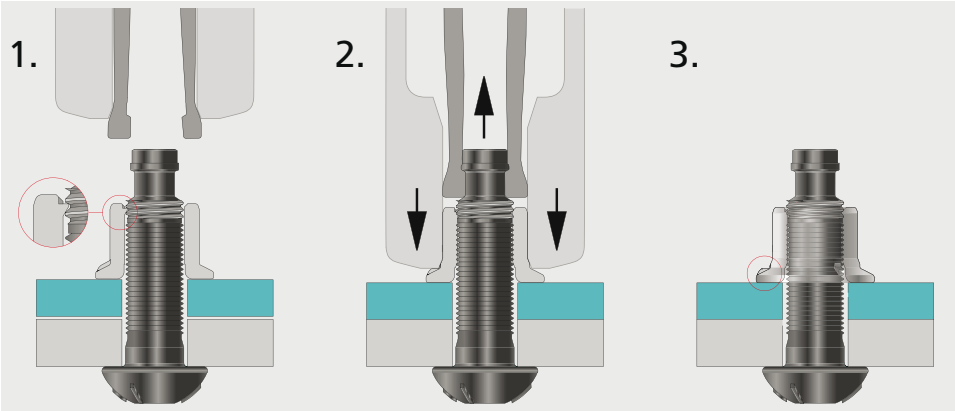
Fast & Shockless Installation:
- Reduces operator fatigue and installation noise
- Fine pitch pin groove design for superior vibration resistance vs. traditional lockbolts and nut & bolt settings
- Collar 'fit-up' feature for easy pre-assembly of the joint, ideal for upside-down installation
- Radial bar indicators on collar for quick visual swage inspection upon placing

Specifications

Sizes:
4.8 mm – 25.4 mm
(3/16" – 1")
Material:
Steel
Head Style:
Round
Collar option:
Flanged

Patent protected.

Typical placing sequence



Please visit our website for fastener placing animations.

Assembly applications

- Railway
- Truck & Trailer
- Commercial Vehicles
- Solar & Wind Energy
- Bridge Building
- Mining Equipment
- Screening Equipment
- Fencing & Security Screens
- Construction
- Overland Infrastructure
- Power & Utility Services






Avdelok®

High strength, vibration resistant lockbolts with high controlled clamp.

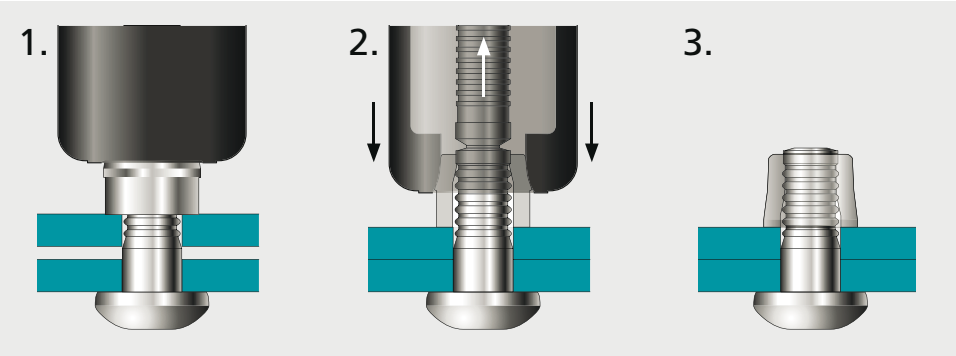
Key features and benefits

- High shear strength for high strength assembly
- High controlled clamp provides excellent vibration resistance
- Quick to install across a wide range of applications
- Wide choice of materials, sizes, head styles and collar options to suit a wide variety of applications
- Easy to inspect for tampering
- High security tamper resistance - TIR approved
- Steel Avdelok pins typically offer comparable values to property class 5.8 threaded products
- Robust and rugged installation tools

Specifications

Sizes:
4.8 mm to 9.6 mm
(3/16" to 3/8")
Materials:
Aluminium alloy, Steel, Stainless steel
Head Styles:
Brazier, Countersunk, Truss, Large
Collar options:
Full, Half, Flanged

Typical placing sequence



Please visit our website for fastener placing animations.

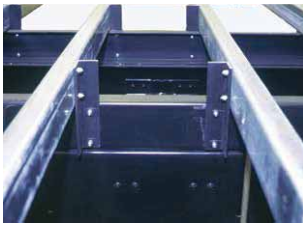
Assembly applications

- Commercial vehicles
- Truck & trailer
- Heating systems
- Steel construction
- Solar panels
- Railway
- Mining

Heating systems

Ventilator frame

Commercial vehicles



Car seat

Avdelok® XT

Large diameter lockbolt for demanding engineering applications.

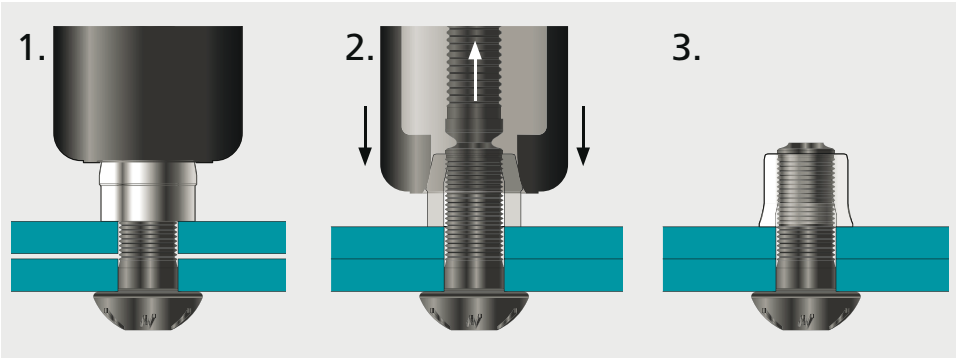
Key features and benefits

- Exceptional shear and tensile strength provides consistent high performance, required in load-bearing structural applications
- Excellent vibration resistance
- High security tamper resistance - TIR approved
- Tolerates variation in joint - allows angled installation up to 7°
- Quick and easy to install - requires minimum skill labour
- Simple installation tooling eliminates the cost of calibration and reduces maintenance
- Consistent installation prevents rework and associated costs
- Simple visual inspection for quality assurance joints
- Installed Avdelok XT fasteners provide a minimum shear, tensile and pre-load strength which is equivalent to or exceeds ISO898-1 property class 8.8 or ASTM A-325 standards

Specifications

Sizes:
12.7 mm to 28.6 mm
(1/2" to 1-1/8")
Materials:
Steel
Head Styles:
Round, Large Truss Head
Collar options:
Full, Flanged

Typical placing sequence



Please visit our website for fastener placing animations.

Assembly applications

- Commercial vehicles
- Steel construction
- Bridge building/repair
- Renewable energies
- Railway/rail track
- Mining

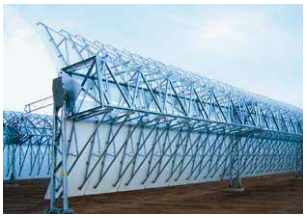
Commercial vehicles

Bridge building

Rail track

Lattice towers

Solar power plants



Solar power plants (detail)

Maxlok®

High strength, vibration resistant lockbolts with multi-grip capability.

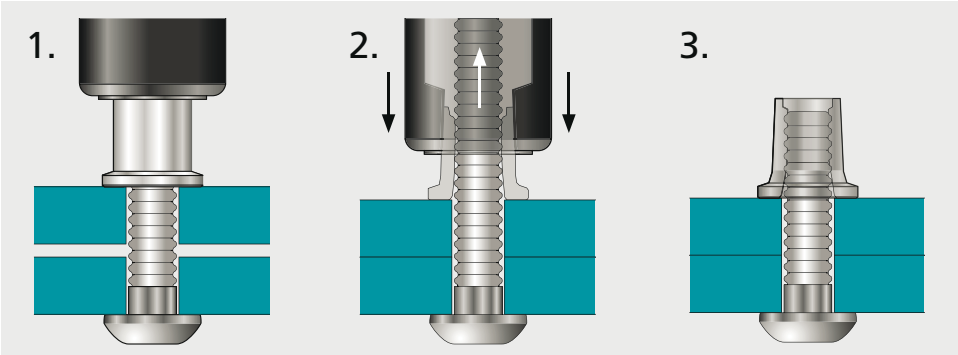
Key features and benefits

- Wide grip range reduces inventory, simplifies stock control, and accommodates wide variations in material thickness
- High shear strength for high strength assembly
- High, controlled clamp provides excellent vibration resistance
- Wide range of special purpose installation tools
- Quick to install across a wide range of applications
- Brazier, countersunk, mushroom and truss head styles suit a wide variety of applications
- Easy to inspect tampering
- High security tamper resistance - TIR approved

Specifications

Sizes:
4.8 mm to 6.4 mm
(3/16" to 1/4")
Materials:
Aluminium alloy, Steel
Head Styles:
Brazier, Mushroom,
Truss, Countersunk
Collar option:
Flanged

Typical placing sequence



Please visit our website for fastener placing animations.

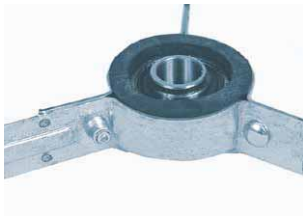
Assembly applications

- Commercial vehicles
- Heating and ventilation
- Frame building

Commercial vehicles



Fan bearing arm



Avtainer®

High strength, steel fastener and shell designed for joining composite panels to metal.

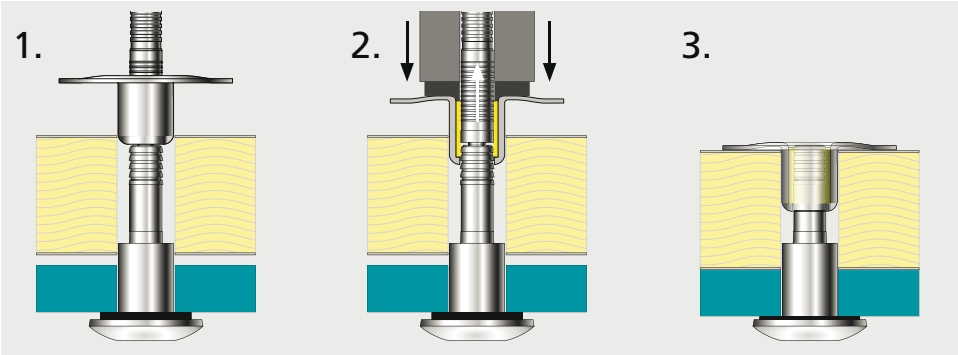
Key features and benefits

- Prevents cracking and pull through of composite materials
- Ideal for the assembly of GRP vehicle panels
- High shear strength for high strength assembly
- Underhead Santoprene® seal for a water/air tight joint
- Internally locked stem provides a secure, vibration resistant joint
- Low profile head and shell give a neat appearance
- Smaller shell size available for use against metal surfaces
- Optional encapsulated heads to match the surrounding colour
- Quick to install with Genesis® power tools
- Easy to inspect for tampering
- High security tamper resistance - TIR approved

Specifications

Sizes:
10.0 mm (3/8")
Material:
Steel
Head Style:
Low profile
Option:
Encapsulated heads

Typical placing sequence



Please visit our website for fastener placing animations.

Assembly applications

- Commercial vehicles
- Container

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 10.0, 12.7 and 16.0 mm:
3 piece design (sleeve, collar, stem)

Avbolt 4.8, 6.4 and 8.0 mm:
2 piece design (sleeve with collar, stem)

Key features and benefits

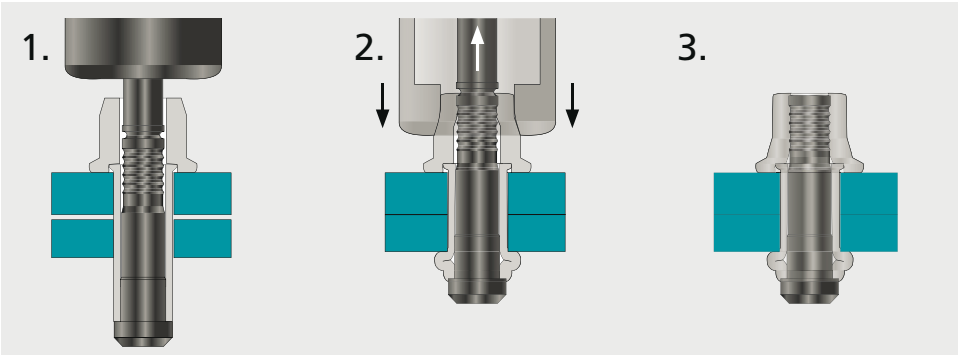
- Use on blind sided application
- High tensile and shear strength for heavy-duty applications
- Wide grip capability suits a variety of material thicknesses
- Ideal for areas with restricted access
- Locking feature creates a vibration resistant joint and prevents loose stems
- Fast installation
- High security tamper resistance - TIR approved
- Simple tooling requires only minimum operator skill

Specifications

Sizes:
4.8 mm to 16.0 mm
(3/16" to 5/8")
Material:
Steel

Patent Protected.

Typical placing sequence (3 piece design)



Please visit our website for fastener placing animations.

Assembly applications

- Automotive
- Truck and trailer
- Construction
- Container
- Renewable energies
- Railway
- Mining
- Security fencing

Security fence

Steel construction

Hinge attachment

Customised Designs

As you would expect from a leader in fastening solutions, we can design and manufacture lockbolt fastener with a wide variety of forms and finishes to meet your unique assembly requirements. Shown below are just a few examples of our customized lockbolt capabilities. Whether you require custom fastener geometry, a particular finish, different fastener material, limited access placing tooling, or anything else we don't offer as standard, please contact us to discuss your special requirements.

Avdelok® Lockbolt (pin) - Stepped Head (Standard Strength)
- Steel, Phosphate + Delta Seal® GZ Black
- Shouldered head provides a pivot in a car seat mechanism

Avdelok® Lockbolt (pin) - High Strength + Magni Finish + Identification Colour
- Steel, Magni 565 - Green
- Specific colour coding for identification purposes

Avdelok® Lockbolt (pin) - Al Alloy 7075 to T73 heat treatment
- 7075 Al Alloy, mechanical polish
- Pin in 7075 aluminium with special heat treatment for improved corrosion resistance in an oil storage tank

Avdelok® Lockbolt (pin) - Extended Grip Range + Special Head Style
- Steel, 8 µm Min Zinc + Clear Cr3 Passivation
- Additional lock grooves increase the grip range of Avdelok pins

Maxlok® Lockbolt (pin & collar) - Large Flange Head
- 8 µm Min Zinc + Clear Cr3 Passivation
- Larger pin head and collar flange size to spread load in soft application materials

Avdelok® Lockbolt (pins & collar) - Extra Long Pin, 316 Stainless Steel
- Grade 316 Stainless Steel
- Non-magnetic 316 stainless steel pins for use in electric motors

Maxlok® Lockbolt (collar) - Shorter Collar without Recess
- Steel, 8 µm Min Zinc + Clear Cr3 Passivation
- Shorter collar for applications demanding limited protrusion from the joint

Avbolt® Structural Blind Fastener - Underhead Rimlex® Seal
- Improves sealing capability without manually fitted seals

Installation Tools

Tool Selection Guide

This table is designed as a guide to help you select the most suitable tool for your particular lockbolt.
Please note that all tools require fastener specific nose assemblies.
Full technical data can also be found on our website or contact your STANLEY Engineered Fastening representative.

		Installation Tool							
Fastener Type	Size	Genesis® nG3 LB	Genesis® nG4	73200	7287	AV™ 10*	AV™ 15*	AV™ 30*	AV™ 50*
NeoBolt®	4.8 mm (3/16")	●							
	6.4 mm (1/4")	●							
	8.0 mm (5/16")			●					
	9.6 mm (3/8")				●				
	12.7 mm (1/2")						●		
	16.0 mm (5/8")							●	
	19.1 mm (3/4")							●	
	25.4 mm (1")								●
Avdelok®	4.8 mm (3/16")		●	●	●				
	6.4 mm (1/4")		●	●	●				
	8.0 mm (5/16")			●	●				
	9.6 mm (3/8")			●	●	●			
Avdelok® XT	12.7 mm (1/2")						●	●	
	16.0 mm (5/8")							●	
	19.1 mm (3/4")							●	
	22.2 mm (7/8")								●
	25.4 mm (1")								●
	28.6 mm (1-1/8")								●
Maxlok®	4.8 mm (3/16")		●	●	●				
	6.4 mm (1/4")		●	●	●				
Avtainer®	10.0 mm (3/8")		●	●	●				
Avbolt®	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")							●	

*All AV™ Series tools require Enerpac® Power Unit for operation.

Installation Tools

Genesis® nG3 LB

Lightweight pneumatic/hydraulic power tool for the reliable placement of NeoBolt® lockbolts ø 4.8 mm (3/16") and 6.4 mm (1/4").

Features and Benefits

- Ergonomic design reduces operator fatigue
- Quick cycle time increases productivity
- Integral cycle counter helps establish accurate service intervals
- Toughened plastic body and heavy duty rubber base make it a robust tool for a long working life
- Soft touch rubber grip on handle
- Adjustable vacuum air flow minimizes air consumption
- Can be suspended

Specifications

Air pressure	5 - 7 bar
Free air volume required @5.5 bar	4.3 litres
Stroke (min.)	26 mm
Pull force @5.5 bar	12.9 kN
Cycle time (approx.)	1.2 sec
Noise level	<75 dB(A)
Weight incl. nose equipment	2.4 kg
Vibration	<2.5 m/s²

Base Tool

Part Number	Description
71256-02000	Genesis nG3 LB base tool

Nose Equipment

Part Number	Description
71213-05500	NeoBolt 4.8 mm (3/16") nose assembly
71213-06800	NeoBolt 6.4 mm (1/4") nose assembly

Installation Tools

Genesis® nG4

Versatile lightweight pneumatic/hydraulic power tool capable of placing Avdelok® and Maxlok® lockbolts up to ø 6.4 mm (1/4"), and ø 10.0 mm (3/8") Avtainer®. High force to weight ratio and innovative ergonomic design delivers maximum user efficiency and comfort.

Features and Benefits

- Ergonomic, lightweight design reduces operator fatigue
- Quick cycle time increases productivity
- Integral cycle counter helps establish accurate service intervals
- Toughened plastic body and heavy duty rubber base make it a robust tool for a long working life
- Soft touch rubber grip on handle
- Adjustable vacuum air flow minimizes air consumption
- Can be suspended
- Collar cropper attachment available to remove collars from installed Avdelok and Maxlok lockbolts

Specifications

Air pressure	5 - 7 bar
Free air volume required @5.5 bar	4.3 litres
Stroke (min.)	17 mm
Pull force @5.5 bar	18.68 kN
Cycle time (approx.)	1.2 sec
Noise level	75 dB(A)
Weight incl. nose equipment	2.25 kg
Vibration	<2.5 m/s²

Base Tool

Part Number	Description
71233-02000	Genesis nG4 base tool with quick release stem collector bottle

Nose Equipment / Optional Accessories

Part Number	Description
71230-05010	Avdelok 4.8 mm (3/16") nose assembly
71230-05020	Avdelok 6.4 mm (1/4") nose assembly
07610-02000	Maxlok 4.8 mm (3/16") nose assembly
07610-02100	Maxlok 6.4 mm (1/4") nose assembly
71234-03400	Maxlok Adaptor kit for 4.8 & 6.4 mm
71230-20300	Maxlok front end extension
71230-15600	Avtainer 10 mm (3/8") nose assembly
07498-00802	Avtainer 10 mm (3/8") nose tip
71210-20100	Stem deflector kit
71210-20300	Front end extension

Installation Tools

73200 Model

The hydro-pneumatic 73200 tool is designed to place NeoBolt® lockbolts ø 8.0 mm (5/16"), Avdelok®, Maxlok® and Avtainer® lockbolts up to ø 10.0 mm (3/8") as well as Avbolt® fasteners up to ø 8.0 mm (5/16"). Featuring an innovative patent protected hydraulic design and using the latest sealing and guiding technology, this new tool delivers unmatched fastening efficiency and dependability.

Features and Benefits

- Forged aerospace-grade aluminium alloy head and handle delivers the optimum combination of low weight, strength and durability
- Designed for heavy duty use over long periods of time, even in the most demanding environments
- Balanced ergonomic design and lightweight Genesis® pneumatic trigger operation
- Quick and simple operation minimizes operator fatigue and reduces assembly time to a minimum
- Wide choice of nose assemblies to suit access restrictions of the application
- Collar cropper attachment available to remove collars from installed Avdelok lockbolts

Specifications

Air pressure		5 - 7 bar
Free air volume required	@5.5 bar	15.6 litres
Stroke (min.)		20 mm
Pull force	@5.5 bar	28.5 kN
Cycle time (approx.)		3 seconds
Noise level		75 dB(A)
Weight whithout nose equipment		4.9 kg
Vibration		<2.5 m/s²

Base Tool

Part Number	Description
73200-02000	73200 Model base tool

Nose Equipment / Optional Accessories

Part Number	Description
73200-05000	NeoBolt 8.0 mm (5/16") nose assembly
07200-02500	Avdelok 4.8 mm (3/16") nose assembly
07200-02600	Avdelok 6.4 mm (1/4") nose assembly
07220-02700	Avdelok 8.0 mm (5/16") nose assembly
07220-02000	Avdelok 9.6 mm (3/8") nose assembly
07610-02000	Maxlok 4.8 mm (3/16") nose assembly
07610-02100	Maxlok 6.4 mm (1/4") nose assembly
73200-04300	Adaptor kit for 4.8 & 6.4 mm Avdelok & Maxlok
07220-08100	Avbolt 4.8 mm (3/16") nose assembly
07220-07500	Avbolt 6.4 mm (1/4") nose assembly
07220-07700	Avbolt 8.0 mm (5/16") nose assembly

Installation Tools

7287 Model

Hydro-pneumatic split tool with a lightweight placing head able to place NeoBolt® lockbolts ø 9.6 mm (3/8"), Avdelok® and Avtainer® lockbolts up to ø 10.0 mm (3/8"), Avbolt® fasteners up to ø 8.0 mm (5/16"), and all other lockbolts up to ø 8.0 mm (5/16").

Features and Benefits

- 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
- Wide choice of directly interchangeable 73200 model nose assemblies to suit the access restrictions of the application
- Can be fitted with a collar cropper to remove installed Avdelok lockbolts

Specifications

Air pressure	5 - 7 bar
Free air volume required @5.5 bar	3.5 litres
Stroke (min.)	29 mm
Pull force @5.5 bar	32.4 kN
Cycle time (approx.)	1.7 seconds
Noise level	75 dB(A)
Weight whithout nose equipment - Pistol - Total (pistol + intensifier)	 1.47 kg 40 kg
Vibration	<2.5 m/s²

Base Tool

Part Number	Description
07287-00200	7287 Model base tool

Nose Equipment / Optional Accessories

Part Number	Description
73200-05100	NeoBolt 9.6 mm (3/8") nose assembly
07200-02500	Avdelok 4.8 mm (3/16") nose assembly
07200-02600	Avdelok 6.4 mm (1/4") nose assembly
07220-02700	Avdelok 8.0 mm (5/16") nose assembly
07220-02000	Avdelok 9.6 mm (3/8") nose assembly
07220-02500	Adaptor kit for 4.8 & 6.4 mm Avdelok
07610-02000	Maxlok 4.8 mm (3/16") nose assembly
07610-02100	Maxlok 6.4 mm (1/4") nose assembly
07267-00900	Adaptor kit for 4.8 & 6.4 mm Maxlok
07498-00800	Avtainer 10 mm (3/8") nose assembly
07267-00800	Adaptor kit for 10 mm (3/8") Avtainer
07220-08100	Avbolt 4.8 mm (3/16") nose assembly
07220-07500	Avbolt 6.4 mm (1/4") nose assembly
07220-07700	Avbolt 8.0 mm (5/16") nose assembly

Installation Tools

AV™ Series Tools

The AV hydro-electric power tool line is capable of setting all Avdelok® and Avdelok® XT lockbolts from as small as 9.6 mm (3/8") to as large as 28.6 mm (1-1/8"). It also has the flexibility needed to set NeoBolt® lockbolts 12.7 mm (1/2") up to 25.4 mm (1") and Avbolt® sizes 8.0 mm (5/16") through 16.0 mm (5/8").

Features and Benefits

- Robust and highly durable installation tools designed for a long working life in extreme conditions
- Choice of placing heads and nose equipment to suit the entire range of large diameter Avdelok XT lockbolts as well as NeoBolt lockbolts 12.7 - 25.4 mm and Avbolt fasteners 8.0 - 16.0 mm
- Ergonomic and compact design for optimised operator comfort
- Easy-to-change nose equipment and range of hydraulic hoses in different lengths enable the tool to be adapted to suit local assembly requirements
- Low maintenance

Specifications		AV10 73430-02000	AV15 73432-02000	AV30 73434-02000	AV50 73435-02000
Operating pressure	Pull Return	510 bar 200 bar			
Force	Pull at stated pull pressure Push Off at stated return pressure	55 kN 26 kN	80 kN 37.5 kN	175 kN 81 kN	340 kN 161 kN
Piston stroke		25 mm	32 mm	41 mm	55 mm
Weight without nose equipment		3.5 kg	4.5 kg	6.8 kg	13.5 kg
Power / Weight ratio		15.7:1	17.7:1	25.7:1	17.9:1
Swept volume	Pull Return	28.5 cm³ 34.7 cm³	60.3 cm³ 71.1 cm³	115.0 cm³ 140.3 cm³	386.7 cm³ 467.2 cm³

Nose Equipment

Product	Diameter	AV™ Tool	Nose Equipment
NeoBolt	12.7 mm (1/2")	AV15	73432-03300
	16.0 mm (5/8")	AV30	73434-03200
	19.1 mm (3/4")	AV30	73434-03300
	25.4 mm (1")	AV50	73435-03200
Avdelok	9.6 mm (3/8")	AV10	73430-03100
Avdelok XT	12.7 mm (1/2")	AV15	73432-03200 73433-03200*
	15.9 mm (5/8")	AV30	73412-03200
	19.1 mm (3/4")	AV30	73412-03300
	22.2 mm (7/8")	AV50	73410-03200
	25.4 mm (1")	AV50	73410-03100
	28.6 mm (1-1/8")	AV50	73410-03300
Avbolt	8.0 mm (5/16")	AV10	73430-03300
	10.0 mm (3/8")	AV10	73430-03200
	12.7 mm (1/2")	AV15	73432-03100
	12.7 mm (1/2")	AV30	73412-03600
	16.0 mm (5/8")	AV30	73412-03400

* Nose assembly with jaw release

AV™ 10

AV™ 15

AV™ 30

AV™ 50

Installation Tools

Enerpac® PRO Series Pumps

STANLEY Engineered Fastening has partnered with Enerpac, the World Leader in Hydraulic Equipment to offer a specialised selection of reliable, durable and versatile high-pressure hydraulic pumps to power all AV™ Hydro-Electric Power Tools.

Features and Benefits

- High-efficiency hydraulic pump design; higher oil flow and bypass pressure, cooler running and requires 18% less current draw than comparable pumps
- Powerful electric motor provides high power-to-weight ratio and excellent low-voltage operating characteristics
- High-strength, molded composite shroud protects electric pump motor and electronics, while providing an ergonomic, non-conductive handles for easy portability
- Full sight oil level glass & durable steel reservoir
- All pump configurations able to power all AV series tools
- Accessories kit for heat exchanger and roll cage available

To help you find the suitable pump unit according to your requirements and working environment, please use the selection guide below:

Model Part Number	PRO220E 76507- 02000	PRO220 76502- 02000	PRO220D 76502- 02300	PRO240 76503- 02000	PRO240D 76503- 02300	PRO415 76504- 02000	PRO415D 76504- 02300
Tool Cycle Time* - High - Medium - Low	Low - Med.	Med.- High	Med.- High	Med. - High	Med.- High	Med.- High	Med.- High
Production Level - High volume - Medium volume - Small batch	Small - Med.	Med.- High	Med.- High	Med.- High	Med.- High	Med.- High	Med.- High
Portability - High - Medium	High	Medium	Medium	Medium	Medium	Medium	Medium

* Tool cycle time is dependent on fastener placing size and hydraulic hose length

Note: Pump Specifications as noted provide guidance on capability. STANLEY Engineered Fastening offers many options and system configurations beyond the standard offering as noted, including larger tank reservoirs, heat exchangers, 3 Phase Motor options, etc. Please call our Technical Applications team to discuss specific needs and recommendations.

Installation Tools

Technical Data

	Model Part Number	PRO220E 76507-02000	PRO220 76502-02000	PRO220D 76502-02300	PRO240 76503-02000	PRO240D 76503-02300	PRO415 76504-02000	PRO415D 76504-02300
Motor Size	kW	1.25	1.12	1.12	1.12	1.12	1.12	1.12
Motor type		Universal	Induction	Induction	Induction	Induction	Induction	Induction
Reservoir	litres	8	10	10	10	10	10	10
Output flow rate (l/min)	7 bar	11.5	8.9	8.9	8.9	8.9	8.9	8.9
	50 bar	8.8	8.2	8.2	8.2	8.2	8.2	8.2
	350 bar	1.2	0.84	0.84	0.84	0.84	0.84	0.84
	700 bar	1.0	0.82	0.82	0.82	0.82	0.82	0.82
Max. Operating Pressure	bar	700	700	700	700	700	700	700
Motor Electrical Specification	Volts	208 - 220	208 - 240	208 - 240	208 - 240	208 - 240	380 - 415	380 - 415
	Phase	1	1	1	3	3	3	3
	Hz	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Sound	dB(A)	85 - 90	75	75	75	75	75	75
Weight	kg	32	55	60	55	60	55	60
Dimensions (cm)	L	46	49	64	49	64	49	64
	W	24	27	36	27	36	27	36
	H	43	60	64	60	64	60	64
Digital LCD Display/Control		No	Yes	Yes	Yes	Yes	Yes	Yes
Roll Cage & Heat Exchanger		No	No	Yes	No	Yes	No	Yes

There are different hose lengths available. Please select the length according to your application:

Hose Assembly Length	Part Number
5 metre	07008-00448
10 metre	07008-00449
15 metre	07008-00450

Installation Tools

SmartSet® Process Monitoring

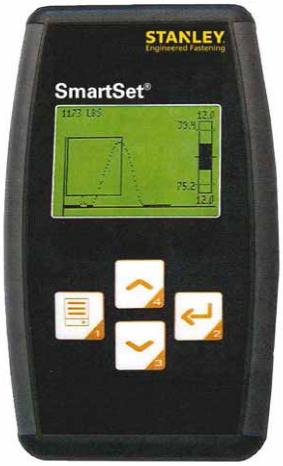
SmartSet gives manufacturers an off-the-shelf and affordable system for monitoring the resulting joint or fastening integrity when setting our lockbolts. A Micro Strain Sensor connected to the lockbolt tool takes readings during the rivet setting cycle and sends them to a Control Unit. In RUN mode, the system will monitor each sequential setting and compare this with the sample settings to determine a GO or NO GO result. Outputs from the Control Unit can be connected to an audible or visual alarm to alert the user to NO GO results.

Application Capability

- Lockbolt failures
- Lockbolt set in air detection
- Use of incorrect Lockbolt type

System Capability

- Lockbolt accountability
- Sequencing
- Program Multiple Grips within the Application - PLC selectable
- Input/Output communication available (PLC compatible)
- User defined GO and NO GO signal output



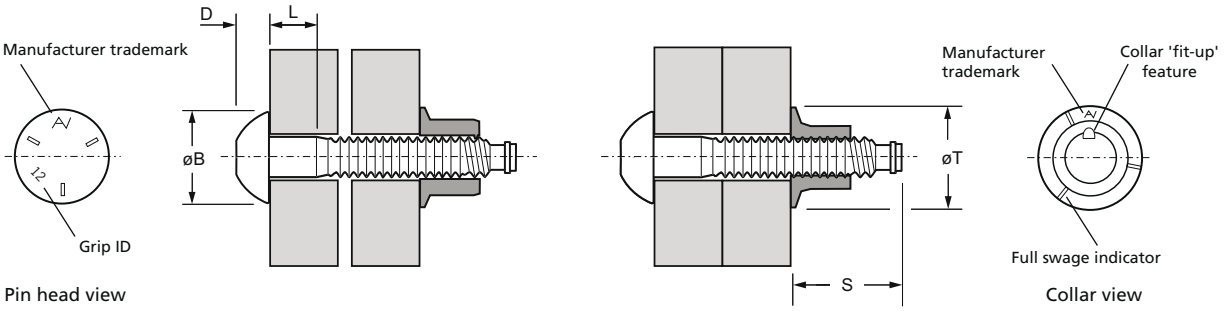
SmartSet Operator Control Unit

SmartSet Operator Interface

NeoBolt® 12851 Series
Lockbolt Fastener

English	Français	Deutsch	Italiano	Español
Round head	Tête ronde	Rundkopf	Testa tonda	Cabeza alomada
Pin: Medium carbon steel ≤ ø9.6 = Silver Magni 565[1)] ≥ ø12.7 = Black oxide (oiled)[1)]	Tige: Acier ≤ ø9,6 = Silver Magni 565[1)] ≥ ø12,7 = Oxyde noire (huilé)[1)]	Bolzen: Stahl ≤ ø9,6 = Silver Magni 565[1)] ≥ ø12,7 = Schwarz/brüniert (geölt)[1)]	Bullone: Acciaio ≤ ø9,6 = Silver Magni 565[1)] ≥ ø12,7 = Anodizzato nero (lubrificato)[1)]	Vástago: Acero ≤ ø9,6 = Silver Magni 565[1)] ≥ ø12,7 = Pavonado (lubrificado)[1)]
Collar: Low carbon steel Zinc plated[1)]	Bague: Acier Zingué[1)]	Schließring: Stahl Verzinkt[1)]	Collare: Acciaio Zincato[1)]	Collar: Acero Zincado[1)]

1) other surface finishes available upon request / d'autres finitions de surfaces disponibles sur demande / andere Oberflächen auf Anfrage / altre finiture superficiali sono disponibili su richiesta / disponibles otros acabados superficiales bajo pedido

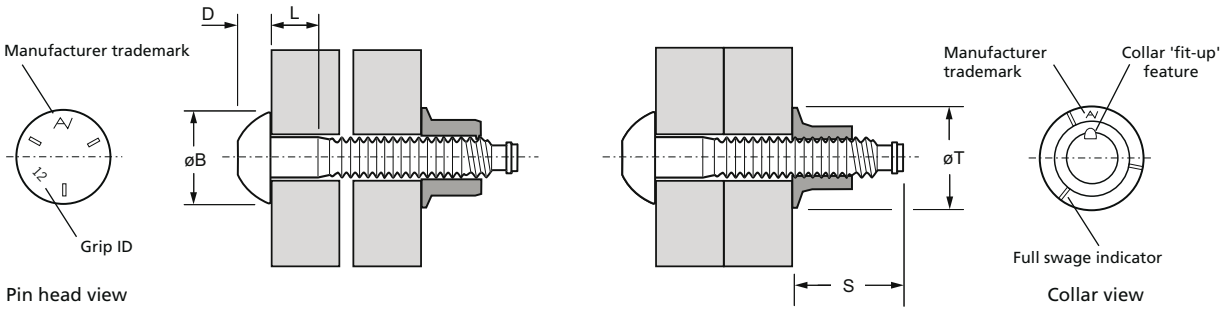


ø		e				L	øB	D	S at grip e	øT	Part No/ref	
nom.	ID	e min.[2)]	e max.[2)]	min.	max.	nom.	nom.	nom.	max.	nom.	Pin	Collar
4.8 (3/16")	4	1.33	9.83	5.00	5.56	2.46	8.64	3.01	e min. = 20.04 e max. = 11.54	9.60	12851-60604	12801-30600
	6	4.50	13.00			5.64					12851-60606	
	8	7.68	16.18			8.81					12851-60608	
	10	10.85	19.35			11.99					12851-60610	
	12	14.03	22.53			15.16					12851-60612	
	14	17.20	25.70			18.34					12851-60614	
	16	20.38	28.88			21.51					12851-60616	
	18	23.55	32.05			24.69					12851-60618	
	20	26.73	35.23			27.86					12851-60620	
6.4 (1/4")	4	3.33	9.83	6.60	7.13	1.98	11.47	4.01	e min. = 22.21 e max. = 15.71	12.80	12851-60804	12801-30800
	6	6.50	13.00			5.16					12851-60806	
	8	9.68	16.18			8.33					12851-60808	
	10	12.85	19.35			11.51					12851-60810	
	12	16.03	22.53			14.68					12851-60812	
	14	19.20	25.70			17.86					12851-60814	
	16	22.38	28.88			21.03					12851-60816	
	18	25.55	32.05			24.21					12851-60818	
	20	28.73	35.23			27.38					12851-60820	
8.0 (5/16")	4	3.73	10.53	8.20	9.12	1.68	14.34	5.02	e min. = 25.77 e max. = 18.97	15.99	12851-61004	12801-31000
	6	6.90	13.70			4.85					12851-61006	
	8	10.08	16.88			8.03					12851-61008	
	10	13.25	20.05			11.20					12851-61010	
	12	16.43	23.23			14.38					12851-61012	
	14	19.60	26.40			17.55					12851-61014	
	16	22.78	29.58			20.73					12851-61016	
	18	25.95	32.75			23.90					12851-61018	
	20	29.13	35.93			27.08					12851-61020	

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

2) Grip range with recommended Avdel installation tools / Plage de serrage avec les outils d'installation Avdel recommandées / Klemmbereich mit empfohlenen Avdel Verarbeitungsgeräten / Gamma grip con i raccomandati strumenti di installazione Avdel / Rango de espesores con las herramientas de colocación recomendadas Avdel

NeoBolt® 12851 Series
Lockbolt Fastener



ø		e				L	øB	D	S at grip e	øT	Part No/ref	
nom.	ID	e min.[2]	e max.[2]	min.	max.	nom.	nom.	nom.	max.	nom.	Pin	Collar
9.6 (3/8")	4	1.45	11.15	9.80	10.71	1.55	17.21	6.02	e min. = 31.95 e max. = 22.25	19.19	12851-61204	12801-31200
	6	4.63	14.33			4.72					12851-61206	
	8	7.80	17.50			7.90					12851-61208	
	10	10.98	20.68			11.07					12851-61210	
	12	14.15	23.85			14.25					12851-61212	
	14	17.33	27.03			17.42					12851-61214	
	16	20.50	30.20			20.60					12851-61216	
	18	23.68	33.38			23.77					12851-61218	
	20	26.85	36.55			26.95					12851-61220	
	24	33.20	42.90			33.30					12851-61224	
12.7 (1/2")	4	7.50	15.75	13.10	14.28	4.60	22.94	8.00	e min. = 46.61 e max. = 38.36	26.15	12851-11604	12801-31600
	8	13.85	22.10			10.95					12851-11608	
	12	20.20	28.45			17.30					12851-11612	
	16	26.55	34.80			23.65					12851-11616	
	20	32.90	41.15			30.00					12851-11620	
	24	39.25	47.50			36.35					12851-11624	
	28	45.60	53.85			42.70					12851-11628	
	32	51.95	60.20			49.05					12851-11632	
	36	58.30	66.55			55.40					12851-11636	
	40	64.65	72.90			61.75					12851-11640	
	44	71.00	79.25			68.10					12851-11644	
	48	77.35	85.60			74.45					12851-11648	
	52	83.70	91.95			80.80					12851-11652	
	56	90.05	98.30			87.15					12851-11656	
	60	96.40	104.65			93.50					12851-11660	
	64	102.75	111.00			99.85					12851-11664	
	68	109.10	117.35			106.20					12851-11668	
	72	115.45	123.70			112.55					12851-11672	
	76	121.80	130.05			118.90					12851-11676	
16.0 (5/8")	4	4.90	15.75	16.30	17.46	4.60	29.00	10.00	e min. = 50.90 e max. = 40.05	31.74	12851-12004	12801-32000
	8	11.25	22.10			10.95					12851-12008	
	12	17.60	28.45			17.30					12851-12012	
	16	23.95	34.80			23.65					12851-12016	
	20	30.30	41.15			30.00					12851-12020	
	24	36.65	47.50			36.35					12851-12024	
	28	43.00	53.85			42.70					12851-12028	
	32	49.35	60.20			49.05					12851-12032	
	36	55.70	66.55			55.40					12851-12036	
	40	62.05	72.90			61.75					12851-12040	
	44	68.40	79.25			68.10					12851-12044	
	48	74.75	85.60			74.45					12851-12048	
	52	81.10	91.95			80.80					12851-12052	

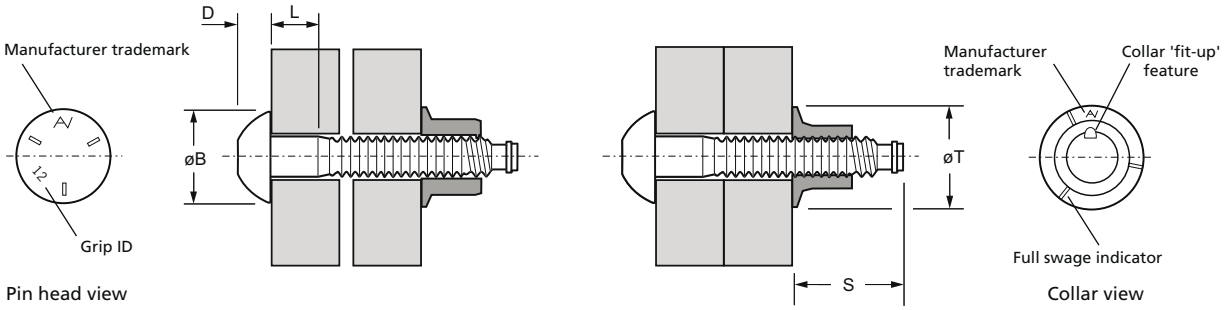
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros

2) Grip range with recommended Avdel installation tools / Plage de serrage avec les outils d'installation Avdel recommandées / Klemmbereich mit empfohlenen Avdel Verarbeitungsgeräten / Gamma grip con i raccomandati strumenti di installazione Avdel / Rango de espesores con las herramientas de colocación recomendadas Avdel

POP® Avdel®

NeoBolt® 12851 Series

Lockbolt Fastener



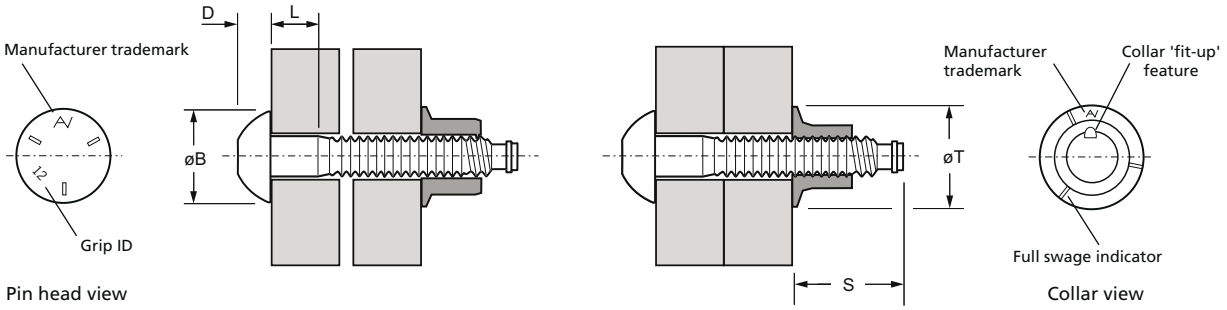
ø		e		L	øB	D	S at grip e	øT	Part No/ref	
nom.	ID	e min.[2]	e max.[2]	nom.	nom.	nom.	max.	nom.	Pin	Collar
16.0 (5/8")	56	87.45	98.30	87.15	29.00	10.00	e min. = 50.90 e max. = 40.05	31.74	12851-12056	12801-32000
	60	93.80	104.65	93.50					12851-12060	
	64	100.15	111.00	99.85					12851-12064	
	68	106.50	117.35	106.20					12851-12068	
	72	112.85	123.70	112.55					12851-12072	
	76	119.20	130.05	118.90					12851-12076	
19.1 (3/4")	4	9.85	16.45	4.60	35.52	13.02	e min. = 55.37 e max. = 48.77	38.09	12851-12404	12801-32400
	8	16.20	22.80	10.95					12851-12408	
	12	22.55	29.15	17.30					12851-12412	
	16	28.90	35.50	23.65					12851-12416	
	20	35.25	41.85	30.00					12851-12420	
	24	41.60	48.20	36.35					12851-12424	
	28	47.95	54.55	42.70					12851-12428	
	32	54.30	60.90	49.05					12851-12432	
	36	60.65	67.25	55.40					12851-12436	
	40	67.00	73.60	61.75					12851-12440	
	44	73.35	79.95	68.10					12851-12444	
	48	79.70	86.30	74.45					12851-12448	
	52	86.05	92.65	80.80					12851-12452	
	56	92.40	99.00	87.15					12851-12456	
	60	98.75	105.35	93.50					12851-12460	
	64	105.10	111.70	99.85					12851-12464	
	68	111.45	118.05	106.20					12851-12468	
	72	117.80	124.40	112.55					12851-12472	
	76	124.15	130.75	118.90					12851-12476	
25.4 (1")	8	13.80	25.00	10.95	46.75	15.63	e min. = 74.01 e max. = 62.81	47.61	12851-13208	12801-33200
	12	20.15	31.35	17.30					12851-13212	
	16	26.50	37.70	23.65					12851-13216	
	20	32.85	44.05	30.00					12851-13220	
	24	39.20	50.40	36.35					12851-13224	
	28	45.55	56.75	42.70					12851-13228	
	32	51.90	63.10	49.05					12851-13232	
	36	58.25	69.45	55.40					12851-13236	
	40	64.60	75.80	61.75					12851-13240	
	44	70.95	82.15	68.10					12851-13244	
	48	77.30	88.50	74.45					12851-13248	
	52	83.65	94.85	80.80					12851-13252	
	56	90.00	101.20	87.15					12851-13256	
	60	96.35	107.55	93.50					12851-13260	
	64	102.70	113.90	99.85					12851-13264	
	68	109.05	120.25	106.20					12851-13268	

min.	max.
16.30	17.46
19.60	20.63
26.00	28.57

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

2) Grip range with recommended Avdel installation tools / Plage de serrage avec les outils d'installation Avdel recommandées / Klemmbereich mit empfohlenen Avdel Verarbeitungsgeräten / Gamma grip con i raccomandati strumenti di installazione Avdel / Rango de espesores con las herramientas de colocación recomendadas Avdel

NeoBolt® 12851 Series
Lockbolt Fastener



ø		e				L	øB	D	S at grip e	øT	Part No/ref	
nom.	ID	e min.[2]	e max.[2]	min.	max.	nom.	nom.	nom.	max.	nom.	Pin	Collar
25.4 (1")	72	115.40	126.60	26.00	28.57	112.55	46.75	15.63	e min. = 74.01 e max. = 62.81	47.61	12851-13272	12801-33200
	76	121.75	132.95			118.90					12851-13276	
	80	128.10	139.30			125.25					12851-13280	
	84	134.45	145.65			131.60					12851-13284	
	88	140.80	152.00			137.95					12851-13288	
	92	147.15	158.35			144.30					12851-13292	

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

2) Grip range with recommended Avdel installation tools / Plage de serrage avec les outils d'installation Avdel recommandées / Klemmbereich mit empfohlenen Avdel Verarbeitungsgeräten / Gamma grip con i raccomandati strumenti di installazione Avdel / Rango de espesores con las herramientas de colocación recomendadas Avdel

ø			
nom.	kN[3]	kN[3]	kN[3]
4.8 (3/16")	12.2	7.4	4.7
6.4 (1/4")	18.3	13.4	8.4
8.0 (5/16")	34.9	24.2	16.0
9.6 (3/8")	46.2	35.1	22.1
12.7 (1/2")	86.2	79.6	57.7
16.0 (5/8")	145.1	126.5	91.7
19.1 (3/4")	187.2	187.3	135.8
25.4 (1")	326.7	339.6	246.2

3) Typical strength values; note that actual joint strength will depend upon joint material type, thickness, etc. and so application testing is always recommended.

Les valeurs typiques de résistance; notez que la résistance actuel de l'assemblage dépend du type de matériau utilisé, épaisseur etc... c'est ainsi qu'il est toujours recommandé de faire des test d'assemblage.

Typische Festigkeitswerte; bitte beachten Sie, dass die tatsächliche Festigkeit von Bauteilmaterial, Materialstärke etc. abhängt - ein Applikationstest ist immer empfohlen.

Valori di resistenza tipici, si noti che la forza congiunta effettiva dipenderà dal tipo di materiale, spessore, ecc e quindi un test delle applicazioni è sempre consigliato.

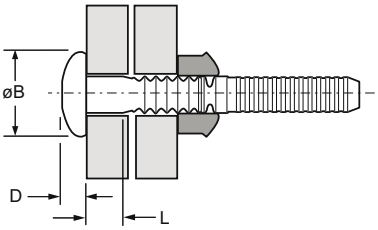
Valores de resistencia típicos, tenga en cuenta que la fuerza conjunta real dependerá del tipo de material de unión, espesor, etc., y así las pruebas de aplicaciones siempre se recomienda.

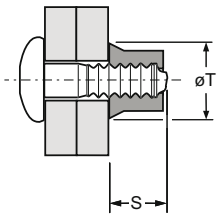
POP® Avdel®

Avdelok® 2621 Series
Lockbolt Fastener

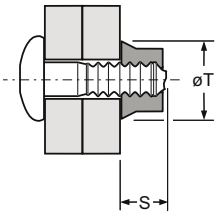
English	Français	Deutsch	Italiano	Español
Brazier head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Pin: Carbon boron steel* Zinc plated Clear trivalent passivated	Tige: Acier* Revêtement zingué Passivation claire trivalente	Bolzen: Stahl* Verzinkt Klar chromatiert, Cr6-frei	Bullone: Acciaio a carbonio* Zincato, Passivazione chiara trivalente	Vástago: Acero al carbono* Zincado Pasivado claro trivalente
Collar: Low carbon steel** Zinc plated Clear trivalent passivated	Bague: Acier bas carbone** Revêtement zingué Passivation claire trivalente	Schließring: Stahl** Verzinkt Klar chromatiert, Cr6-frei	Collare: Acciaio a basso tenore di carbonio** Zincato, Passivazione chiara trivalente	Collar: Acero bajo en carbono** Zincado Pasivado claro trivalente

*: SAE 10B21 EN 10263-4 23MnB4 **: SAE 1008 EN 10263-2 C8C

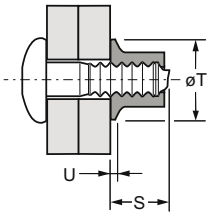




Full Collar
Schließring Standard
Bague Standard
Collare Standard
Collar Estándar



Half Collar
Schließring flach
Bague courte
Collare ribassato
Medio Collar

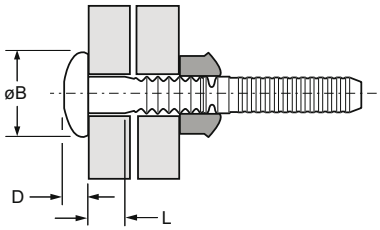


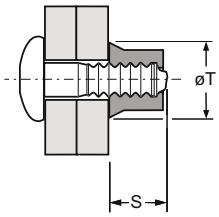
Flanged Collar
Schließring mit Bund
Bague à embase
Collare flangiato
Collar con Ala

ø	w. Full Collar[1]			L	øB	D	Part No/ref	Part No/ref Full Collar		Part No/ref Half Collar[1]		Part No/ref Flanged Collar[2]		
nom.	min.	max.		nom.	max.	max.	Pin	S max.	øT max.	S max.	øT max.	S max.	øT max.	U[2] nom.
	1.57	4.75		1.57			02621-70602							
	3.18	6.35		3.18			02621-70603							
	4.75	7.92		4.75			02621-70604							
	6.35	9.53		6.35			02621-70605							
	7.92	11.10		7.92			02621-70606							
	9.53	12.70		9.53			02621-70607							
	11.10	14.27		11.10			02621-70608							
	12.70	15.88		12.70			02621-70609							
	14.27	17.45		14.27			02621-70610							
4.8 (3/16")	15.88	19.05	5.0	15.88	10.1	3.4	02621-70611	02662-70600		02682-70600		02615-70600		
	17.45	20.62		17.45			02621-70612	9.4	8.0	7.9	8.0	10.2	9.9	0.76
	19.05	22.23		19.05			02621-70613							
	20.62	23.80		20.62			02621-70614							
	22.23	25.40		22.23			02621-70615							
	23.80	26.97		23.80			02621-70616							
	25.40	28.58		25.40			02621-70617							
	26.97	30.15		26.97			02621-70618							
	28.58	31.75		28.58			02621-70619							
	30.15	33.32		30.15			02621-70620							

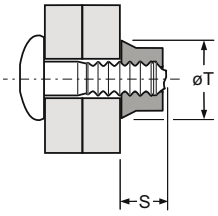
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros
1) & 2) see page 31 / voir page 31 / siehe Seite 31 / vedi pagina 31 / ver Pág. 31

Avdelok® 2621 Series
Lockbolt Fastener

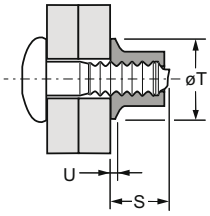




Full Collar



Half Collar



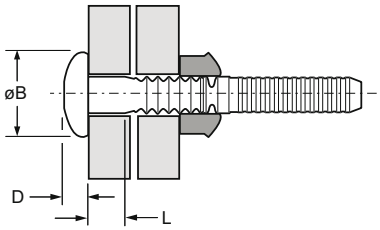
Flanged Collar

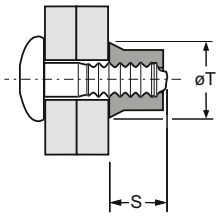
ø	w. Full Collar[1]			L	øB	D	Part No/ref	Part No/ref Full Collar		Part No/ref Half Collar[1]		Part No/ref Flanged Collar[2]		
nom.	min.	max.		nom.	max.	max.	Pin	S max.	øT max.	S max.	øT max.	S max.	øT max.	U[2] nom.
6.4 (1/4")	1.57	4.75	6.6	1.57	13.4	4.1	02621-70802	02662-70800		02682-70800		02615-70800		
	3.18	6.35		3.18			02621-70803							
	4.75	7.92		4.75			02621-70804							
	6.35	9.53		6.35			02621-70805							
	7.92	11.10		7.92			02621-70806							
	9.53	12.70		9.53			02621-70807							
	11.10	14.27		11.10			02621-70808							
	12.70	15.88		12.70			02621-70809							
	14.27	17.45		14.27			02621-70810	12.2	10.6	10.7	10.6	13.2	13.1	0.94
	15.88	19.05		15.88			02621-70811							
	17.45	20.62		17.45			02621-70812							
	19.05	22.23		19.05			02621-70813							
	20.62	23.80		20.62			02621-70814							
	22.23	25.40		22.23			02621-70815							
	23.80	26.97		23.80			02621-70816							
	26.97	30.15		26.97			02621-70818							
	30.15	33.32		30.15			02621-70820							
8.0 (5/16")	3.18	9.53	8.2	3.18	16.7	5.5	02621-71004	02662-71000		02682-71000		02615-71000		
	6.35	12.70		6.35			02621-71006							
	9.53	15.88		9.53			02621-71008							
	12.70	19.05		12.70			02621-71010							
	15.88	22.23		15.88			02621-71012							
	19.05	25.40		19.05			02621-71014							
	22.23	28.58		22.23			02621-71016							
	25.40	31.75		25.40			02621-71018							
	28.58	34.93		28.58			02621-71020	15.5	13.3	12.5	13.3	16.8	16.3	1.22
	31.75	38.10		31.75			02621-71022							
	34.93	41.28		34.93			02621-71024							
	38.10	44.45		38.10			02621-71026							
	41.28	47.63		41.28			02621-71028							
	44.45	50.80		44.45			02621-71030							
	47.63	53.98		47.63			02621-71032							
9.6 (3/8")	3.18	9.53	9.8	3.18	20.1	6.7	02621-71204	02662-71200		02682-71200		02615-71200		
	6.35	12.70		6.35			02621-71206							
	9.53	15.88		9.53			02621-71208	18.6	15.5	15.5	15.5	20.0	20.0	1.42
	12.70	19.05		12.70			02621-71210							

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

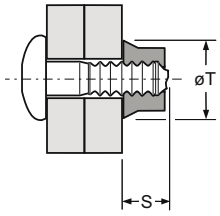
1) & 2) see page 31 / voir page 31 / siehe Seite 31 / vedi pagina 31 / ver Pág. 31

Avdelok® 2621 Series
Lockbolt Fastener

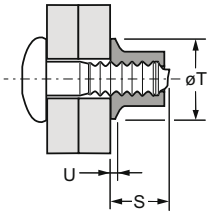




Full Collar



Half Collar



Flanged Collar

ø	w. Full Collar[1]			L	øB	D	Part No/ref	Part No/ref Full Collar		Part No/ref Half Collar[1]		Part No/ref Flanged Collar[2]		
nom.	min.	max.		nom.	max.	max.	Pin	S max.	øT max.	S max.	øT max.	S max.	øT max.	U[2] nom.
9.6 (3/8")	15.88	22.23	9.8	15.88	20.1	6.7	02621-71212	02662-71200		02682-71200		02615-71200		
	19.05	25.40		19.05			02621-71214							
	22.23	28.58		22.23			02621-71216							
	25.40	31.75		25.40			02621-71218							
	28.58	34.93		28.58			02621-71220							
	31.75	38.10		31.75			02621-71222							
	34.93	41.28		34.93			02621-71224	18.6	15.5	15.5	15.5	20.0	20.0	1.42
	38.10	44.45		38.10			02621-71226							
	41.28	47.63		41.28			02621-71228							
	44.45	50.80		44.45			02621-71230							
	47.63	53.98		47.63			02621-71232							

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

1) Half collars increase the grip range to that of the next longest pin. Maximum grip increases by 1.57 mm for 4.8 mm and 6.4 mm fasteners and 3.18 mm for 8.0 mm and 9.6 mm fasteners.
Avec une bague courte, la plage de serrage maximale est équivalente à celle de l'Avdelok de longeur immédiamente supérieure. La plage de serrage augmente de 1.57 mm pour tiges de 4.8 mm et 6.4 mm, et de 3.18 mm pour tiges de 8.0 mm et 9.6 mm.
Die Verwendung von flachen Schließringen erhöht den Klemmbereich auf den des nächstlängeren Bolzens. Der maximale Klemmbereich erhöht sich um 1,6 mm für ø 4,8 mm und ø 6,4 mm Bolzen und 3,2 mm für ø 8,0 mm und ø 9,6 mm Bolzen.
Utilizzando i collari ribassati lo spessore serrabile aumenta, ed è uguale a quello massimo del bullone di misura superiore. Il massimo spessore serrabile aumenta di 1.57 mm per i bulloni da 4.8 mm e 6.4 mm e di 3.18 mm per i bulloni da 8.0 mm e 9.6 mm.
El empleo de medio collar incrementa el máx. espesor a remachar al de la siguiente toma. El máximo espesor a remachar por uso de medio collar es de 1,57 mm para diámetros de 4,8 y 6,4 mm y de 3,18 mm para diámetros de 8 y 9,6 mm.

2) Flanged collars are used in applications where the hole on the collar side of the application is oversize or is slotted for alignment purposes. To determine what length of pin is required, add dimension U to the thickness of material being fastened.
Avec une bague à embase, la plage de serrage est diminuée de la valeur de la cote U.
Schließringe mit Bund werden in Anwendungen benötigt, wo das Bohrloch auf der Schließringseite übergroß oder länglich ist. Um den richtigen Bolzen zu bestimmen, addieren Sie das Maß U zu der zu verbindenden Materialstärke hinzu.
Utilizzando i collari flangiati la dimensione „U" deve essere aggiunta allo spessore da serrare per determinare il tipo di bullone adatto.
Utilizar collar con ala cuando en la aplicación el barreno está sobredimensionado o es ranurado para propósitos de alineación. Para calcular la referencia de perno es necessario añadir la cota U al espesor de la aplicación.

ø		
nom.	kN[3]	kN[3]
4.8	8.63	7.34
6.4	14.73	13.35
8.0	22.38	21.81
9.6	32.08	28.93

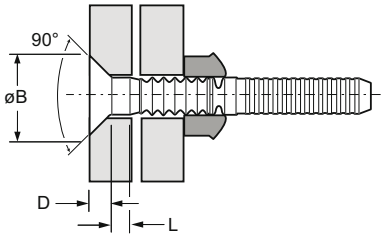
3) These figures represent minimum fastener shear and tensile strength values with the use of a full or flanged collar. When using half collars tension is reduced to approximately 45 %.
Cette valeurs représentent minimum résistances au cisaillement et à la traction avec l'usage d'une bague standard ou à embase. Avec l'usage des bagues courtes la résistance à la traction se diminue à env. 45 %.
Diese Werte repräsentieren Minimum Scher- und Zugfestigkeiten der Verbindung unter Verwendung von Schließringen Standard oder mit Bund. Bei Verwendung von flachen Schließringen reduziert sich die Zugfestigkeit auf ca. 45 %.
I dati si riferiscono a bulloni installati con collari standard o flangiato, utilizzando collari ribassati i valori di trazione diminuiscono del 45 % circa, i valori di taglio rimangono invariati. I dati indicati in tabella sono minimi.
La figura representa los valores mínimos de resistencia a la cortadura y tracción cuando se utiliza collar estándar o con ala. Cuando se utiliza medio collar se reducen aproximadamente en un 45 %.

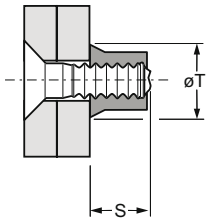
Steel Avdelok pins typically offer comparable performance values to similar diameter metric property class 5.8 threaded products.
Les tiges Avdelok acier offrent des performances comparables à celles d'un boulon métrique de classe 5.8 et de diamètre similaire.
Avdelok Bolzen aus Stahl bieten normalerweise Festigkeitswerte, die mit denen eines metrischen Gewindeproduktes der Festigkeitsklasse 5.8 mit ähnlichem Durchmesser vergleichbar sind.
I bulloni Avdelok in acciaio normalmente offrono valori prestazionali comparabili a prodotti filettati metrici di pari diametro in classe di resistenza 5.8.
Los pernos Avdelok de acero normalmente ofrecen resistencias comparables a la de un tornillo métrico, de clase 5.8, con un diámetro similar.

Avdelok® 2622 Series
Lockbolt Fastener

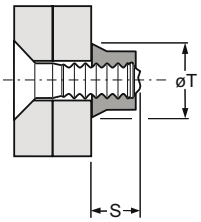
English	Français	Deutsch	Italiano	Español
90° Countersunk	90° Tête fraisée	90° Senkkopf	90° Testa svasata	90° Cabeza avellanada
Pin: Carbon boron steel* Zinc plated Clear trivalent passivated	Tige: Acier* Revêtement zingué Passivation claire trivalente	Bolzen: Stahl* Verzinkt Klar chromatiert, Cr6-frei	Bullone: Acciaio a carbonio* Zincato, Passivazione chiara trivalente	Vástago: Acero al carbono* Zincado Pasivado claro trivalente
Collar: Low carbon steel** Zinc plated Clear trivalent passivated	Bague: Acier bas carbone** Revêtement zingué Passivation claire trivalente	Schließring: Stahl** Verzinkt Klar chromatiert, Cr6-frei	Collare: Acciaio a basso tenore di carbonio** Zincato, Passivazione chiara trivalente	Collar: Acero bajo en carbono** Zincado Pasivado claro trivalente

*: SAE 10B21 EN 10263-4 23MnB4 **: SAE 1008 EN 10263-2 C8C

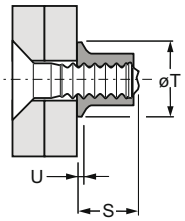




Full Collar
Schließring Standard
Bague Standard
Collare Standard
Collar Estándar



Half Collar
Schließring flach
Bague courte
Collare ribassato
Medio Collar



Flanged Collar
Schließring mit Bund
Bague à embase
Collare flangiato
Collar con Ala

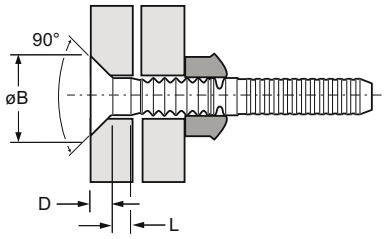
ø	w. Full Collar[1]			L	øB	D	Part No/ref	Part No/ref Full Collar		Part No/ref Half Collar[1]		Part No/ref Flanged Collar[2]		
nom.	min.	max.		nom.	max.	max.	Pin	S max.	øT max.	S max.	øT max.	S max.	øT max.	U[2] nom.
4.8 (3/16")	3.18	6.35	5.0	3.18	8.9	2.2	02622-70603	02662-70600		02682-70600		02615-70600		
	4.75	7.92		4.75			02622-70604							
	6.35	9.53		6.35			02622-70605							
	7.92	11.10		7.92			02622-70606							
	9.53	12.70		9.53			02622-70607							
	11.10	14.27		11.10			02622-70608							
	12.70	15.88		12.70			02622-70609							
	14.27	17.45		14.27			02622-70610							
	15.88	19.05		15.88			02622-70611							
	17.45	20.62		17.45			02622-70612	9.4	8.0	7.9	8.0	10.2	9.9	0.76
	19.05	22.23		19.05			02622-70613							
	20.62	23.80		20.62			02622-70614							
	22.23	25.40		22.23			02622-70615							
	23.80	26.97		23.80			02622-70616							
	25.40	28.58		25.40			02622-70617							
	26.97	30.15		26.97			02622-70618							
	28.58	31.75		28.58			02622-70619							
	30.15	33.32		30.15			02622-70620							

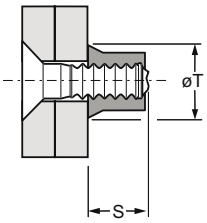
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros
1) & 2) see page 34 / voir page 34 / siehe Seite 34 / vedi pagina 34 / ver Pág. 34

POP® Avdel®

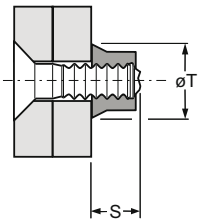
Avdelok® 2622 Series

Lockbolt Fastener

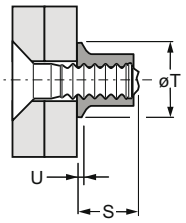




Full Collar



Half Collar

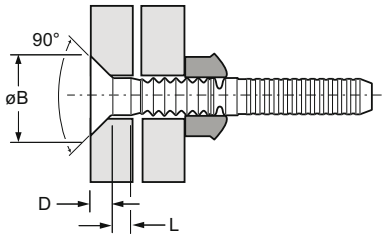


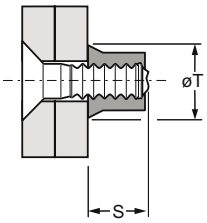
Flanged Collar

ø nom.	w. Full Collar[1] min.	w. Full Collar[1] max.		L nom.	øB max.	D max.	Part No/ref Pin	Part No/ref Full Collar S max.	Part No/ref Full Collar øT max.	Part No/ref Half Collar[1] S max.	Part No/ref Half Collar[1] øT max.	Part No/ref Flanged Collar[2] S max.	Part No/ref Flanged Collar[2] øT max.	Part No/ref Flanged Collar[2] U[2] nom.
6.4 (1/4")	3.18	6.35	6.6	3.18	11.9	2.9	02622-70803	02662-70800		02682-70800		02615-70800		
	4.75	7.92		4.75			02622-70804							
	6.35	9.53		6.35			02622-70805							
	7.92	11.10		7.92			02622-70806							
	9.53	12.70		9.53			02622-70807							
	11.10	14.27		11.10			02622-70808							
	12.70	15.88		12.70			02622-70809							
	14.27	17.45		14.27			02622-70810							
	15.88	19.05		15.88			02622-70811	12.2	10.6	10.7	10.6	13.2	13.1	0.94
	17.45	20.62		17.45			02622-70812							
	19.05	22.23		19.05			02622-70813							
	20.62	23.80		20.62			02622-70814							
	22.23	25.40		22.23			02622-70815							
	23.80	26.97		23.80			02622-70816							
	26.97	30.15		26.97			02622-70818							
	30.15	33.32		30.15			02622-70820							
8.0 (5/16")	3.18	9.53	8.2	3.18	14.8	3.6	02622-71004	02662-71000		02682-71000		02615-71000		
	6.35	12.70		6.35			02622-71006							
	9.53	15.88		9.53			02622-71008							
	12.70	19.05		12.70			02622-71010							
	15.88	22.23		15.88			02622-71012							
	19.05	25.40		19.05			02622-71014							
	22.23	28.58		22.23			02622-71016							
	25.40	31.75		25.40			02622-71018							
	28.58	34.93		28.58			02622-71020	15.5	13.3	12.5	13.3	16.8	16.3	1.22
	31.75	38.10		31.75			02622-71022							
	34.93	41.28		34.93			02622-71024							
	38.10	44.45		38.10			02622-71026							
	41.28	47.63		41.28			02622-71028							
	44.45	50.80		44.45			02622-71030							
	47.63	53.98		47.63			02622-71032							
9.6 (3/8")	6.35	12.70	9.8	6.35	17.7	4.4	02622-71206	02662-71200		02682-71200		02615-71200		
	9.53	15.88		9.53			02622-71208							
	12.70	19.05		12.70			02622-71210							
	15.88	22.23		15.88			02622-71212	18.6	15.5	15.5	15.5	20.0	20.0	1.42
	19.05	25.40		19.05			02622-71214							
	22.23	28.58		22.23			02622-71216							

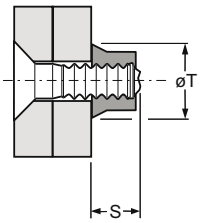
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros
1) & 2) see page 34 / voir page 34 / siehe Seite 34 / vedi pagina 34 / ver Pág. 34

Avdelok® 2622 Series
Lockbolt Fastener

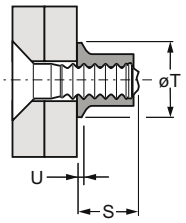




Full Collar



Half Collar



Flanged Collar

ø nom.	w. Full Collar[1] min.	w. Full Collar[1] max.		L nom.	øB max.	D max.	Part No/ref Pin	Part No/ref Full Collar S max.	Part No/ref Full Collar øT max.	Part No/ref Half Collar[1] S max.	Part No/ref Half Collar[1] øT max.	Part No/ref Flanged Collar[2] S max.	Part No/ref Flanged Collar[2] øT max.	Part No/ref Flanged Collar[2] U[2] nom.
9.6 (3/8")	25.40	31.75	9.8	25.40	17.7	4.4	02622-71218	02662-71200		02682-71200		02615-71200		
	28.58	34.93		28.58			02622-71220							
	31.75	38.10		31.75			02622-71222							
	34.93	41.28		34.93			02622-71224							
	38.10	44.45		38.10			02622-71226	18.6	15.5	15.5	15.5	20.0	20.0	1.42
	41.28	47.63		41.28			02622-71228							
	44.45	50.80		44.45			02622-71230							
	47.63	53.98		47.63			02622-71232							

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

1) Half collars increase the grip range to that of the next longest pin. Maximum grip increases by 1.57 mm for 4.8 mm and 6.4 mm fasteners and 3.18 mm for 8.0 mm and 9.6 mm fasteners.

Avec une bague courte, la plage de serrage maximale est équivalente à celle de l'Avdelok de longeur immédiamente supérieure. La plage de serrage augmente de 1.57 mm pour tiges de 4.8 mm et 6.4 mm, et de 3.18 mm pour tiges de 8.0 mm et 9.6 mm.

Die Verwendung von flachen Schließringen erhöht den Klemmbereich auf den des nächstlängeren Bolzens. Der maximale Klemmbereich erhöht sich um 1,6 mm für ø 4,8 mm und ø 6,4 mm Bolzen und 3,2 mm für ø 8,0 mm und ø 9,6 mm Bolzen.

Utilizzando i collari ribassati lo spessore serrabile aumenta, ed è uguale a quello massimo del bullone di misura superiore. Il massimo spessore serrabile aumenta di 1.57 mm per i bulloni da 4.8 mm e 6.4 mm e di 3.18 mm per i bulloni da 8.0 mm e 9.6 mm.

El empleo de medio collar incrementa el máx. espesor a remachar al de la siguiente toma. El máximo espesor a remachar por uso de medio collar es de 1,57 mm para diámetros de 4,8 y 6,4 mm y de 3,18 mm para diámetros de 8 y 9,6 mm.

2) Flanged collars are used in applications where the hole on the collar side of the application is oversize or is slotted for alignment purposes. To determine what length of pin is required, add dimension U to the thickness of material being fastened.

Avec une bague à embase, la plage de serrage est diminuée de la valeur de la cote U.

Schließringe mit Bund werden in Anwendungen benötigt, wo das Bohrloch auf der Schließringseite übergroß oder länglich ist. Um den richtigen Bolzen zu bestimmen, addieren Sie das Maß U zu der zu verbindenden Materialstärke hinzu.

Utilizzando i collari flangiati la dimensione „U" deve essere aggiunta allo spessore da serrare per determinare il tipo di bullone adatto.

Utilizar collar con ala cuando en la aplicación el barreno está sobredimensionado o es ranurado para propósitos de alineación. Para calcular la referencia de perno es necessario añadir la cota U al espesor de la aplicación.

ø nom.	kN[3]	kN[3]
4.8	8.63	7.34
6.4	14.73	13.35
8.0	22.38	21.81
9.6	32.08	28.93

3) These figures represent minimum fastener shear and tensile strength values with the use of a full or flanged collar. When using half collars tension is reduced to approximately 45 %.

Cette valeurs représentent minimum résistances au cisaillement et à la traction avec l'usage d'une bague standard ou à embase. Avec l'usage des bagues courtes la résistance à la traction se diminue à env. 45 %.

Diese Werte repräsentieren Minimum Scher- und Zugfestigkeiten der Verbindung unter Verwendung von Schließringen Standard oder mit Bund. Bei Verwendung von flachen Schließringen reduziert sich die Zugfestigkeit auf ca. 45 %.

I dati si riferiscono a bulloni installati con collari standard o flangiato, utilizzando collari ribassati i valori di trazione diminuiscono del 45 % circa, i valori di taglio rimangono invariati. I dati indicati in tabella sono minimi.

La figura representa los valores mínimos de resistencia a la cortadura y tracción cuando se utiliza collar estándar o con ala. Cuando se utiliza medio collar se reducen aproximadamente en un 45 %.

Steel Avdelok pins typically offer comparable performance values to similar diameter metric property class 5.8 threaded products.

Les tiges Avdelok acier offrent des performances comparables à celles d'un boulon métrique de classe 5.8 et de diamètre similaire.

Avdelok Bolzen aus Stahl bieten normalerweise Festigkeitswerte, die mit denen eines metrischen Gewindeproduktes der Festigkeitsklasse 5.8 mit ähnlichem Durchmesser vergleichbar sind.

I bulloni Avdelok in acciaio normalmente offrono valori prestazionali comparabili a prodotti filettati metrici di pari diametro in classe di resistenza 5.8.

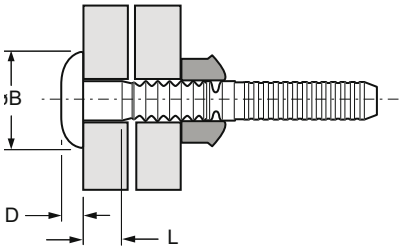
Los pernos Avdelok de acero normalmente ofrecen resistencias comparables a la de un tornillo métrico, de clase 5.8, con un diámetro similar.

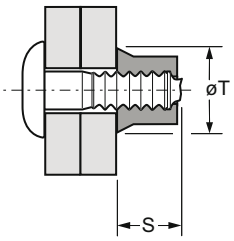
POP® Avdel®

Avdelok® 2624 Series
Lockbolt Fastener

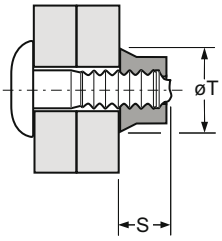
English	Français	Deutsch	Italiano	Español
Truss head	Tête large	Flachrundkopf groß	Testa larga	Cabeza alomada de perfil bajo
Pin: Carbon boron steel* Zinc plated Clear trivalent passivated	Tige: Acier* Revêtement zingué Passivation claire trivalente	Bolzen: Stahl* Verzinkt Klar chromatiert, Cr6-frei	Bullone: Acciaio a carbonio* Zincato, Passivazione chiara trivalente	Vástago: Acero al carbono* Zincado Pasivado claro trivalente
Collar: Low carbon steel** Zinc plated Clear trivalent passivated	Bague: Acier bas carbone** Revêtement zingué Passivation claire trivalente	Schließring: Stahl** Verzinkt Klar chromatiert, Cr6-frei	Collare: Acciaio a basso tenore di carbonio** Zincato, Passivazione chiara trivalente	Collar: Acero bajo en carbono** Zincado Pasivado claro trivalente

*: SAE 10B21 EN 10263-4 23MnB4 **: SAE 1008 EN 10263-2 C8C

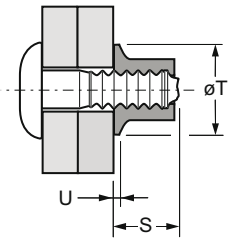




Full Collar
Schließring Standard
Bague Standard
Collare Standard
Collar Estándar



Half Collar
Schließring flach
Bague courte
Collare ribassato
Medio Collar

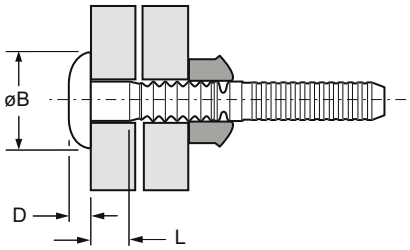


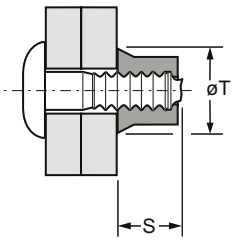
Flanged Collar
Schließring mit Bund
Bague à embase
Collare flangiato
Collar con Ala

ø	w. Full Collar[1]			L	øB	D	Part No/ref	Part No/ref Full Collar		Part No/ref Half Collar[1]		Part No/ref Flanged Collar[2]		
nom.	min.	max.		nom.	max.	max.	Pin	S max.	øT max.	S max.	øT max.	S max.	øT max.	U[2] nom.
	1.57	4.75		1.57			02624-70602							
	3.18	6.35		3.18			02624-70603							
	4.75	7.92		4.75			02624-70604							
	6.35	9.53		6.35			02624-70605							
	7.92	11.10		7.92			02624-70606							
	9.53	12.70		9.53			02624-70607							
	11.10	14.27		11.10			02624-70608							
	12.70	15.88		12.70			02624-70609							
	14.27	17.45		14.27			02624-70610							
4.8 (3/16")	15.88	19.05	5.0	15.88	12.0	2.2	02624-70611	02662-70600		02682-70600		02615-70600		
	17.45	20.62		17.45			02624-70612	9.4	8.0	7.9	8.0	10.2	9.9	0.76
	19.05	22.23		19.05			02624-70613							
	20.62	23.80		20.62			02624-70614							
	22.23	25.40		22.23			02624-70615							
	23.80	26.97		23.80			02624-70616							
	25.40	28.58		25.40			02624-70617							
	26.97	30.15		26.97			02624-70618							
	28.58	31.75		28.58			02624-70619							
	30.15	33.32		30.15			02624-70620							

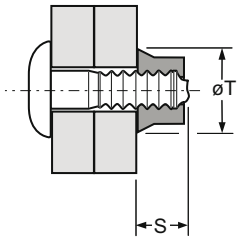
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros
1) & 2) see page 37 / voir page 37 / siehe Seite 37 / vedi pagina 37 / ver Pág. 37

Avdelok® 2624 Series
Lockbolt Fastener

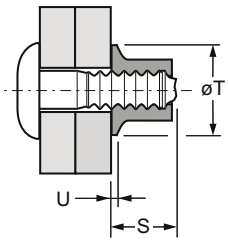




Full Collar



Half Collar

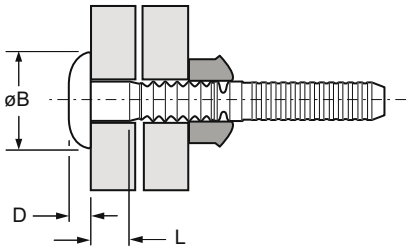


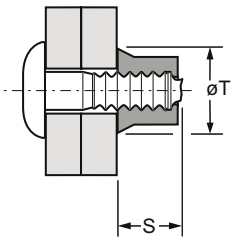
Flanged Collar

ø	w. Full Collar[1]			L	øB	D	Part No/ref	Part No/ref Full Collar		Part No/ref Half Collar[1]		Part No/ref Flanged Collar[2]		
nom.	min.	max.		nom.	max.	max.	Pin	S max.	øT max.	S max.	øT max.	S max.	øT max.	U[2] nom.
6.4 (1/4")	1.57	4.75	6.6	1.57	15.2	2.8	02624-70802	02662-70800		02682-70800		02615-70800		
	3.18	6.35		3.18			02624-70803							
	4.75	7.92		4.75			02624-70804							
	6.35	9.53		6.35			02624-70805							
	7.92	11.10		7.92			02624-70806							
	9.53	12.70		9.53			02624-70807							
	11.10	14.27		11.10			02624-70808							
	12.70	15.88		12.70			02624-70809							
	14.27	17.45		14.27			02624-70810	12.2	10.6	10.7	10.6	13.2	13.1	0.94
	15.88	19.05		15.88			02624-70811							
	17.45	20.62		17.45			02624-70812							
	19.05	22.23		19.05			02624-70813							
	20.62	23.80		20.62			02624-70814							
	22.23	25.40		22.23			02624-70815							
	23.80	26.97		23.80			02624-70816							
	26.97	30.15		26.97			02624-70818							
	30.15	33.32		30.15			02624-70820							
8.0 (5/16")	3.18	9.53	8.2	3.18	19.9	3.6	02624-71004	02662-71000		02682-71000		02615-71000		
	6.35	12.70		6.35			02624-71006							
	9.53	15.88		9.53			02624-71008							
	12.70	19.05		12.70			02624-71010							
	15.88	22.23		15.88			02624-71012							
	19.05	25.40		19.05			02624-71014							
	22.23	28.58		22.23			02624-71016							
	25.40	31.75		25.40			02624-71018	15.5	13.3	12.5	13.3	16.8	16.3	1.22
	28.58	34.93		28.58			02624-71020							
	31.75	38.10		31.75			02624-71022							
	34.93	41.28		34.93			02624-71024							
	38.10	44.45		38.10			02624-71026							
	41.28	47.63		41.28			02624-71028							
	44.45	50.80		44.45			02624-71030							
	47.63	53.98		47.63			02624-71032							
9.6 (3/8")	3.18	9.53	9.8	3.18	23.5	4.1	02624-71204	02662-71200		02682-71200		02615-71200		
	6.35	12.70		6.35			02624-71206							
	9.53	15.88		9.53			02624-71208							
	12.70	19.05		12.70			02624-71210	18.6	15.5	15.5	15.5	20.0	20.0	1.42
	15.88	22.23		15.88			02624-71212							

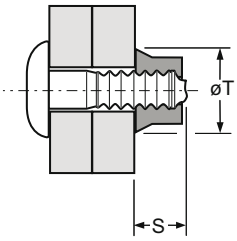
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros
1) & 2) see page 37 / voir page 37 / siehe Seite 37 / vedi pagina 37 / ver Pág. 37

Avdelok® 2624 Series
Lockbolt Fastener

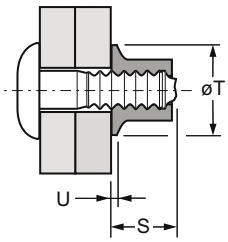




Full Collar



Half Collar



Flanged Collar

ø	w. Full Collar[1]			L	øB	D	Part No/ref	Part No/ref Full Collar		Part No/ref Half Collar[1]		Part No/ref Flanged Collar[2]		
nom.	min.	max.		nom.	max.	max.	Pin	S max.	øT max.	S max.	øT max.	S max.	øT max.	U[2] nom.
9.6 (3/8")	19.05	25.40	9.8	19.05	23.5	4.1	02624-71214	02662-71200		02682-71200		02615-71200		
	22.23	28.58		22.23			02624-71216							
	25.40	31.75		25.40			02624-71218							
	28.58	34.93		28.58			02624-71220							
	31.75	38.10		31.75			02624-71222							
	34.93	41.28		34.93			02624-71224	18.6	15.5	15.5	15.5	20.0	20.0	1.42
	38.10	44.45		38.10			02624-71226							
	41.28	47.63		41.28			02624-71228							
	44.45	50.80		44.45			02624-71230							
	47.63	53.98		47.63			02624-71232							

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

1) Half collars increase the grip range to that of the next longest pin. Maximum grip increases by 1.57 mm for 4.8 mm and 6.4 mm fasteners and 3.18 mm for 8.0 mm and 9.6 mm fasteners.

Avec une bague courte, la plage de serrage maximale est équivalente à celle de l'Avdelok de longeur immédiamente supérieure. La plage de serrage augmente de 1.57 mm pour tiges de 4.8 mm et 6.4 mm, et de 3.18 mm pour tiges de 8.0 mm et 9.6 mm.

Die Verwendung von flachen Schließringen erhöht den Klemmbereich auf den des nächstlängeren Bolzens. Der maximale Klemmbereich erhöht sich um 1,6 mm für ø 4,8 mm und ø 6,4 mm Bolzen und 3,2 mm für ø 8,0 mm und ø 9,6 mm Bolzen.

Utilizzando i collari ribassati lo spessore serrabile aumenta, ed è uguale a quello massimo del bullone di misura superiore. Il massimo spessore serrabile aumenta di 1.57 mm per i bulloni da 4.8 mm e 6.4 mm e di 3.18 mm per i bulloni da 8.0 mm e 9.6 mm.

El empleo de medio collar incrementa el máx. espesor a remachar al de la siguiente toma. El máximo espesor a remachar por uso de medio collar es de 1,57 mm para diámetros de 4,8 y 6,4 mm y de 3,18 mm para diámetros de 8 y 9,6 mm.

2) Flanged collars are used in applications where the hole on the collar side of the application is oversize or is slotted for alignment purposes. To determine what length of pin is required, add dimension U to the thickness of material being fastened.

Avec une bague à embase, la plage de serrage est diminuée de la valeur de la cote U.

Schließringe mit Bund werden in Anwendungen benötigt, wo das Bohrloch auf der Schließringseite übergroß oder länglich ist. Um den richtigen Bolzen zu bestimmen, addieren Sie das Maß U zu der zu verbindenden Materialstärke hinzu.

Utilizzando i collari flangiati la dimensione „U" deve essere aggiunta allo spessore da serrare per determinare il tipo di bullone adatto.

Utilizar collar con ala cuando en la aplicación el barreno está sobredimensionado o es ranurado para propósitos de alineación. Para calcular la referencia de perno es necessario añadir la cota U al espesor de la aplicación.

ø	kN[3]	kN[3]
nom.		
4.8	8.63	7.34
6.4	14.73	13.35
8.0	22.38	21.81
9.6	32.08	28.93

3) These figures represent minimum fastener shear and tensile strength values with the use of a full or flanged collar. When using half collars tension is reduced to approximately 45 %.

Cette valeurs représentent minimum résistances au cisaillement et à la traction avec l'usage d'une bague standard ou à embase. Avec l'usage des bagues courtes la résistance à la traction se diminue à env. 45 %.

Diese Werte repräsentieren Minimum Scher- und Zugfestigkeiten der Verbindung unter Verwendung von Schließringen Standard oder mit Bund. Bei Verwendung von flachen Schließringen reduziert sich die Zugfestigkeit auf ca. 45 %.

I dati si riferiscono a bulloni installati con collari standard o flangiato, utilizzando collari ribassati i valori di trazione diminuiscono del 45 % circa, i valori di taglio rimangono invariati. I dati indicati in tabella sono minimi.

La figura representa los valores mínimos de resistencia a la cortadura y tracción cuando se utiliza collar estándar o con ala. Cuando se utiliza medio collar se reducen aproximadamente en un 45 %.

Steel Avdelok pins typically offer comparable performance values to similar diameter metric property class 5.8 threaded products.

Les tiges Avdelok acier offrent des performances comparables à celles d'un boulon métrique de classe 5.8 et de diamètre similaire.

Avdelok Bolzen aus Stahl bieten normalerweise Festigkeitswerte, die mit denen eines metrischen Gewindeproduktes der Festigkeitsklasse 5.8 mit ähnlichem Durchmesser vergleichbar sind.

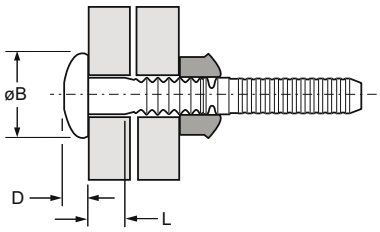
I bulloni Avdelok in acciaio normalmente offrono valori prestazionali comparabili a prodotti filettati metrici di pari diametro in classe di resistenza 5.8.

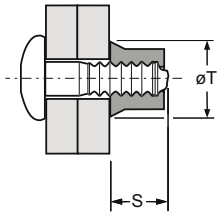
Los pernos Avdelok de acero normalmente ofrecen resistencias comparables a la de un tornillo métrico, de clase 5.8, con un diámetro similar.

Avdelok® 2691 Series
Lockbolt Fastener

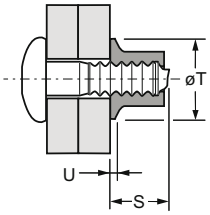
English	Français	Deutsch	Italiano	Español
Brazier head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Pin: Stainless steel* natural	Tige: Inox* Brut	Bolzen: Edelstahl* Blank	Bullone: Acciaio inox * Nessuna finitura	Vástago: Acero inoxidable* Natural
Collar: Stainless steel** Zinc plated Clear trivalent passivated	Bague: Inox** Revêtement zingué Passivation claire trivalente	Schließring: Edelstahl** Verzinkt Klar chromatiert, Cr6-frei	Collare: Acciaio inox** Zincato Passivazione chiara trivalente	Collar: Acero inoxidable** Zincado Pasivado claro trivalente

*: AISI 304Cu, EN 10263-5, X3CrNiCu18-9-4 **: AISI 430, EN 10263-5 X6Cr17





Full Collar
Schließring Standard
Bague Standard
Collare Standard
Collar Estándar



Flanged Collar
Schließring mit Bund
Bague à embase
Collare flangiato
Collar con Ala

ø	w. Full Collar			L	øB	D	Part No/ref	Part No/ref Full Collar		Part No/ref Flanged Collar[1]		
nom.	min.	max.		nom.	max.	max.	Pin	S max.	øT max.	S max.	øT max.	U[1] nom.
4.8 (3/16")	1.57	4.75	5.0	1.57	10.0	3.4	02691-00602	02605-70600		02648-70600		
	3.18	6.35		3.18			02691-00603					
	4.75	7.92		4.75			02691-00604					
	6.35	9.53		6.35			02691-00605					
	7.92	11.10		7.92			02691-00606					
	9.53	12.70		9.53			02691-00607					
	11.10	14.27		11.10			02691-00608					
	12.70	15.88		12.70			02691-00609					
	14.27	17.45		14.27			02691-00610					
	15.88	19.05		15.88			02691-00611	9.4	8.0	10.2	9.9	0.76
	17.45	20.62		17.45			02691-00612					
	19.05	22.23		19.05			02691-00613					
	20.62	23.80		20.62			02691-00614					
	22.23	25.40		22.23			02691-00615					
	23.80	26.97		23.80			02691-00616					
	25.40	28.58		25.40			02691-00617					
	26.97	30.15		26.97			02691-00618					
	28.58	31.75		28.58			02691-00619					
	30.15	33.32		30.15			02691-00620					

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

1) Flanged collars are used in applications where the hole on the collar side of the application is oversize or is slotted for alignment purposes. To determine what length of pin is required, add dimension U to the thickness of material being fastened.

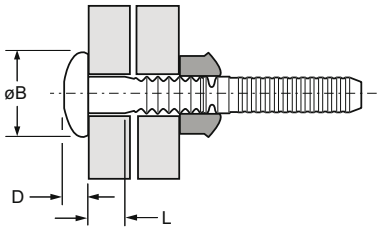
Avec une bague à embase, la plage de serrage est diminuée de la valeur de la cote U.

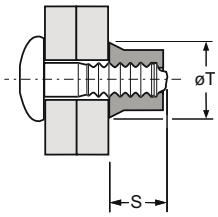
Schließringe mit Bund werden in Anwendungen benötigt, wo das Bohrloch auf der Schließringseite übergroß oder länglich ist. Um den richtigen Bolzen zu bestimmen, addieren Sie das Maß U zu der zu verbindenden Materialstärke hinzu.

Utilizzando i collari flangiati la dimensione „U" deve essere aggiunta allo spessore da serrare per determinare il tipo di bullone adatto.

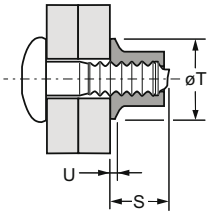
Utilizar collar con ala cuando en la aplicación el barreno está sobredimensionado o es ranurado para propósitos de alineación. Para calcular la referencia de perno es necesario añadir la cota U al espesor de la aplicación.

Avdelok® 2691 Series
Lockbolt Fastener





Full Collar



Flanged Collar

ø	w. Full Collar			L	øB	D	Part No/ref	Part No/ref Full Collar		Part No/ref Flanged Collar[1]		
nom.	min.	max.		nom.	max.	max.	Pin	S max.	øT max.	S max.	øT max.	U[1] nom.
6.4 (1/4")	1.57	4.75	6.6	1.57	13.4	4.1	02691-00802	02605-70800		02648-70800		
	3.18	6.35		3.18			02691-00803					
	4.75	7.92		4.75			02691-00804					
	6.35	9.53		6.35			02691-00805					
	7.92	11.10		7.92			02691-00806					
	9.53	12.70		9.53			02691-00807					
	11.10	14.27		11.10			02691-00808					
	12.70	15.88		12.70			02691-00809					
	14.27	17.45		14.27			02691-00810	12.2	10.6	13.2	13.1	0.94
	15.88	19.05		15.88			02691-00811					
	17.45	20.62		17.45			02691-00812					
	19.05	22.23		19.05			02691-00813					
	20.62	23.80		20.62			02691-00814					
	22.23	25.40		22.23			02691-00815					
	23.80	26.97		23.80			02691-00816					
	26.97	30.15		26.97			02691-00818					
	30.15	33.32		30.15			02691-00820					
8.0 (5/16")	3.18	9.53	8.2	3.18	16.7	5.5	02691-01004	02605-71000		N/A		
	6.35	12.70		6.35			02691-01006					
	9.53	15.88		9.53			02691-01008					
	12.70	19.05		12.70			02691-01010					
	15.88	22.23		15.88			02691-01012					
	19.05	25.40		19.05			02691-01014					
	22.23	28.58		22.23			02691-01016					
	25.40	31.75		25.40			02691-01018					
	28.58	34.93		28.58			02691-01020	15.5	13.3			
	31.75	38.10		31.75			02691-01022					
	34.93	41.28		34.93			02691-01024					
	38.10	44.45		38.10			02691-01026					
	41.28	47.63		41.28			02691-01028					
	44.45	50.80		44.45			02691-01030					
	47.63	53.98		47.63			02691-01032					

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

1) Flanged collars are used in applications where the hole on the collar side of the application is oversize or is slotted for alignment purposes. To determine what length of pin is required, add dimension U to the thickness of material being fastened.

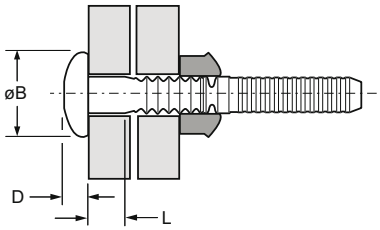
Avec une bague à embase, la plage de serrage est diminuée de la valeur de la cote U.

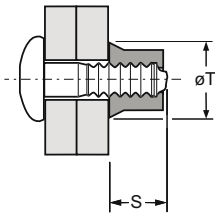
Schließringe mit Bund werden in Anwendungen benötigt, wo das Bohrloch auf der Schließringseite übergroß oder länglich ist. Um den richtigen Bolzen zu bestimmen, addieren Sie das Maß U zu der zu verbindenden Materialstärke hinzu.

Utilizzando i collari flangiati la dimensione „U" deve essere aggiunta allo spessore da serrare per determinare il tipo di bullone adatto.

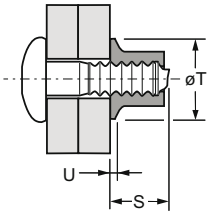
Utilizar collar con ala cuando en la aplicación el barreno está sobredimensionado o es ranurado para propósitos de alineación. Para calcular la referencia de perno es necesario añadir la cota U al espesor de la aplicación.

Avdelok® 2691 Series
Lockbolt Fastener





Full Collar



Flanged Collar

ø	w. Full Collar			L	øB	D	Part No/ref	Part No/ref Full Collar		Part No/ref Flanged Collar[1]		
nom.	min.	max.		nom.	max.	max.	Pin	S max.	øT max.	S max.	øT max.	U[1] nom.
9.6 (3/8")	3.18	9.53	9.8	3.18	20.0	6.7	02691-01204	02605-71200 18.6	15.5	N/A		
	6.35	12.70		6.35			02691-01206					
	9.53	15.88		9.53			02691-01208					
	12.70	19.05		12.70			02691-01210					
	15.88	22.23		15.88			02691-01212					
	19.05	25.40		19.05			02691-01214					
	22.23	28.58		22.23			02691-01216					
	25.40	31.75		25.40			02691-01218					
	28.58	34.93		28.58			02691-01220					
	31.75	38.10		31.75			02691-01222					
	34.93	41.28		34.93			02691-01224					
	38.10	44.45		38.10			02691-01226					
	41.28	47.63		41.28			02691-01228					
	44.45	50.80		44.45			02691-01230					
	47.63	53.98		47.63			02691-01232					

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

1) Flanged collars are used in applications where the hole on the collar side of the application is oversize or is slotted for alignment purposes. To determine what length of pin is required, add dimension U to the thickness of material being fastened.

Avec une bague à embase, la plage de serrage est diminuée de la valeur de la cote U.

Schließringe mit Bund werden in Anwendungen benötigt, wo das Bohrloch auf der Schließringseite übergroß oder länglich ist. Um den richtigen Bolzen zu bestimmen, addieren Sie das Maß U zu der zu verbindenden Materialstärke hinzu.

Utilizzando i collari flangiati la dimensione „U" deve essere aggiunta allo spessore da serrare per determinare il tipo di bullone adatto.

Utilizar collar con ala cuando en la aplicación el barreno está sobredimensionado o es ranurado para propósitos de alineación. Para calcular la referencia de perno es necessario añadir la cota U al espesor de la aplicación.

ø		
nom.	kN[2]	kN[2]
4.8 (3/16")	7.79	9.26
6.4 (1/4")	14.55	17.71
8.0 (5/16")	22.24	29.80
9.6 (3/8")	31.58	37.81

2) These figures represent minimum fastener shear and tensile strength values with the use of a full or flagned collar.

Cette valeurs représentent minimum résistances au cisaillement et à la traction avec l'usage d'une bague standard ou à embase.

Diese Werte repräsentieren Minimum Scher- und Zugfestigkeiten der Verbindung unter Verwendung von Standard-Schließringen oder mit Bund.

I dati indicati in tabella sono minimi e si riferiscono a bulloni installati con collari standard o flangiati.

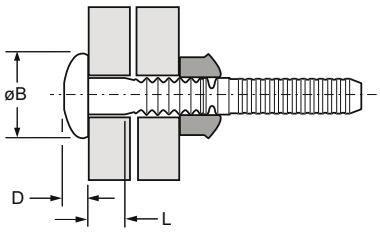
La figura representa los valores mínimos de resistencia a la cortadura y tracción cuando se utiliza collar estándar o con ala.

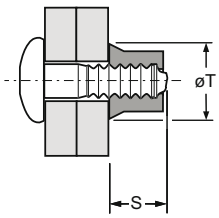
POP® Avdel®

Avdelok® 2801 Series
Lockbolt Fastener

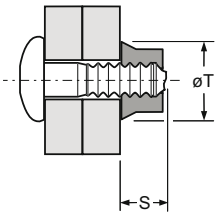
English	Français	Deutsch	Italiano	Español
Brazier head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Pin: Aluminium alloy*	Tige: Alliage d'aluminium*	Bolzen: Aluminium*	Bullone: Lega di alluminio*	Vástago: Aluminio*
Polished	Poli	Poliert	Lucido	Pulido
Collar: Aluminium alloy**	Bague: Alliage d'aluminium**	Schließring: Aluminium**	Collare: Lega di alluminio**	Collar: Aluminio**
Natural	Brut	Blank	Nessuna finitura	Natural

*: AA 2024, DIN 1725, AlCuMg2, Werkstoff 3.1355 **: BS 1473 6061, AA 6061, DIN 1725 AlMg1SiCu, Werkstoff 3.3211

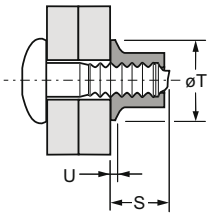




Full Collar
Schließring Standard
Bague Standard
Collare Standard
Collar Estándar



Half Collar
Schließring flach
Bague courte
Collare ribassato
Medio Collar

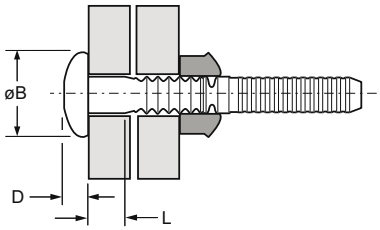


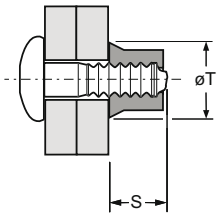
Flanged Collar
Schließring mit Bund
Bague à embase
Collare flangiato
Collar con Ala

ø	w. Full Collar[1]			L	øB	D	Part No/ref	Part No/ref Full Collar		Part No/ref Half Collar[1]		Part No/ref Flanged Collar[2]		
nom.	min.	max.		nom.	max.	max.	Pin	S max.	øT max.	S max.	øT max.	S max.	øT max.	U[2] nom.
	1.57	4.75		1.57			02801-00602							
	3.18	6.35		3.18			02801-00603							
	4.75	7.92		4.75			02801-00604							
	6.35	9.53		6.35			02801-00605							
	7.92	11.10		7.92			02801-00606							
	9.53	12.70		9.53			02801-00607							
	11.10	14.27		11.10			02801-00608							
	12.70	15.88		12.70			02801-00609							
	14.27	17.45		14.27			02801-00610	02837-00600		02838-00600		02839-00600		
4.8 (3/16")	15.88	19.05	5.0	15.88	10.1	3.4	02801-00611	9.4	8.0	7.9	8.0	10.2	9.9	0.76
	17.45	20.62		17.45			02801-00612							
	19.05	22.23		19.05			02801-00613							
	20.62	23.80		20.62			02801-00614							
	22.23	25.40		22.23			02801-00615							
	23.80	26.97		23.80			02801-00616							
	25.40	28.58		25.40			02801-00617							
	26.97	30.15		26.97			02801-00618							
	28.58	31.75		28.58			02801-00619							
	30.15	33.32		30.15			02801-00620							

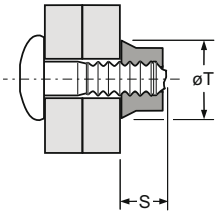
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros
1) & 2) see page 43 / voir page 43 / siehe Seite 43 / vedi pagina 43 / ver Pág. 43

Avdelok® 2801 Series
Lockbolt Fastener

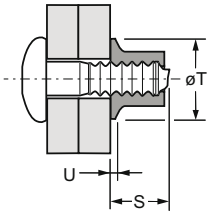




Full Collar



Half Collar



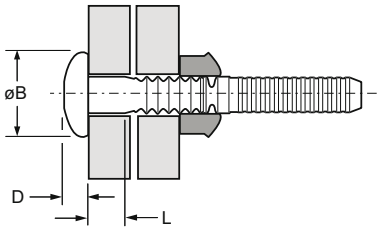
Flanged Collar

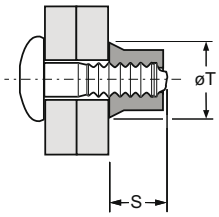
ø	w. Full Collar[1]			L	øB	D	Part No/ref	Part No/ref Full Collar		Part No/ref Half Collar[1]		Part No/ref Flanged Collar[2]		
nom.	min.	max.		nom.	max.	max.	Pin	S max.	øT max.	S max.	øT max.	S max.	øT max.	U[2] nom.
6.4 (1/4")	1.57	4.75	6.6	1.57	13.4	4.1	02801-00802	02837-00800		02838-00800		02839-00800		
	3.18	6.35		3.18			02801-00803							
	4.75	7.92		4.75			02801-00804							
	6.35	9.53		6.35			02801-00805							
	7.92	11.10		7.92			02801-00806							
	9.53	12.70		9.53			02801-00807							
	11.10	14.27		11.10			02801-00808							
	12.70	15.88		12.70			02801-00809							
	14.27	17.45		14.27			02801-00810							
	15.88	19.05		15.88			02801-00811	12.2	10.6	10.7	10.6	13.2	13.1	0.94
	17.45	20.62		17.45			02801-00812							
	19.05	22.23		19.05			02801-00813							
	20.62	23.80		20.62			02801-00814							
	22.23	25.40		22.23			02801-00815							
	23.80	26.97		23.80			02801-00816							
	26.97	30.15		26.97			02801-00818							
	30.15	33.32		30.15			02801-00820							
	31.75	34.93		31.75			02801-00821							
8.0 (5/16")	3.18	9.53	8.2	3.18	16.7	5.5	02801-01004	02837-01000		02838-01000		02839-01000		
	6.35	12.70		6.35			02801-01006							
	9.53	15.88		9.53			02801-01008							
	12.70	19.05		12.70			02801-01010							
	15.88	22.23		15.88			02801-01012							
	19.05	25.40		19.05			02801-01014							
	22.23	28.58		22.23			02801-01016							
	25.40	31.75		25.40			02801-01018							
	28.58	34.93		28.58			02801-01020	15.5	13.3	12.5	13.3	16.8	16.3	1.22
	31.75	38.10		31.75			02801-01022							
	34.93	41.28		34.93			02801-01024							
	38.10	44.45		38.10			02801-01026							
	41.28	47.63		41.28			02801-01028							
	44.45	50.80		44.45			02801-01030							
	47.63	53.98		47.63			02801-01032							
9.6 (3/8")	3.18	9.53	9.8	3.18	20.0	6.5	02801-01204	02837-01200		02838-01200		02839-01200		
	6.35	12.70		6.35			02801-01206							
	9.53	15.88		9.53			02801-01208	18.6	15.5	15.5	15.5	20.0	20.0	1.42
	12.70	19.05		12.70			02801-01210							

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

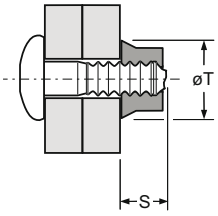
1) & 2) see page 43 / voir page 43 / siehe Seite 43 / vedi pagina 43 / ver Pág. 43

Avdelok® 2801 Series
Lockbolt Fastener

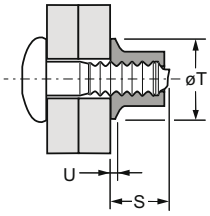




Full Collar



Half Collar



Flanged Collar

ø	w. Full Collar[1]			L	øB	D	Part No/ref	Part No/ref Full Collar		Part No/ref Half Collar[1]		Part No/ref Flanged Collar[2]		
nom.	min.	max.		nom.	max.	max.	Pin	S max.	øT max.	S max.	øT max.	S max.	øT max.	U[2] nom.
9.6 (3/8")	15.88	22.23	9.8	15.88	20.0	6.5	02801-01212	02837-01200 18.6	15.5	02838-01200 15.5	15.5	02839-01200 20.0	20.0	1.42
	19.05	25.40		19.05			02801-01214							
	22.23	28.58		22.23			02801-01216							
	25.40	31.75		25.40			02801-01218							
	28.58	34.93		28.58			02801-01220							
	31.75	38.10		31.75			02801-01222							
	34.93	41.28		34.93			02801-01224							
	38.10	44.45		38.10			02801-01226							
	41.28	47.63		41.28			02801-01228							
	44.45	50.80		44.45			02801-01230							
	47.63	53.98		47.63			02801-01232							

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

1) Half collars increase the grip range to that of the next longest pin. Maximum grip increases by 1.57 mm for 4.8 mm and 6.4 mm fasteners and 3.18 mm for 8.0 mm and 9.6 mm fasteners.

Avec une bague courte, la plage de serrage maximale est équivalente à celle de l'Avdelok de longeur immédiamente supérieure. La plage de serrage augmente de 1.57 mm pour tiges de 4.8 mm et 6.4 mm, et de 3.18 mm pour tiges de 8.0 mm et 9.6 mm.

Die Verwendung von flachen Schließringen erhöht den Klemmbereich auf den des nächstlängeren Bolzens. Der maximale Klemmbereich erhöht sich um 1,6 mm für ø 4,8 mm und ø 6,4 mm Bolzen und 3,2 mm für ø 8,0 mm und ø 9,6 mm Bolzen.

Utilizzando i collari ribassati lo spessore serrabile aumenta, ed è uguale a quello massimo del bullone di misura superiore. Il massimo spessore serrabile aumenta di 1.57 mm per i bulloni da 4.8 mm e 6.4 mm e di 3.18 mm per i bulloni da 8.0 mm e 9.6 mm.

El empleo de medio collar incrementa el máx. espesor a remachar al de la siguiente toma. El máximo espesor a remachar por uso de medio collar es de 1,57 mm para diámetros de 4,8 y 6,4 mm y de 3,18 mm para diámetros de 8 y 9,6 mm.

2) Flanged collars are used in applications where the hole on the collar side of the application is oversize or is slotted for alignment purposes. To determine what length of pin is required, add dimension U to the thickness of material being fastened.

Avec une bague à embase, la plage de serrage est diminuée de la valeur de la cote U.

Schließringe mit Bund werden in Anwendungen benötigt, wo das Bohrloch auf der Schließringseite übergroß oder länglich ist. Um den richtigen Bolzen zu bestimmen, addieren Sie das Maß U zu der zu verbindenden Materialstärke hinzu.

Utilizzando i collari flangiati la dimensione „U" deve essere aggiunta allo spessore da serrare per determinare il tipo di bullone adatto.

Utilizar collar con ala cuando en la aplicación el barreno está sobredimensionado o es ranurado para propósitos de alineación. Para calcular la referencia de perno es necesario añadir la cota U al espesor de la aplicación.

ø		
nom.	kN[3]	kN[3]
4.8	4.67	4.72
6.4	8.34	7.92
8.0	13.02	12.68
9.6	18.69	18.68

3) These figures represent minimum fastener shear and tensile strength values with the use of a full or flanged collar. When using half collars tension is reduced to approximately 45 %.

Cette valeurs représentent minimum résistances au cisaillement et à la traction avec l'usage d'une bague standard ou à embase. Avec l'usage des bagues courtes la résistance à la traction se diminue à env. 45 %.

Diese Werte repräsentieren Minimum Scher- und Zugfestigkeiten der Verbindung unter Verwendung von Schließringen Standard oder mit Bund. Bei Verwendung von flachen Schließringen reduziert sich die Zugfestigkeit auf ca. 45 %.

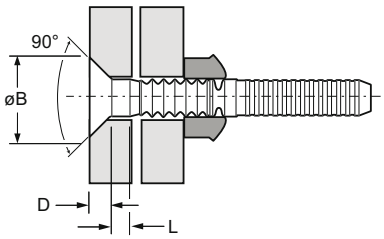
I dati si riferiscono a bulloni installati con collari standard o flangiato, utilizzando collari ribassati i valori di trazione diminuiscono del 45 % circa, i valori di taglio rimangono invariati. I dati indicati in tabella sono minimi.

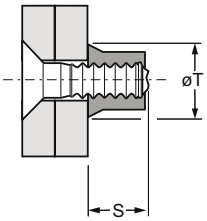
La figura representa los valores mínimos de resistencia a la cortadura y tracción cuando se utiliza collar estándar o con ala. Cuando se utiliza medio collar se reducen aproximadamente en un 45 %.

Avdelok® 2802 Series
Lockbolt Fastener

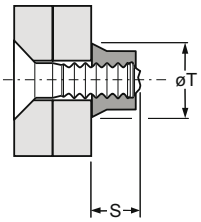
English	Français	Deutsch	Italiano	Español
90° Countersunk	90° Tête fraisée	90° Senkkopf	90° Testa svasata	90° Cabeza avellanada
Pin: Aluminium alloy*	Tige: Alliage d'aluminium*	Bolzen: Aluminium*	Bullone: Lega di alluminio*	Vástago: Aluminio*
Polished	Poli	Poliert	Lucido	Pulido
Collar: Aluminium alloy**	Bague: Alliage d'aluminium**	Schließring: Aluminium**	Collare: Lega di alluminio**	Collar: Aluminio**
Natural	Brut	Blank	Nessuna finitura	Natural

*: AA 2024, DIN 1725, AlCuMg2, Werkstoff 3.1355 **: BS 1473 6061, AA 6061, DIN 1725 AlMg1SiCu, Werkstoff 3.3211

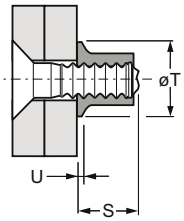




Full Collar
Schließring Standard
Bague Standard
Collare Standard
Collar Estándar



Half Collar
Schließring flach
Bague courte
Collare ribassato
Medio Collar

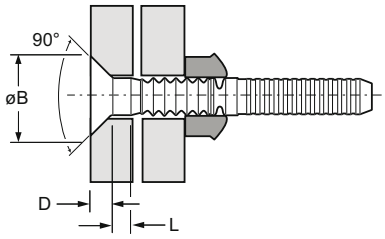


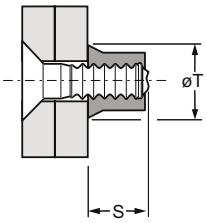
Flanged Collar
Schließring mit Bund
Bague à embase
Collare flangiato
Collar con Ala

ø	w. Full Collar[1]			L	øB	D	Part No/ref	Part No/ref Full Collar		Part No/ref Half Collar[1]		Part No/ref Flanged Collar[2]		
nom.	min.	max.		nom.	max.	max.	Pin	S max.	øT max.	S max.	øT max.	S max.	øT max.	U[2] nom.
4.8 (3/16")	3.18	6.35	5.0	3.18	8.9	2.2	02802-00603	02837-00600		02838-00600		02839-00600		
	4.75	7.92		4.75			02802-00604							
	6.35	9.53		6.35			02802-00605							
	7.92	11.10		7.92			02802-00606							
	9.53	12.70		9.53			02802-00607							
	11.10	14.27		11.10			02802-00608							
	12.70	15.88		12.70			02802-00609							
	14.27	17.45		14.27			02802-00610							
	15.88	19.05		15.88			02802-00611							
	17.45	20.62		17.45			02802-00612	9.4	8.0	7.9	8.0	10.2	9.9	0.76
	19.05	22.23		19.05			02802-00613							
	20.62	23.80		20.62			02802-00614							
	22.23	25.40		22.23			02802-00615							
	23.80	26.97		23.80			02802-00616							
	25.40	28.58		25.40			02802-00617							
	26.97	30.15		26.97			02802-00618							
	28.58	31.75		28.58			02802-00619							
	30.15	33.32		30.15			02802-00620							

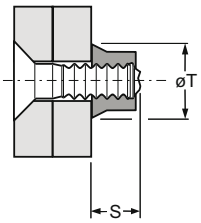
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros
1) & 2) see page 46 / voir page 46 / siehe Seite 46 / vedi pagina 46 / ver Pág. 46

Avdelok® 2802 Series
Lockbolt Fastener

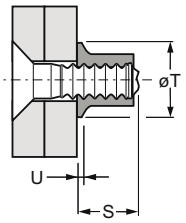




Full Collar



Half Collar

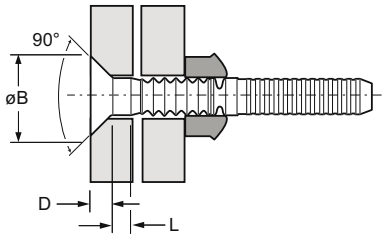


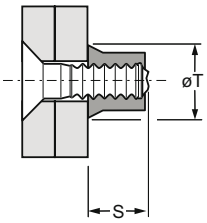
Flanged Collar

ø	w. Full Collar[1]			L	øB	D	Part No/ref	Part No/ref Full Collar		Part No/ref Half Collar[1]		Part No/ref Flanged Collar[2]		
nom.	min.	max.		nom.	max.	max.	Pin	S max.	øT max.	S max.	øT max.	S max.	øT max.	U[2] nom.
6.4 (1/4")	3.18	6.35	6.6	3.18	11.8	2.9	02802-00803	02837-00800		02838-00800		02839-00800		
	4.75	7.92		4.75			02802-00804							
	6.35	9.53		6.35			02802-00805							
	7.92	11.10		7.92			02802-00806							
	9.53	12.70		9.53			02802-00807							
	11.10	14.27		11.10			02802-00808							
	12.70	15.88		12.70			02802-00809							
	14.27	17.45		14.27			02802-00810							
	15.88	19.05		15.88			02802-00811	12.2	10.6	10.7	10.6	13.2	13.1	0.94
	17.45	20.62		17.45			02802-00812							
	19.05	22.23		19.05			02802-00813							
	20.62	23.80		20.62			02802-00814							
	22.23	25.40		22.23			02802-00815							
	23.80	26.97		23.80			02802-00816							
	26.97	30.15		26.97			02802-00818							
	30.15	33.32		30.15			02802-00820							
8.0 (5/16")	3.18	9.53	8.2	3.18	14.8	3.7	02802-01004	02837-01000		02838-01000		02839-01000		
	6.35	12.70		6.35			02802-01006							
	9.53	15.88		9.53			02802-01008							
	12.70	19.05		12.70			02802-01010							
	15.88	22.23		15.88			02802-01012							
	19.05	25.40		19.05			02802-01014							
	22.23	28.58		22.23			02802-01016							
	25.40	31.75		25.40			02802-01018							
	28.58	34.93		28.58			02802-01020	15.5	13.3	12.5	13.3	16.8	16.3	1.22
	31.75	38.10		31.75			02802-01022							
	34.93	41.28		34.93			02802-01024							
	38.10	44.45		38.10			02802-01026							
	41.28	47.63		41.28			02802-01028							
	44.45	50.80		44.45			02802-01030							
	47.63	53.98		47.63			02802-01032							
9.6 (3/8")	6.35	12.70	9.8	6.35	17.7	4.4	02802-01206	02837-01200		02838-01200		02839-01200		
	9.53	15.88		9.53			02802-01208							
	12.70	19.05		12.70			02802-01210							
	15.88	22.23		15.88			02802-01212	18.6	15.5	15.5	15.5	20.0	20.0	1.42
	19.05	25.40		19.05			02802-01214							
	22.23	28.58		22.23			02802-01216							

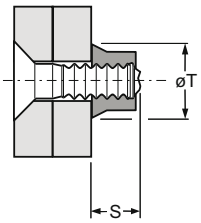
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros
1) & 2) see page 46 / voir page 46 / siehe Seite 46 / vedi pagina 46 / ver Pág. 46

Avdelok® 2802 Series
Lockbolt Fastener

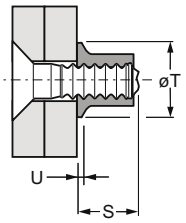




Full Collar



Half Collar



Flanged Collar

ø nom.	w. Full Collar[1] min.	w. Full Collar[1] max.		L nom.	øB max.	D max.	Part No/ref Pin	Part No/ref Full Collar S max.	Part No/ref Full Collar øT max.	Part No/ref Half Collar[1] S max.	Part No/ref Half Collar[1] øT max.	Part No/ref Flanged Collar[2] S max.	Part No/ref Flanged Collar[2] øT max.	Part No/ref Flanged Collar[2] U[2] nom.
9.6 (3/8")	25.40	31.75	9.8	25.40	17.7	4.4	02802-01218	02837-01200		02838-01200		02839-01200		
	28.58	34.93		28.58			02802-01220							
	31.75	38.10		31.75			02802-01222							
	34.93	41.28		34.93			02802-01224							
	38.10	44.45		38.10			02802-01226	18.6	15.5	15.5	15.5	20.0	20.0	1.42
	41.28	47.63		41.28			02802-01228							
	44.45	50.80		44.45			02802-01230							
	47.63	53.98		47.63			02802-01232							

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

1) Half collars increase the grip range to that of the next longest pin. Maximum grip increases by 1.57 mm for 4.8 mm and 6.4 mm fasteners and 3.18 mm for 8.0 mm and 9.6 mm fasteners.
Avec une bague courte, la plage de serrage maximale est équivalente à celle de l'Avdelok de longeur immédiamente supérieure. La plage de serrage augmente de 1.57 mm pour tiges de 4.8 mm et 6.4 mm, et de 3.18 mm pour tiges de 8.0 mm et 9.6 mm.
Die Verwendung von flachen Schließringen erhöht den Klemmbereich auf den des nächstlängeren Bolzens. Der maximale Klemmbereich erhöht sich um 1,6 mm für ø 4,8 mm und ø 6,4 mm Bolzen und 3,2 mm für ø 8,0 mm und ø 9,6 mm Bolzen.
Utilizzando i collari ribassati lo spessore serrabile aumenta, ed è uguale a quello massimo del bullone di misura superiore. Il massimo spessore serrabile aumenta di 1.57 mm per i bulloni da 4.8 mm e 6.4 mm e di 3.18 mm per i bulloni da 8.0 mm e 9.6 mm.
El empleo de medio collar incrementa el máx. espesor a remachar al de la siguiente toma. El máximo espesor a remachar por uso de medio collar es de 1,57 mm para diámetros de 4,8 y 6,4 mm y de 3,18 mm para diámetros de 8 y 9,6 mm.

2) Flanged collars are used in applications where the hole on the collar side of the application is oversize or is slotted for alignment purposes. To determine what length of pin is required, add dimension U to the thickness of material being fastened.
Avec une bague à embase, la plage de serrage est diminuée de la valeur de la cote U.
Schließringe mit Bund werden in Anwendungen benötigt, wo das Bohrloch auf der Schließringseite übergroß oder länglich ist. Um den richtigen Bolzen zu bestimmen, addieren Sie das Maß U zu der zu verbindenden Materialstärke hinzu.
Utilizzando i collari flangiati la dimensione „U" deve essere aggiunta allo spessore da serrare per determinare il tipo di bullone adatto.
Utilizar collar con ala cuando en la aplicación el barreno está sobredimensionado o es ranurado para propósitos de alineación. Para calcular la referencia de perno es necesario añadir la cota U al espesor de la aplicación.

ø nom.	kN[3]	kN[3]
4.8	4.67	4.72
6.4	8.34	7.92
8.0	13.02	12.68
9.6	18.69	18.68

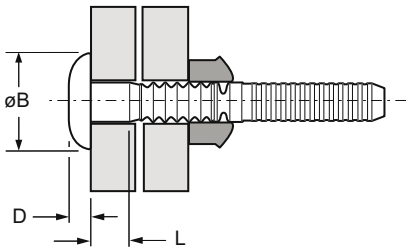
3) These figures represent minimum fastener shear and tensile strength values with the use of a full or flanged collar. When using half collars tension is reduced to approximately 45 %.
Cette valeurs représentent minimum résistances au cisaillement et à la traction avec l'usage d'une bague standard ou à embase. Avec l'usage des bagues courtes la résistance à la traction se diminue à env. 45 %.
Diese Werte repräsentieren Minimum Scher- und Zugfestigkeiten der Verbindung unter Verwendung von Schließringen Standard oder mit Bund. Bei Verwendung von flachen Schließringen reduziert sich die Zugfestigkeit auf ca. 45 %.
I dati si riferiscono a bulloni installati con collari standard o flangiato, utilizzando collari ribassati i valori di trazione diminuiscono del 45 % circa, i valori di taglio rimangono invariati. I dati indicati in tabella sono minimi.
La figura representa los valores mínimos de resistencia a la cortadura y tracción cuando se utiliza collar estándar o con ala. Cuando se utiliza medio collar se reducen aproximadamente en un 45 %.

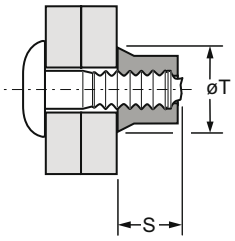
POP® Avdel®

Avdelok® 2803 Series
Lockbolt Fastener

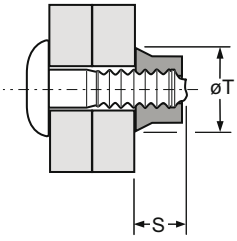
English	Français	Deutsch	Italiano	Español
Truss head	Tête large	Flachrundkopf groß	Testa larga	Cabeza alomada de perfil bajo
Pin: Aluminium alloy*	Tige: Alliage d'aluminium*	Bolzen: Aluminium*	Bullone: Lega di alluminio*	Vástago: Aluminio*
Polished	Poli	Poliert	Lucido	Pulido
Collar: Aluminium alloy**	Bague: Alliage d'aluminium**	Schließring: Aluminium**	Collare: Lega di alluminio**	Collar: Aluminio**
Natural	Brut	Blank	Nessuna finitura	Natural

*: AA 2024, DIN 1725, AlCuMg2, Werkstoff 3.1355 **: BS 1473 6061, AA 6061, DIN 1725 AlMg1SiCu, Werkstoff 3.3211

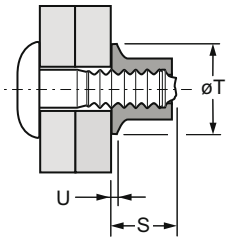




Full Collar
Schließring Standard
Bague Standard
Collare Standard
Collar Estándar



Half Collar
Schließring flach
Bague courte
Collare ribassato
Medio Collar

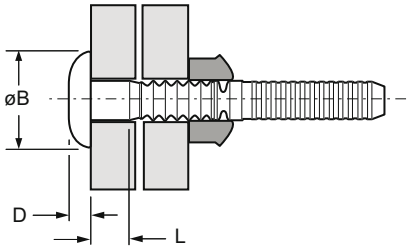


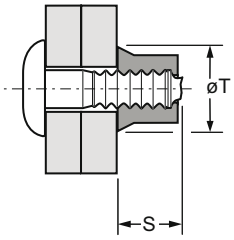
Flanged Collar
Schließring mit Bund
Bague à embase
Collare flangiato
Collar con Ala

ø	w. Full Collar[1]			L	øB	D	Part No/ref	Part No/ref Full Collar		Part No/ref Half Collar[1]		Part No/ref Flanged Collar[2]		
nom.	min.	max.		nom.	max.	nom.	Pin	S max.	øT max.	S max.	øT max.	S max.	øT max.	U[2] nom.
	1.57	4.75		1.57			02803-00602							
	3.18	6.35		3.18			02803-00603							
	4.75	7.92		4.75			02803-00604							
	6.35	9.53		6.35			02803-00605							
	7.92	11.10		7.92			02803-00606							
	9.53	12.70		9.53			02803-00607							
	11.10	14.27		11.10			02803-00608							
	12.70	15.88		12.70			02803-00609							
	14.27	17.45		14.27			02803-00610	02837-00600		02838-00600		02839-00600		
4.8 (3/16")	15.88	19.05	5.0	15.88	12.0	2.2	02803-00611	9.4	8.0	7.9	8.0	10.2	9.9	0.76
	17.45	20.62		17.45			02803-00612							
	19.05	22.23		19.05			02803-00613							
	20.62	23.80		20.62			02803-00614							
	22.23	25.40		22.23			02803-00615							
	23.80	26.97		23.80			02803-00616							
	25.40	28.58		25.40			02803-00617							
	26.97	30.15		26.97			02803-00618							
	28.58	31.75		28.58			02803-00619							
	30.15	33.32		30.15			02803-00620							

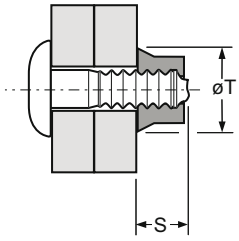
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros
1) & 2) see page 49 / voir page 49 / siehe Seite 49 / vedi pagina 49 / ver Pág. 49

Avdelok® 2803 Series
Lockbolt Fastener

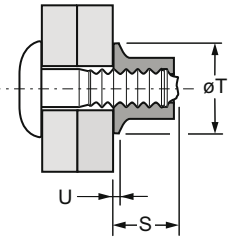




Full Collar



Half Collar

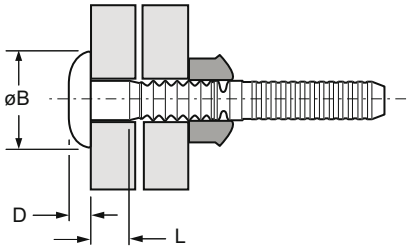


Flanged Collar

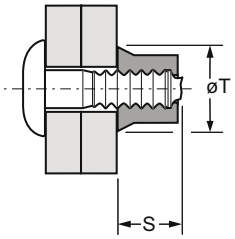
ø	w. Full Collar[1]			L	øB	D	Part No/ref	Part No/ref Full Collar		Part No/ref Half Collar[1]		Part No/ref Flanged Collar[2]		
nom.	min.	max.		nom.	max.	nom.	Pin	S max.	øT max.	S max.	øT max.	S max.	øT max.	U[2] nom.
6.4 (1/4")	1.57	4.75	6.6	1.57	15.1	2.8	02803-00802	02837-00800		02838-00800		02839-00800		
	3.18	6.35		3.18			02803-00803							
	4.75	7.92		4.75			02803-00804							
	6.35	9.53		6.35			02803-00805							
	7.92	11.10		7.92			02803-00806							
	9.53	12.70		9.53			02803-00807							
	11.10	14.27		11.10			02803-00808							
	12.70	15.88		12.70			02803-00809							
	14.27	17.45		14.27			02803-00810							
	15.88	19.05		15.88			02803-00811	12.2	10.6	10.7	10.6	13.2	13.1	0.94
	17.45	20.62		17.45			02803-00812							
	19.05	22.23		19.05			02803-00813							
	20.62	23.80		20.62			02803-00814							
	22.23	25.40		22.23			02803-00815							
	23.80	26.97		23.80			02803-00816							
	26.97	30.15		26.97			02803-00818							
	30.15	33.32		30.15			02803-00820							
	31.75	34.93		31.75			02803-00821							
8.0 (5/16")	3.18	9.53	8.2	3.18	19.9	3.6	02803-01004	02837-01000		02838-01000		02839-01000		
	6.35	12.70		6.35			02803-01006							
	9.53	15.88		9.53			02803-01008							
	12.70	19.05		12.70			02803-01010							
	15.88	22.23		15.88			02803-01012							
	19.05	25.40		19.05			02803-01014							
	22.23	28.58		22.23			02803-01016							
	25.40	31.75		25.40			02803-01018							
	28.58	34.93		28.58			02803-01020	15.5	13.3	12.5	13.3	16.8	16.3	1.22
	31.75	38.10		31.75			02803-01022							
	34.93	41.28		34.93			02803-01024							
	38.10	44.45		38.10			02803-01026							
	41.28	47.63		41.28			02803-01028							
	44.45	50.80		44.45			02803-01030							
	47.63	53.98		47.63			02803-01032							
9.6 (3/8")	3.18	9.53	9.8	3.18	23.5	4.1	02803-01204	02837-01200		02838-01200		02839-01200		
	6.35	12.70		6.35			02803-01206							
	9.53	15.88		9.53			02803-01208	18.6	15.5	15.5	15.5	20.0	20.0	1.42
	12.70	19.05		12.70			02803-01210							

all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros
1) & 2) see page 49 / voir page 49 / siehe Seite 49 / vedi pagina 49 / ver Pág. 49

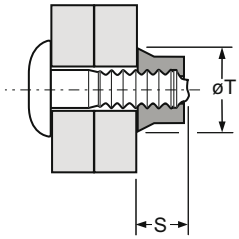
Avdelok® 2803 Series
Lockbolt Fastener



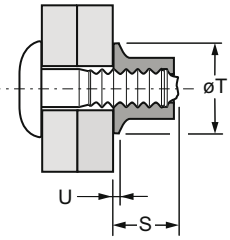
Full Collar



Half Collar



Flanged Collar



ø	w. Full Collar[1]			L	øB	D	Part No/ref	Part No/ref Full Collar		Part No/ref Half Collar[1]		Part No/ref Flanged Collar[2]		
nom.	min.	max.		nom.	max.	nom.	Pin	S max.	øT max.	S max.	øT max.	S max.	øT max.	U[2] nom.
9.6 (3/8")	15.88	22.23	9.8	15.88	23.5	4.1	02803-01212	02837-01200		02838-01200		02839-01200		
	19.05	25.40		19.05			02803-01214							
	22.23	28.58		22.23			02803-01216							
	25.40	31.75		25.40			02803-01218							
	28.58	34.93		28.58			02803-01220							
	31.75	38.10		31.75			02803-01222	18.6	15.5	15.5	15.5	20.0	20.0	1.42
	34.93	41.28		34.93			02803-01224							
	38.10	44.45		38.10			02803-01226							
	41.28	47.63		41.28			02803-01228							
	44.45	50.80		44.45			02803-01230							
	47.63	53.98		47.63			02803-01232							

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

1) Half collars increase the grip range to that of the next longest pin. Maximum grip increases by 1.57 mm for 4.8 mm and 6.4 mm fasteners and 3.18 mm for 8.0 mm and 9.6 mm fasteners.
Avec une bague courte, la plage de serrage maximale est équivalente à celle de l'Avdelok de longeur immédiamente supérieure. La plage de serrage augmente de 1.57 mm pour tiges de 4.8 mm et 6.4 mm, et de 3.18 mm pour tiges de 8.0 mm et 9.6 mm.
Die Verwendung von flachen Schließringen erhöht den Klemmbereich auf den des nächstlängeren Bolzens. Der maximale Klemmbereich erhöht sich um 1,6 mm für ø 4,8 mm und ø 6,4 mm Bolzen und 3,2 mm für ø 8,0 mm und ø 9,6 mm Bolzen.
Utilizzando i collari ribassati lo spessore serrabile aumenta, ed è uguale a quello massimo del bullone di misura superiore. Il massimo spessore serrabile aumenta di 1.57 mm per i bulloni da 4.8 mm e 6.4 mm e di 3.18 mm per i bulloni da 8.0 mm e 9.6 mm.
El empleo de medio collar incrementa el máx. espesor a remachar al de la siguiente toma. El máximo espesor a remachar por uso de medio collar es de 1,57 mm para diámetros de 4,8 y 6,4 mm y de 3,18 mm para diámetros de 8 y 9,6 mm.

2) Flanged collars are used in applications where the hole on the collar side of the application is oversize or is slotted for alignment purposes. To determine what length of pin is required, add dimension U to the thickness of material being fastened.
Avec une bague à embase, la plage de serrage est diminuée de la valeur de la cote U.
Schließringe mit Bund werden in Anwendungen benötigt, wo das Bohrloch auf der Schließringseite übergroß oder länglich ist. Um den richtigen Bolzen zu bestimmen, addieren Sie das Maß U zu der zu verbindenden Materialstärke hinzu.
Utilizzando i collari flangiati la dimensione „U" deve essere aggiunta allo spessore da serrare per determinare il tipo di bullone adatto.
Utilizar collar con ala cuando en la aplicación el barreno está sobredimensionado o es ranurado para propósitos de alineación. Para calcular la referencia de perno es necessario añadir la cota U al espesor de la aplicación.

ø		
nom.	kN[3]	kN[3]
4.8	4.67	4.72
6.4	8.34	7.92
8.0	13.02	12.68
9.6	18.69	18.68

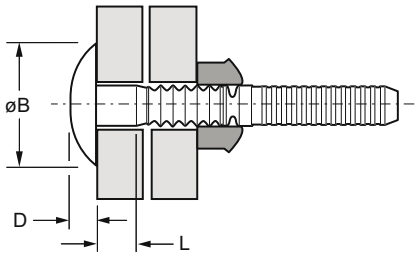
3) These figures represent minimum fastener shear and tensile strength values with the use of a full or flanged collar. When using half collars tension is reduced to approximately 45 %.
Cette valeurs représentent minimum résistances au cisaillement et à la traction avec l'usage d'une bague standard ou à embase. Avec l'usage des bagues courtes la résistance à la traction se diminue à env. 45 %.
Diese Werte repräsentieren Minimum Scher- und Zugfestigkeiten der Verbindung unter Verwendung von Schließringen Standard oder mit Bund. Bei Verwendung von flachen Schließringen reduziert sich die Zugfestigkeit auf ca. 45 %.
I dati si riferiscono a bulloni installati con collari standard o flangiato, utilizzando collari ribassati i valori di trazione diminuiscono del 45 % circa, i valori di taglio rimangono invariati. I dati indicati in tabella sono minimi.
La figura representa los valores mínimos de resistencia a la cortadura y tracción cuando se utiliza collar estándar o con ala. Cuando se utiliza medio collar se reducen aproximadamente en un 45 %.

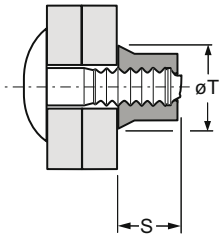
POP® Avdel®

Avdelok® 2804 Series
Lockbolt Fastener

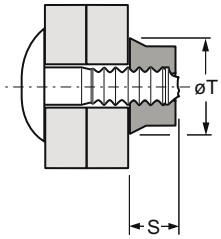
English	Français	Deutsch	Italiano	Español
Large head	Tête large	Rundkopf extragroß	Testa larga	Cabeza ancha
Pin: Aluminium alloy*	Tige: Alliage d'aluminium*	Bolzen: Aluminium*	Bullone: Lega di alluminio*	Vástago: Aluminio*
Polished	Poli	Poliert	Lucido	Pulido
Collar: Aluminium alloy**	Bague: Alliage d'aluminium**	Schließring: Aluminium**	Collare: Lega di alluminio**	Collar: Aluminio**
Natural	Brut	Blank	Nessuna finitura	Natural

*: AA 2024, DIN 1725, AlCuMg2, Werkstoff 3.1355 **: BS 1473 6061, AA 6061, DIN 1725 AlMg1SiCu, Werkstoff 3.3211

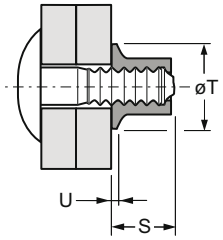




Full Collar
Schließring Standard
Bague Standard
Collare Standard
Collar Estándar



Half Collar
Schließring flach
Bague courte
Collare ribassato
Medio Collar



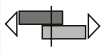
Flanged Collar
Schließring mit Bund
Bague à embase
Collare flangiato
Collar con Ala

ø	w. Full Collar[1]			L	øB	D	Part No/ref	Part No/ref Full Collar		Part No/ref Half Collar[1]		Part No/ref Flanged Collar[2]		
nom.	min.	max.		nom.	max.	nom.	Pin	S max.	øT max.	S max.	øT max.	S max.	øT max.	U[2] nom.
9.6 (3/8")	9.53	15.88	9.8	9.53	32.2	5.0	02804-01208	18.6	15.5	15.5	15.5	20.0	20.0	1.42
	12.70	19.05		12.70			02804-01210							
	15.88	22.23		15.88			02804-01212							
	19.05	25.40		19.05			02804-01214							
	22.23	28.58		22.23			02804-01216							
	25.40	31.75		25.40			02804-01218	02837-01200		02838-01200		02839-01200		
	28.58	34.93		28.58			02804-01220							
	31.75	38.10		31.75			02804-01222							
	34.93	41.28		34.93			02804-01224							
	38.10	44.45		38.10			02804-01226							
	41.28	47.63		41.28			02804-01228							
	44.45	50.80		44.45			02804-01230							
	47.63	53.98		47.63			02804-01232							

all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros
1) & 2) see next page / voir la page suivant / siehe nächste Seite / vedi pagina successiva / ver la página siguiente

Avdelok® 2804 Series
Lockbolt Fastener

1) Half collars increase the grip range to that of the next longest pin. Maximum grip increases by 1.57 mm for 4.8 mm and 6.4 mm fasteners and 3.18 mm for 8.0 mm and 9.6 mm fasteners.
   Avec une bague courte, la plage de serrage maximale est équivalente à celle de l'Avdelok de longeur immédiamente supérieure. La plage de serrage augmente de 1.57 mm pour tiges de 4.8 mm et 6.4 mm, et de 3.18 mm pour tiges de 8.0 mm et 9.6 mm.
   Die Verwendung von flachen Schließringen erhöht den Klemmbereich auf den des nächstlängeren Bolzens. Der maximale Klemmbereich erhöht sich um 1,6 mm für ø 4,8 mm und ø 6,4 mm Bolzen und 3,2 mm für ø 8,0 mm und ø 9,6 mm Bolzen.
   Utilizzando i collari ribassati lo spessore serrabile aumenta, ed è uguale a quello massimo del bullone di misura superiore. Il massimo spessore serrabile aumenta di 1.57 mm per i bulloni da 4.8 mm e 6.4 mm e di 3.18 mm per i bulloni da 8.0 mm e 9.6 mm.
   El empleo de medio collar incrementa el máx. espesor a remachar al de la siguiente toma. El máximo espesor a remachar por uso de medio collar es de 1,57 mm para diámetros de 4,8 y 6,4 mm y de 3,18 mm para diámetros de 8 y 9,6 mm.
2) Flanged collars are used in applications where the hole on the collar side of the application is oversize or is slotted for alignment purposes. To determine what length of pin is required, add dimension U to the thickness of material being fastened.
   Avec une bague à embase, la plage de serrage est diminuée de la valeur de la cote U.
   Schließringe mit Bund werden in Anwendungen benötigt, wo das Bohrloch auf der Schließringseite übergroß oder länglich ist. Um den richtigen Bolzen zu bestimmen, addieren Sie das Maß U zu der zu verbindenden Materialstärke hinzu.
   Utilizzando i collari flangiati la dimensione „U" deve essere aggiunta allo spessore da serrare per determinare il tipo di bullone adatto.
   Utilizar collar con ala cuando en la aplicación el barreno está sobredimensionado o es ranurado para propósitos de alineación. Para calcular la referencia de perno es necessario añadir la cota U al espesor de la aplicación.

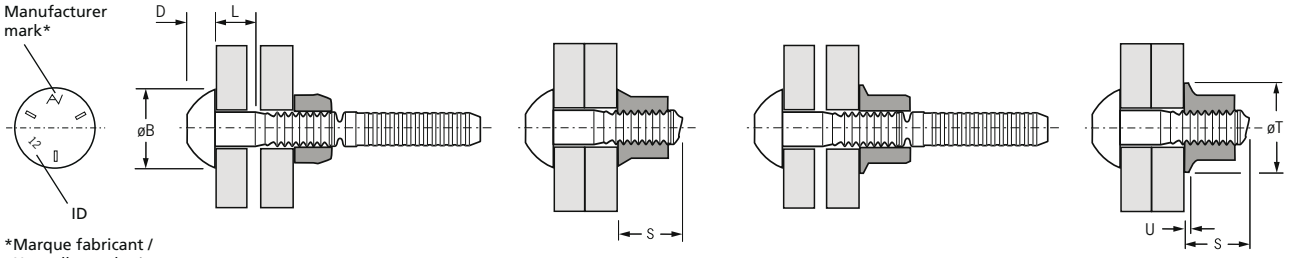
ø		
nom.	kN[3)]	kN[3)]
9.6	18.69	18.68

3) These figures represent minimum fastener shear and tensile strength values with the use of a full or flanged collar. When using half collars tension is reduced to approximately 45 %.
   Cette valeurs représentent minimum résistances au cisaillement et à la traction avec l'usage d'une bague standard ou à embase. Avec l'usage des bagues courtes la résistance à la traction se diminue à env. 45 %.
   Diese Werte repräsentieren Minimum Scher- und Zugfestigkeiten der Verbindung unter Verwendung von Schließringen Standard oder mit Bund. Bei Verwendung von flachen Schließringen reduziert sich die Zugfestigkeit auf ca. 45 %.
   I dati si riferiscono a bulloni installati con collari standard o flangiato, utilizzando collari ribassati i valori di trazione diminuiscono del 45 % circa, i valori di taglio rimangono invariati. I dati indicati in tabella sono minimi.
   La figura representa los valores mínimos de resistencia a la cortadura y tracción cuando se utiliza collar estándar o con ala. Cuando se utiliza medio collar se reducen aproximadamente en un 45 %.

Avdelok® XT 2851 Series
Lockbolt Fastener

English	Français	Deutsch	Italiano	Español
Round head	Tête plate	Rundkopf	Testa tonda	Cabeza alomada
Pin: Carbon steel Black self-colour	Tige: Acier Noir	Bolzen: Stahl Schwarz	Bullone: Acciaio Negro	Vástago: Acero Pavonado
Collar: Low carbon steel Zinc plated, 10 µm	Bague: Acier Zingué, 10 µm	Schließring: Stahl Verzinkt, 10 µm	Collare: Acciaio Zincato, 10 µm	Collar: Acero Zincado, 10 µm

Options:
2852 series: 10 µm zinc plated, clear trivalent passivated / 10 µm zingué, passivation claire trivalente / 10 µm verzinkt, klar chromatiert, Cr6-frei / 10 µm zincato, passivazione chiara trivalente / 10 µm zincado, pasivado claro trivalente
2853 series: 15 µm zinc plated, clear trivalent passivated / 15 µm zingué, passivation claire trivalente / 15 µm verzinkt, klar chromatiert, Cr6-frei / 15 µm zincato, passivazione chiara trivalente / 15 µm zincado, pasivado claro trivalente



*Marque fabricant / Herstellermarke / Mark produttore / Marca de fabricante

Full Collar / Bague Standard /Schließring Standard / Collar Standard / Collar Estándar

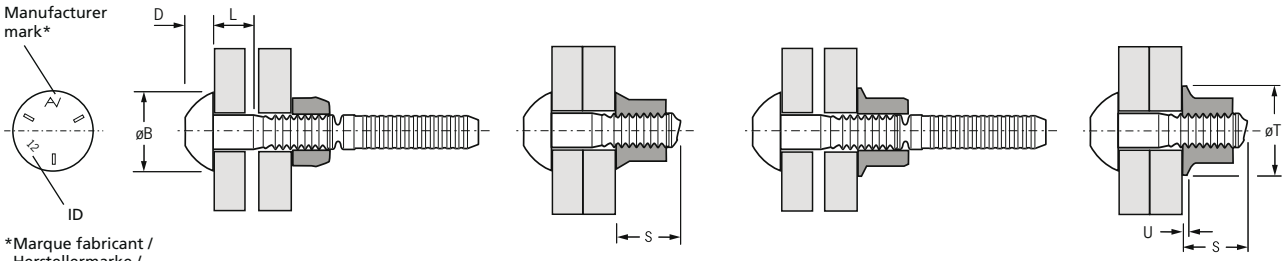
Flanged Collar[1] / Bague à embase[1] / Schließring mit Bund[1] / Collar flangiati[1] / Collar con Ala[1]

ø					L	øB	D	Part No/ref				
									Full Collar	Flanged Collar[1]		
									S	S	øT	U[1]
nom.	ID	min.	max.		nom.	max.	max.	Pin	max.	max.	max.	
	4	6.35	12.70		4.60			02851-01604				
	8	12.70	19.05		10.95			02851-01608				
	12	19.05	25.40		17.30			02851-01612				
	16	25.40	31.75		23.65			02851-01616				
	20	31.75	38.10		30.00			02851-01620				
	24	38.10	44.45		36.35			02851-01624				
	28	44.45	50.80		42.70			02851-01628				
	32	50.80	57.15		49.05			02851-01632				
	36	57.15	63.50		55.40			02851-01636				
12.7	40	63.50	69.85	13.5	61.75	23.9	8.4	02851-01640	02662-01600	02615-01600		
(1/2")	44	69.85	76.20		68.10			02851-01644	26.5	29.7	26.2	3.18
	48	76.20	82.55		74.45			02851-01648				
	52	82.55	88.90		80.80			02851-01652				
	56	88.90	95.25		87.15			02851-01656				
	60	95.25	101.60		93.50			02851-01660				
	64	101.60	107.95		99.85			02851-01664				
	68	107.95	114.30		106.20			02851-01668				
	72	114.30	120.65		112.55			02851-01672				
	76	120.65	127.00		118.90			02851-01676				
	80	127.00	133.35		125.25			02851-01680				

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

1) Flanged collars are used in applications where the hole on the collar side of the application is oversize or is slotted for alignment purposes. To determine what length of pin is required, add dimension U to the thickness of material being fastened.
Avec une bague à embase, la plage de serrage est diminuée de la valeur de la cote U.
Schließringe mit Bund werden in Anwendungen benötigt, wo das Bohrloch auf der Schließringseite übergroß oder länglich ist. Um den richtigen Bolzen zu bestimmen, addieren Sie das Maß U zu der zu verbindenden Materialstärke hinzu.
Utilizzando i collari flangiati la dimensione „U" deve essere aggiunta allo spessore da serrare per determinare il tipo di bullone adatto.
Utilizar collar con ala cuando en la aplicación el barreno está sobredimensionado o es ranurado para propósitos de alineación. Para calcular la referencia de perno es necessario añadir la cota U al espesor de la aplicación.

Avdelok® XT 2851 Series
Lockbolt Fastener



*Marque fabricant / Herstellermarke / Mark produttore / Marca de fabricante

Full Collar / Bague Standard / Schließring Standard / Collar Standard / Collar Estándar

Flanged Collar[1] / Bague à embase[1] / Schließring mit Bund[1] / Collar flangiati[1] / Collar con Ala[1]

ø					L	øB	D	Part No/ref				
									Full Collar	Flanged Collar[1]		
									S	S	øT	U[1]
nom.	ID	min.	max.		nom.	max.	max.	Pin	max.	max.	max.	
15.9 (5/8")	4	6.35	12.70	16.7	4.60	30.2	10.6	02851-02004	02662-02000 32.6	02615-02000 36.6	32.6	3.96
	8	12.70	19.05		10.95			02851-02008				
	12	19.05	25.40		17.30			02851-02012				
	16	25.40	31.75		23.65			02851-02016				
	20	31.75	38.10		30.00			02851-02020				
	24	38.10	44.45		36.35			02851-02024				
	28	44.45	50.80		42.70			02851-02028				
	32	50.80	57.15		49.05			02851-02032				
	36	57.15	63.50		55.40			02851-02036				
	40	63.50	69.85		61.75			02851-02040				
	44	69.85	76.20		68.10			02851-02044				
	48	76.20	82.55		74.45			02851-02048				
	52	82.55	88.90		80.80			02851-02052				
	56	88.90	95.25		87.15			02851-02056				
	60	95.25	101.60		93.50			02851-02060				
	64	101.60	107.95		99.85			02851-02064				
	68	107.95	114.30		106.20			02851-02068				
	72	114.30	120.65		112.55			02851-02072				
	76	120.65	127.00		118.90			02851-02076				
19.1 (3/4")	4	6.35	12.70	19.9	4.60	36.6	12.7	02851-02404	02662-02400 35.0	02615-02400 39.8	38.9	4.78
	8	12.70	19.05		10.95			02851-02408				
	12	19.05	25.40		17.30			02851-02412				
	16	25.40	31.75		23.65			02851-02416				
	20	31.75	38.10		30.00			02851-02420				
	24	38.10	44.45		36.35			02851-02424				
	28	44.45	50.80		42.70			02851-02428				
	32	50.80	57.15		49.05			02851-02432				
	36	57.15	63.50		55.40			02851-02436				
	40	63.50	69.85		61.75			02851-02440				
	44	69.85	76.20		68.10			02851-02444				
	48	76.20	82.55		74.45			02851-02448				
	52	82.55	88.90		80.80			02851-02452				
	56	88.90	95.25		87.15			02851-02456				
	60	95.25	101.60		93.50			02851-02460				
	64	101.60	107.95		99.85			02851-02464				
	68	107.95	114.30		106.20			02851-02468				
	72	114.30	120.65		112.55			02851-02472				
	76	120.65	127.00		118.90			02851-02476				

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

1) Flanged collars are used in applications where the hole on the collar side of the application is oversize or is slotted for alignment purposes. To determine what length of pin is required, add dimension U to the thickness of material being fastened.

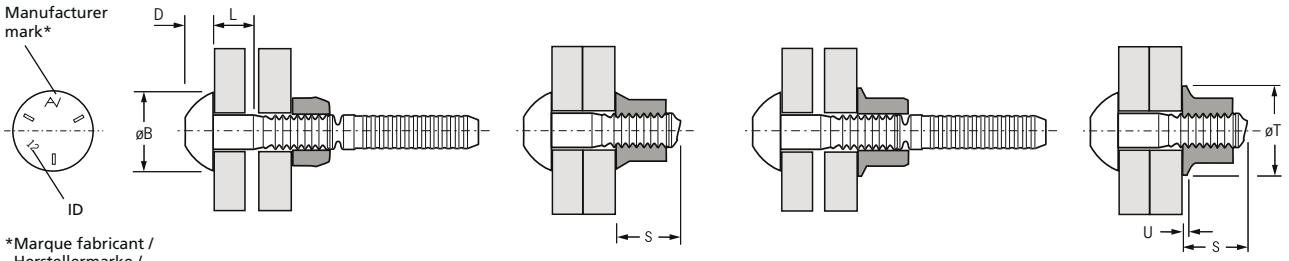
Avec une bague à embase, la plage de serrage est diminuée de la valeur de la cote U.

Schließringe mit Bund werden in Anwendungen benötigt, wo das Bohrloch auf der Schließringseite übergroß oder länglich ist. Um den richtigen Bolzen zu bestimmen, addieren Sie das Maß U zu der zu verbindenden Materialstärke hinzu.

Utilizzando i collari flangiati la dimensione „U" deve essere aggiunta allo spessore da serrare per determinare il tipo di bullone adatto.

Utilizar collar con ala cuando en la aplicación el barreno está sobredimensionado o es ranurado para propósitos de alineación. Para calcular la referencia de perno es necessario añadir la cota U al espesor de la aplicación.

Avdelok® XT 2851 Series
Lockbolt Fastener



*Marque fabricant / Herstellermarke / Mark produttore / Marca de fabricante

Full Collar / Bague Standard / Schließring Standard / Collar Standard / Collar Estándar

Flanged Collar[1] / Bague à embase[1] / Schließring mit Bund[1] / Collar flangiati[1] / Collar con Ala[1]

ø					L	øB	D	Part No/ref				
									Full Collar	Flanged Collar[1]		
									S	S	øT	U[1]
nom.	ID	min.	max.		nom.	max.	max.	Pin	max.	max.	max.	
22.2 (7/8")	8	12.70	19.05	23.01	10.95	42.1	14.7	02851-02808	02662-02800 39.2	02615-02800 44.7	41.3	5.54
	12	19.05	25.40		17.30			02851-02812				
	16	25.40	31.75		23.65			02851-02816				
	20	31.75	38.10		30.00			02851-02820				
	24	38.10	44.45		36.35			02851-02824				
	28	44.45	50.80		42.70			02851-02828				
	32	50.80	57.15		49.05			02851-02832				
	36	57.15	63.50		55.40			02851-02836				
	40	63.50	69.85		61.75			02851-02840				
	44	69.85	76.20		68.10			02851-02844				
	48	76.20	82.55		74.45			02851-02848				
	52	82.55	88.90		80.80			02851-02852				
	56	88.90	95.25		87.15			02851-02856				
	60	95.25	101.60		93.50			02851-02860				
	64	101.60	107.95		99.85			02851-02864				
	68	107.95	114.30		106.20			02851-02868				
	72	114.30	120.65		112.55			02851-02872				
25.4 (1")	8	12.70	19.05	26.18	10.95	48.5	16.3	02851-03208	02662-03200 43.3	02615-03200 49.6	48.5	6.35
	12	19.05	25.40		17.30			02851-03212				
	16	25.40	31.75		23.65			02851-03216				
	20	31.75	38.10		30.00			02851-03220				
	24	38.10	44.45		36.35			02851-03224				
	28	44.45	50.80		42.70			02851-03228				
	32	50.80	57.15		49.05			02851-03232				
	36	57.15	63.50		55.40			02851-03236				
	40	63.50	69.85		61.75			02851-03240				
	44	69.85	76.20		68.10			02851-03244				
	48	76.20	82.55		74.45			02851-03248				
	52	82.55	88.90		80.80			02851-03252				
	56	88.90	95.25		87.15			02851-03256				
	60	95.25	101.60		93.50			02851-03260				
	64	101.60	107.95		99.85			02851-03264				
	68	107.95	114.30		106.20			02851-03268				
	72	114.30	120.65		112.55			02851-03272				
	76	120.65	127.00		118.90			02851-03276				
	80	127.00	133.35		125.25			02851-03280				
	84	133.35	139.70		131.60			02851-03284				
	88	139.70	146.05		137.95			02851-03288				
	92	146.05	152.40		144.30			02851-03292				

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

1) Flanged collars are used in applications where the hole on the collar side of the application is oversize or is slotted for alignment purposes. To determine what length of pin is required, add dimension U to the thickness of material being fastened.

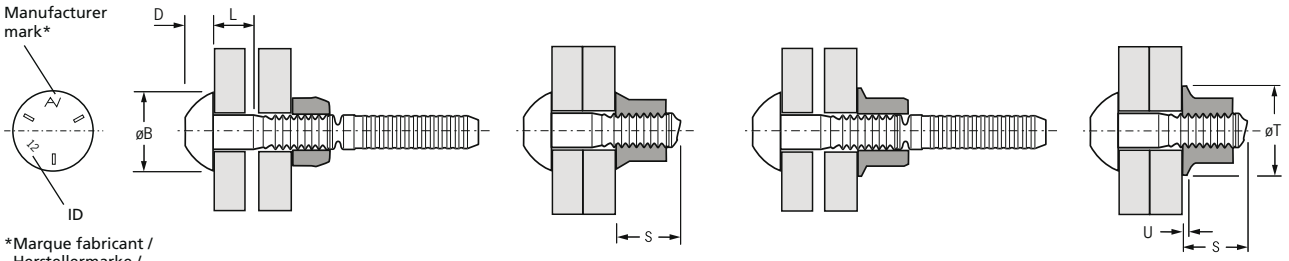
Avec une bague à embase, la plage de serrage est diminuée de la valeur de la cote U.

Schließringe mit Bund werden in Anwendungen benötigt, wo das Bohrloch auf der Schließringseite übergroß oder länglich ist. Um den richtigen Bolzen zu bestimmen, addieren Sie das Maß U zu der zu verbindenden Materialstärke hinzu.

Utilizzando i collari flangiati la dimensione „U" deve essere aggiunta allo spessore da serrare per determinare il tipo di bullone adatto.

Utilizar collar con ala cuando en la aplicación el barreno está sobredimensionado o es ranurado para propósitos de alineación. Para calcular la referencia de perno es necesario añadir la cota U al espesor de la aplicación.

Avdelok® XT 2851 Series
Lockbolt Fastener



*Marque fabricant / Herstellermarke / Mark produttore / Marca de fabricante

Full Collar / Bague Standard / Schließring Standard / Collar Standard / Collar Estándar

Flanged Collar[1] / Bague à embase[1] / Schließring mit Bund[1] / Collar flangiati[1] / Collar con Ala[1]

ø					L	øB	D	Part No/ref				
									Full Collar	Flanged Collar[1]		
									S	S	øT	U[1]
nom.	ID	min.	max.		nom.	max.	max.	Pin	max.	max.	max.	
28.6 (1-1/8")	8	12.70	19.05	29.36	12.70	54.1	17.7	02851-03608	02662-03600 48.1	02615-03600 55.0	54.9	6.85
	12	19.05	25.40		19.05			02851-03612				
	16	25.40	31.75		25.40			02851-03616				
	20	31.75	38.10		31.75			02851-03620				
	24	38.10	44.45		38.10			02851-03624				
	28	44.45	50.80		44.45			02851-03628				
	32	50.80	57.15		50.80			02851-03632				
	36	57.15	63.50		57.15			02851-03636				
	40	63.50	69.85		63.50			02851-03640				
	44	69.85	76.20		69.85			02851-03644				
	48	76.20	82.55		76.20			02851-03648				
	52	82.55	88.90		82.55			02851-03652				
	56	88.90	95.25		88.90			02851-03656				
	60	95.25	101.60		95.25			02851-03660				
	64	101.60	107.95		101.60			02851-03664				
	68	107.95	114.30		107.95			02851-03668				
	72	114.30	120.65		114.30			02851-03672				
	76	120.65	127.00		120.65			02851-03676				
	80	127.00	133.35		127.00			02851-03680				
	84	133.35	139.70		133.35			02851-03684				
	88	139.70	146.05		139.70			02851-03688				
	92	146.05	152.40		146.05			02851-03692				

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

1) Flanged collars are used in applications where the hole on the collar side of the application is oversize or is slotted for alignment purposes. To determine what length of pin is required, add dimension U to the thickness of material being fastened.

Avec une bague à embase, la plage de serrage est diminuée de la valeur de la cote U.

Schließringe mit Bund werden in Anwendungen benötigt, wo das Bohrloch auf der Schließringseite übergroß oder länglich ist. Um den richtigen Bolzen zu bestimmen, addieren Sie das Maß U zu der zu verbindenden Materialstärke hinzu.

Utilizzando i collari flangiati la dimensione „U" deve essere aggiunta allo spessore da serrare per determinare il tipo di bullone adatto.

Utilizar collar con ala cuando en la aplicación el barreno está sobredimensionado o es ranurado para propósitos de alineación. Para calcular la referencia de perno es necessario añadir la cota U al espesor de la aplicación.

ø			
nom.	kN min.	kN min.	kN min.
12.7	64.0	75.8	53.6
15.9	100.0	120.5	85.4
19.1	144.4	178.3	126.3
22.2	193.0	246.6	174.6
25.4	251.3	323.3	229.1
28.6	309.1	368.9	259.0

Installed Avdelok XT fasteners provide a minimum shear, tensile and pre-load strength, which is equivalent to or exceeds ISO 898-1 property class 8.8 or ASTM A-325 standards. Made to British Standard B7805: Part 2:1997, the Avdelok XT fastener can be the perfect alternative to conventional property class 8.8 threaded fasteners, providing a permanent, high tensile friction grip joint but without the risk of loosening.

Une fois posées les fixations Avdelok XT proposent des performances de résistance au cisaillement et à l'arrachement et une prétension qui sont équivalentes ou meilleures que les propriétés d'une ISO 898-1 classe 8.8 ou de la norme ASTM A-325. Fabriquée selon la norme Anglaise B7805: Part 2:1997, la fixation Avdelok XT peut être une parfaite alternative aux boulons traditionnels de classe 8.8 et offre un assemblage permanent, haute résistance sans risque de desserrage.

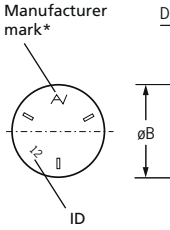
Verarbeitete Avdelok XT Schließringbolzen bieten Mindestwerte für Scher- und Zugbruchlast sowie Vorspannkraft, die der ISO 898-1 Festigkeitsklasse 8.8 oder ASTM A-325 Standards entsprechen oder übertreffen. Avdelok XT werden nach British Standard B7805: Part 2:1997 hergestellt. Sie können die perfekte Alternative zu herkömmlichen 8.8 Gewindeprodukten sein und bieten eine dauerhafte, hochfest vorgespannte Verbindung ohne Risiko des ungewollten Lösens.

I bulloni a strappo Avdelok XT, una volta installati sono paragonabili o superiori alle ISO 898-1 classi di resistenza 8.8 o ASTM A-325. Costruiti secondo le norme Britanniche B7805: Parte 2:1997, i bulloni a strappo Avdelok XT possono essere perfettamente alternativi al grado di resistenza 8.8. dei bulloni tradizionali, garantendo però un sicuro e permanente serraggio senza rischi di manomissione.

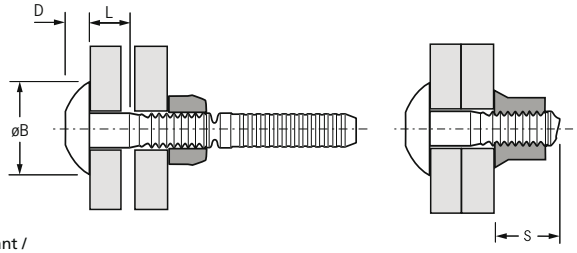
Los remaches Avdelok XT proporcionan una resistencia a cortadura y a tracción y proporcionan una fuerza de apriete, equivalentes o superiores a la tornillería de ISO 898-1 clase 8.8 o ASTM A-325. Fabricados bajo la norma British Standard B7805, parte 2:1997, los remaches Avdelok XT pueden ser una alternativa perfecta a la tornillería tradicional de clase 8.8, proporcionando una alta fricción permanente entre las piezas a unir sin el riesgo de aflojado que tienen las uniones atornilladas.

Avdelok® XT 2854 Series
Lockbolt Fastener

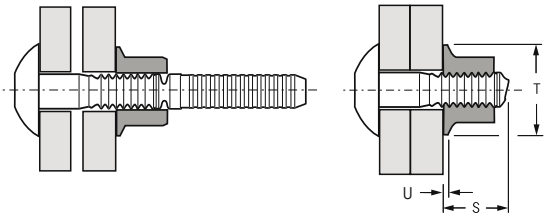
English	Français	Deutsch	Italiano	Español
Large truss head	Tête large	Rundkopf extragroß	Testa larga	Cabeza ancha
Pin: Carbon steel Zinc plated 15µm Clear trivalent passivated	Tige: Acier Revêtement zingué 15µm Passivation claire trivalente	Bolzen: Stahl Verzinkt 15µm Klar chromatiert, Cr6-frei	Bullone: Acciaio Zincato 15µm Passivazione chiara trivalente	Vástago: Acero Zincado 15µm Pasivado claro trivalente
Collar: Low carbon steel Zinc plated, 10 µm	Bague: Acier bas carbone Zingué, 10 µm	Schließring: Stahl Verzinkt, 10 µm	Collare: Acciaio a basso tenore di carbonio Zincato, 10 µm	Collar: Acero bajo en carbonio Zincado, 10 µm



*Marque fabricant / Herstellermarke / Mark produttore / Marca de fabricante



Full Collar / Bague Standard / Schließring Standard / Collar Standard / Collar Estándar



Flanged Collar[1] / Bague à embase[1] / Schließring mit Bund[1] / Collar flangiati[1] / Collar con Ala[1]

ø					L	øB	D	Part No/ref				
									Full Collar	Flanged Collar[1]		
									S	S	øT	U[1]
nom.	ID	min.	max.		nom.	max.	max.	Pin	max.	max.	max.	
12.7 (1/2")	4	6.35	12.70	13.5	4.60	29.0	7.8	02854-01604	02662-01600 26.5	02615-01600 29.7	26.2	3.18
	8	12.70	19.05		10.95			02854-01608				
	12	19.05	25.40		17.30			02854-01612				
	16	25.40	31.75		23.65			02854-01616				
	20	31.75	38.10		30.00			02854-01620				
	24	38.10	44.45		36.35			02854-01624				
	28	44.45	50.80		42.70			02854-01628				
	32	50.80	57.15		49.05			02854-01632				
	36	57.15	63.50		55.40			02854-01636				
	40	63.50	69.85		61.75			02854-01640				
	44	69.85	76.20		68.10			02854-01644				
	48	76.20	82.55		74.45			02854-01648				
	52	82.55	88.90		80.80			02854-01652				
	56	88.90	95.25		87.15			02854-01656				
	60	95.25	101.60		93.50			02854-01660				
	64	101.60	107.95		99.85			02854-01664				
	68	107.95	114.30		106.20			02854-01668				
	72	114.30	120.65		112.55			02854-01672				
	76	120.65	127.00		118.90			02854-01676				
	80	127.00	133.35		125.25			02854-01680				

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

1) Flanged collars are used in applications where the hole on the collar side of the application is oversize or is slotted for alignment purposes. To determine what length of pin is required, add dimension U to the thickness of material being fastened.

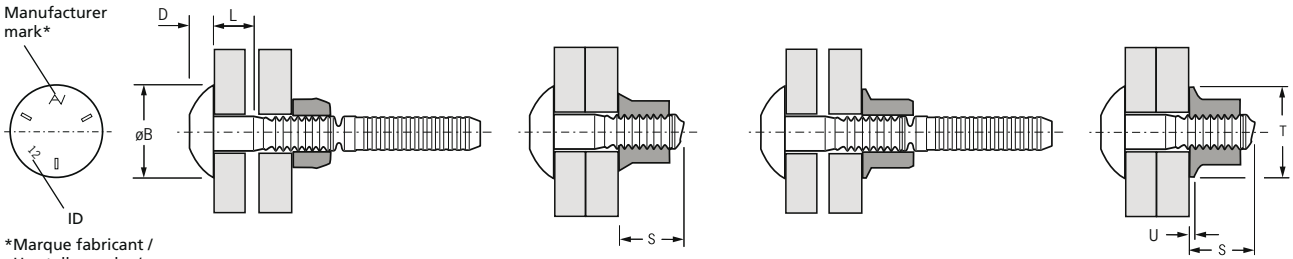
Avec une bague à embase, la plage de serrage est diminuée de la valeur de la cote U.

Schließringe mit Bund werden in Anwendungen benötigt, wo das Bohrloch auf der Schließringseite übergroß oder länglich ist. Um den richtigen Bolzen zu bestimmen, addieren Sie das Maß U zu der zu verbindenden Materialstärke hinzu.

Utilizzando i collari flangiati la dimensione „U" deve essere aggiunta allo spessore da serrare per determinare il tipo di bullone adatto.

Utilizar collar con ala cuando en la aplicación el barreno está sobredimensionado o es ranurado para propósitos de alineación. Para calcular la referencia de perno es necesario añadir la cota U al espesor de la aplicación.

Avdelok® XT 2854 Series
Lockbolt Fastener



*Marque fabricant / Herstellermarke / Mark produttore / Marca de fabricante

Full Collar / Bague Standard /Schließring Standard / Collar Standard / Collar Estándar

Flanged Collar[1] / Bague à embase[1] / Schließring mit Bund[1] / Collar flangiati[1] / Collar con Ala[1]

ø					L	øB	D	Part No/ref				
									Full Collar	Flanged Collar[1]		
									S	S	øT	U[1]
nom.	ID	min.	max.		nom.	max.	max.	Pin	max.	max.	max.	
15.9 (5/8")	4	6.35	12.70	16.7	4.60	36.5	9.2	02854-02004	02662-02000 32.6	02615-02000 36.6	32.6	3.96
	8	12.70	19.05		10.95			02854-02008				
	12	19.05	25.40		17.30			02854-02012				
	16	25.40	31.75		23.65			02854-02016				
	20	31.75	38.10		30.00			02854-02020				
	24	38.10	44.45		36.35			02854-02024				
	28	44.45	50.80		42.70			02854-02028				
	32	50.80	57.15		49.05			02854-02032				
	36	57.15	63.50		55.40			02854-02036				
	40	63.50	69.85		61.75			02854-02040				
	44	69.85	76.20		68.10			02854-02044				
	48	76.20	82.55		74.45			02854-02048				
	52	82.55	88.90		80.80			02854-02052				
	56	88.90	95.25		87.15			02854-02056				
	60	95.25	101.60		93.50			02854-02060				
	64	101.60	107.95		99.85			02854-02064				
	68	107.95	114.30		106.20			02854-02068				
	72	114.30	120.65		112.55			02854-02072				
	76	120.65	127.00		118.90			02854-02076				
19.1 (3/4")	4	6.35	12.70	19.9	4.60	43.6	10.9	02854-02404	02662-02400 35.0	02615-02400 39.8	38.9	4.78
	8	12.70	19.05		10.95			02854-02408				
	12	19.05	25.40		17.30			02854-02412				
	16	25.40	31.75		23.65			02854-02416				
	20	31.75	38.10		30.00			02854-02420				
	24	38.10	44.45		36.35			02854-02424				
	28	44.45	50.80		42.70			02854-02428				
	32	50.80	57.15		49.05			02854-02432				
	36	57.15	63.50		55.40			02854-02436				
	40	63.50	69.85		61.75			02854-02440				
	44	69.85	76.20		68.10			02854-02444				
	48	76.20	82.55		74.45			02854-02448				
	52	82.55	88.90		80.80			02854-02452				
	56	88.90	95.25		87.15			02854-02456				
	60	95.25	101.60		93.50			02854-02460				
	64	101.60	107.95		99.85			02854-02464				
	68	107.95	114.30		106.20			02854-02468				
	72	114.30	120.65		112.55			02854-02472				
	76	120.65	127.00		118.90			02854-02476				

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

1) Flanged collars are used in applications where the hole on the collar side of the application is oversize or is slotted for alignment purposes. To determine what length of pin is required, add dimension U to the thickness of material being fastened.

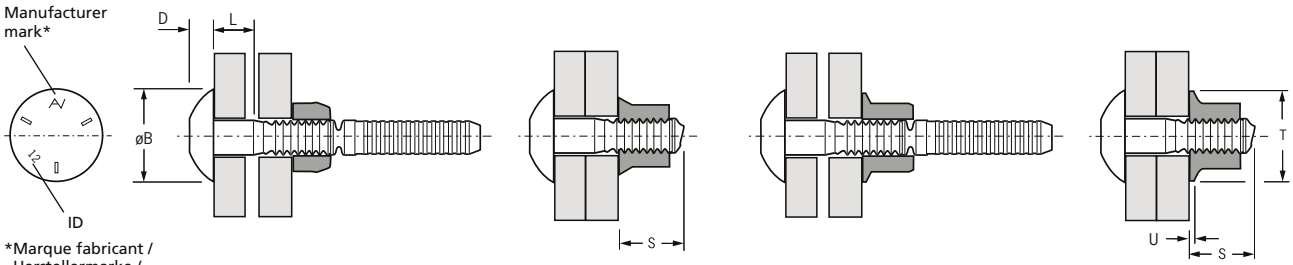
Avec une bague à embase, la plage de serrage est diminuée de la valeur de la cote U.

Schließringe mit Bund werden in Anwendungen benötigt, wo das Bohrloch auf der Schließringseite übergroß oder länglich ist. Um den richtigen Bolzen zu bestimmen, addieren Sie das Maß U zu der zu verbindenden Materialstärke hinzu.

Utilizzando i collari flangiati la dimensione „U" deve essere aggiunta allo spessore da serrare per determinare il tipo di bullone adatto.

Utilizar collar con ala cuando en la aplicación el barreno está sobredimensionado o es ranurado para propósitos de alineación. Para calcular la referencia de perno es necesario añadir la cota U al espesor de la aplicación.

Avdelok® XT 2854 Series
Lockbolt Fastener



*Marque fabricant / Herstellermarke / Mark produttore / Marca de fabricante

Full Collar / Bague Standard /Schließring Standard / Collar Standard / Collar Estándar

Flanged Collar[1] / Bague à embase[1] / Schließring mit Bund[1] / Collar flangiati[1] / Collar con Ala[1]

ø					L	øB	D	Part No/ref				
									Full Collar	Flanged Collar[1]		
									S	S	øT	U[1]
nom.	ID	min.	max.		nom.	max.	max.	Pin	max.	max.	max.	
22.2 (7/8")	8	12.70	19.05	23.1	10.95	50.8	12.8	02854-02808	02662-02800 39.2	02615-02800 44.7	41.3	5.54
	12	19.05	25.40		17.30			02854-02812				
	16	25.40	31.75		23.65			02854-02816				
	20	31.75	38.10		30.00			02854-02820				
	24	38.10	44.45		36.35			02854-02824				
	28	44.45	50.80		42.70			02854-02828				
	32	50.80	57.15		49.05			02854-02832				
	36	57.15	63.50		55.40			02854-02836				
	40	63.50	69.85		61.75			02854-02840				
	44	69.85	76.20		68.10			02854-02844				
	48	76.20	82.55		74.45			02854-02848				
	52	82.55	88.90		80.80			02854-02852				
	56	88.90	95.25		87.15			02854-02856				
	60	95.25	101.60		93.50			02854-02860				
	64	101.60	107.95		99.85			02854-02864				
	68	107.95	114.30		106.20			02854-02868				
	72	114.30	120.65		112.55			02854-02872				
25.4 (1")	8	12.70	19.05	26.2	10.95	58.1	14.6	02854-03208	02662-03200 43.3	02615-03200 49.6	48.5	6.35
	12	19.05	25.40		17.30			02854-03212				
	16	25.40	31.75		23.65			02854-03216				
	20	31.75	38.10		30.00			02854-03220				
	24	38.10	44.45		36.35			02854-03224				
	28	44.45	50.80		42.70			02854-03228				
	32	50.80	57.15		49.05			02854-03232				
	36	57.15	63.50		55.40			02854-03236				
	40	63.50	69.85		61.75			02854-03240				
	44	69.85	76.20		68.10			02854-03244				
	48	76.20	82.55		74.45			02854-03248				
	52	82.55	88.90		80.80			02854-03252				
	56	88.90	95.25		87.15			02854-03256				
	60	95.25	101.60		93.50			02854-03260				
	64	101.60	107.95		99.85			02854-03264				
	68	107.95	114.30		106.20			02854-03268				
	72	114.30	120.65		112.55			02854-03272				
	76	120.65	127.00		118.90			02854-03276				
	80	127.00	133.35		125.25			02854-03280				
	84	133.35	139.70		131.60			02854-03284				
	88	139.70	146.05		137.95			02854-03288				
	92	146.05	152.40		144.30			02854-03292				

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

1) Flanged collars are used in applications where the hole on the collar side of the application is oversize or is slotted for alignment purposes. To determine what length of pin is required, add dimension U to the thickness of material being fastened.

Avec une bague à embase, la plage de serrage est diminuée de la valeur de la cote U.

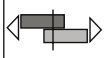
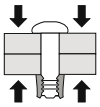
Schließringe mit Bund werden in Anwendungen benötigt, wo das Bohrloch auf der Schließringseite übergroß oder länglich ist. Um den richtigen Bolzen zu bestimmen, addieren Sie das Maß U zu der zu verbindenden Materialstärke hinzu.

Utilizzando i collari flangiati la dimensione „U" deve essere aggiunta allo spessore da serrare per determinare il tipo di bullone adatto.

Utilizar collar con ala cuando en la aplicación el barreno está sobredimensionado o es ranurado para propósitos de alineación. Para calcular la referencia de perno es necesario añadir la cota U al espesor de la aplicación.

Avdelok® XT 2854 Series

Lockbolt Fastener

ø nom.	 kN min.	 kN min.	 kN min.
12.7	64.0	75.8	53.6
15.9	100.0	120.5	85.4
19.1	144.4	178.3	126.3
22.2	193.0	246.6	174.6
25.4	251.3	323.3	229.1

Installed Avdelok XT fasteners provide a minimum shear, tensile and pre-load strength, which is equivalent to or exceeds ISO 898-1 property class 8.8 or ASTM A-325 standards. Made to British Standard B7805: Part 2:1997, the Avdelok XT fastener can be the perfect alternative to conventional property class 8.8 threaded fasteners, providing a permanent, high tensile friction grip joint but without the risk of loosening.

Une fois posées les fixations Avdelok XT proposent des performances de résistance au cisaillement et à l'arrachement et une prétension qui sont équivalentes ou meilleures que les propriétés d'une ISO 898-1 classe 8.8 ou de la norme ASTM A-325. Fabriquée selon la norme Anglaise B7805: Part 2:1997, la fixation Avdelok XT peut être une parfaite alternative aux boulons traditionnels de classe 8.8 et offre un assemblage permanent, haute résistance sans risque de desserrage.

Verarbeitete Avdelok XT Schließringbolzen bieten Mindestwerte für Scher- und Zugbruchlast sowie Vorspannkraft, die der ISO 898-1 Festigkeitsklasse 8.8 oder ASTM A-325 Standards entsprechen oder übertreffen. Avdelok XT werden nach British Standard B7805: Part 2:1997 hergestellt. Sie können die perfekte Alternative zu herkömmlichen 8.8 Gewindeprodukten sein und bieten eine dauerhafte, hochfest vorgespannte Verbindung ohne Risiko des ungewollten Lösens.

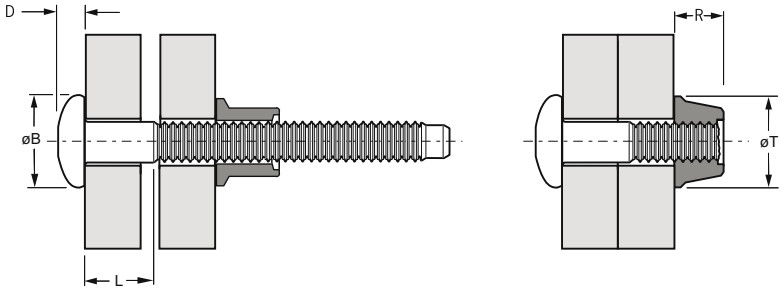
I bulloni a strappo Avdelok XT, una volta installati sono paragonabili o superiori alle ISO 898-1 classi di resistenza 8.8 o ASTM A-325. Costruiti secondo le norme Britanniche B7805: Parte 2:1997, i bulloni a strappo Avdelok XT possono essere perfettamente alternativi al grado di resistenza 8.8. dei bulloni tradizionali, garantendo però un sicuro e permanente serraggio senza rischi di manomissione.

Los remaches Avdelok XT proporcionan una resistencia a cortadura y a tracción y proporcionan una fuerza de apriete, equivalentes o superiores a la tornillería de ISO 898-1 clase 8.8 o ASTM A-325. Fabricados bajo la norma British Standard B7805, parte 2:1997, los remaches Avdelok XT pueden ser una alternativa perfecta a la tornillería tradicional de clase 8.8, proporcionando una alta fricción permanente entre las piezas a unir sin el riesgo de aflojado que tienen las uniones atornilladas.

Maxlok® 1901 Series
Lockbolt Fastener

English	Français	Deutsch	Italiano	Español
Brazier head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Pin: Medium carbon steel* Zinc plated Clear trivalent passivated	Tige: Acier* Revêtement zingué Passivation claire trivalente	Bolzen: Stahl* Verzinkt Klar chromatiert, Cr6-frei	Bullone: Acciaio a carbonio* Zincato Passivazione chiara trivalente	Vástago: Acero medio al carbono* Zincado Pasivado claro trivalente
Collar: Low carbon steel** Zinc plated Clear trivalent passivated	Bague: Acier bas carbone** Revêtement zingué Passivation claire trivalente	Schließring: Stahl** Verzinkt Klar chromatiert, Cr6-frei	Collare: Acciaio a basso tenore di carbonio** Zincato Passivazione chiara trivalente	Collar: Acero bajo en carbono** Zincado Pasivado claro trivalente

*: BS 3111 Type 10, SAE 10B35 DIN 1654, 35B2 **: SAE 1008 EN 10263-2 C8C



ø				øB	D	L	R	øT			Part No/ref	Part No/ref
nom.	min.	max.	max.	max.	max.	ref.	max.	max.	kN[1)]	kN[1)]	Pin	Collar
4.8 (3/16")	1.6	15.9	5.16	10.1	3.2	2.3	8.7	10.1	8.25	10.01	01901-70610	01981-70600
	7.9	31.7				8.4					01901-70620	
6.4 (1/4")	1.6	15.9	6.75	13.3	3.9	2.2	13.5	13.2	11.79	16.01	01901-70810	01981-70800
	7.9	31.7				9.1					01901-70820	

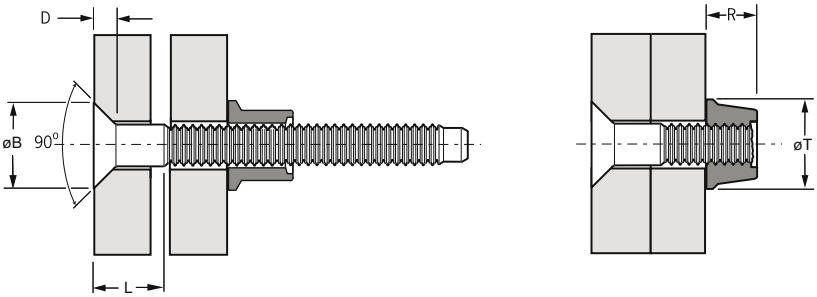
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros

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

Maxlok® 1902 Series
Lockbolt Fastener

English	Français	Deutsch	Italiano	Español
90° Countersunk	90° Tête fraisée	90° Senkkopf	90° Testa svasata	90° Cabeza avellanada
Pin: Medium carbon steel* Zinc plated Clear trivalent passivated	Tige: Acier* Revêtement zingué Passivation claire trivalente	Bolzen: Stahl* Verzinkt Klar chromatiert, Cr6-frei	Bullone: Acciaio a carbonio* Zincato Passivazione chiara trivalente	Vástago: Acero medio al carbono* Zincado Pasivado claro trivalente
Collar: Low carbon steel** Zinc plated Clear trivalent passivated	Bague: Acier bas carbone** Revêtement zingué Passivation claire trivalente	Schließring: Stahl** Verzinkt Klar chromatiert, Cr6-frei	Collare: Acciaio a basso tenore di carbonio** Zincato Passivazione chiara trivalente	Collar: Acero bajo en carbono** Zincado Pasivado claro trivalente

*: BS 3111 Type 10, SAE 10B35, DIN 1654, 35B2 **: SAE 1008 EN 10263-2 C8C



ø				øB	D	L	R	øT			Part No/ref	Part No/ref
nom.	min.	max.	max.	max.	nom.	ref.	max.	max.	kN[1)]	kN[1)]	Pin	Collar
4.8 (3/16")	2.4	15.9	5.16	8.9	2.2	4.3	8.7	10.1	8.25	10.01	01902-70610	01981-70600
	7.9	31.7				9.4					01902-70620	

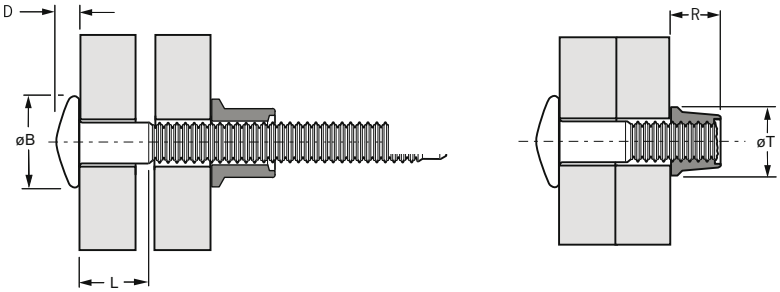
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros

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

Maxlok® 1903 Series
Lockbolt Fastener

English	Français	Deutsch	Italiano	Español
Mushroom head	Tête large	Rundkopf groß	Testa larga	Cabeza alomada de perfil alto
Pin: Medium carbon steel* Zinc plated Clear trivalent passivated	Tige: Acier* Revêtement zingué Passivation claire trivalente	Bolzen: Stahl* Verzinkt Klar chromatiert, Cr6-frei	Bullone: Acciaio a carbonio* Zincato Passivazione chiara trivalente	Vástago: Acero medio al carbono* Zincado Pasivado claro trivalente
Collar: Low carbon steel** Zinc plated Clear trivalent passivated	Bague: Acier bas carbone** Revêtement zingué Passivation claire trivalente	Schließring: Stahl** Verzinkt Klar chromatiert, Cr6-frei	Collare: Acciaio a basso tenore di carbonio** Zincato Passivazione chiara trivalente	Collar: Acero bajo en carbono** Zincado Pasivado claro trivalente

*: BS 3111 Type 10, SAE 10B35, DIN 1654, 35B2 **: SAE 1008 EN 10263-2 C8C



ø				øB	D	L	R	øT			Part No/ref	Part No/ref
nom.	min.	max.	max.	max.	max.	ref.	max.	max.	kN[1)]	kN[1)]	Pin	Collar
4.8 (3/16")	1.6	15.9	5.16	12.5	2.9	2.3	8.7	10.1	8.25	10.01	01903-70610	01981-70600
	7.9	31.7				8.4					01903-70620	
6.4 (1/4")	1.6	15.9	6.75	16.7	3.2	2.2	13.5	13.2	11.79	16.01	01903-70810	01981-70800
	7.9	31.7				9.1					01903-70820	
	27.9	51.7				29.1					01903-70832	

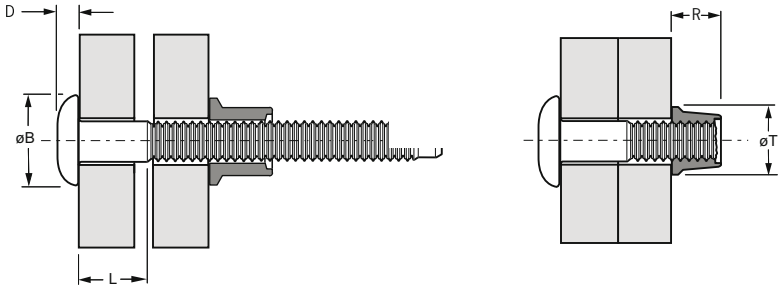
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros

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

Maxlok® 1905 Series
Lockbolt Fastener

English	Français	Deutsch	Italiano	Español
Truss head	Tête large	Flachrundkopf groß	Testa larga	Cabeza alomada de perfil bajo
Pin: Medium carbon steel* Zinc plated Clear trivalent passivated	Tige: Acier* Revêtement zingué Passivation claire trivalente	Bolzen: Stahl* Verzinkt Klar chromatiert, Cr6-frei	Bullone: Acciaio a carbonio* Zincato Passivazione chiara trivalente	Vástago: Acero medio al carbono* Zincado Pasivado claro trivalente
Collar: Low carbon steel** Zinc plated Clear trivalent passivated	Bague: Acier bas carbone** Revêtement zingué Passivation claire trivalente	Schließring: Stahl** Verzinkt Klar chromatiert, Cr6-frei	Collare: Acciaio a basso tenore di carbonio** Zincato Passivazione chiara trivalente	Collar: Acero bajo en carbono** Zincado Pasivado claro trivalente

*: BS 3111 Type 10, SAE 10B35, DIN 1654, 35B2 **: SAE 1008 EN 10263-2 C8C



ø				øB	D	L	R	øT			Part No/ref	Part No/ref
nom.	min.	max.	max.	max.	max.	ref.	max.	max.	kN[1)]	kN[1)]	Pin	Collar
4.8 (3/16")	1.6	15.9	5.16	12.0	2.9	2.3	8.7	10.1	8.25	10.01	01905-70610	01981-70600
	7.9	31.7				8.4					01905-70620	
6.4 (1/4")	1.6	15.9	6.75	15.2	3.1	2.2	13.5	13.2	11.79	16.01	01905-70810	01981-70800
	7.9	31.7				9.1					01905-70820	

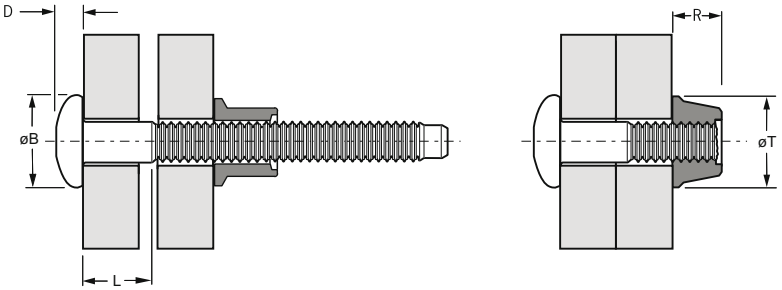
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros

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

Maxlok® 1921 Series
Lockbolt Fastener

English	Français	Deutsch	Italiano	Español
Brazier head	Tête plate	Flachrundkopf	Testa tonda	Cabeza alomada
Pin: Aluminium alloy*	Tige: Alliage d'aluminium*	Bolzen: Aluminium*	Bullone: Lega di alluminio*	Vástago: Aluminio*
Polished	Poli	Poliert	Lucido	Pulido
Collar: Aluminium alloy*	Bague: Alliage d'aluminium*	Schließring: Aluminium*	Collare: Lega di alluminio*	Collar: Aluminio*
Natural	Brut	Blank	Nessuna finitura	Natural

*: EN AW-7075, AlZn5.5MgCu **: EN AW-6061, AlMg1SiCu



ø				øB	D	L	R	øT			Part No/ref	Part No/ref
nom.	min.	max.	max.	max.	max.	ref.	max.	max.	kN[1)]	kN[1)]	Pin	Collar
4.8 (3/16")	1.6	15.9	5.16	10.0	3.4	2.3	7.9	9.9	4.23	5.78	01921-00610	01985-00600
	7.9	31.7				8.4					01921-00620	
6.4 (1/4")	1.6	15.9	6.75	13.3	4.2	2.2	11.1	13.0	7.45	9.79	01921-00810	01985-00800
	7.9	31.7				9.1					01921-00820	

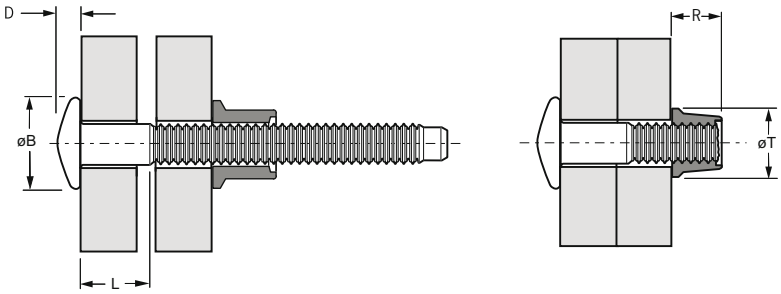
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros

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

Maxlok® 1923 Series
Lockbolt Fastener

English	Français	Deutsch	Italiano	Español
Mushroom head	Tête large	Rundkopf groß	Testa larga	Cabeza alomada de perfil alto
Pin: Aluminium alloy*	Tige: Alliage d'aluminium*	Bolzen: Aluminium*	Bullone: Lega di alluminio*	Vástago: Aluminio*
Polished	Poli	Poliert	Lucido	Pulido
Collar: Aluminium alloy**	Bague: Alliage d'aluminium**	Schließring: Aluminium**	Collare: Lega di alluminio**	Collar: Aluminio**
Natural	Brut	Blank	Nessuna finitura	Natural

*: BS 1473 7075, DIN 1725, AlZnMgCu1.5, Werkstoff 3.4365 **: BS 1473 6061, DIN 1725, AlMg1SiCu, Werkstoff 3.3211



ø											Part No/ref	Part No/ref
nom.	min.	max.	max.	øB max.	D max.	L ref.	R max.	øT max.	kN[1)]	kN[1)]	Pin	Collar
4.8 (3/16")	1.6	15.9	5.16	12.5	2.8	2.3	7.9	9.9	4.23	5.78	01923-00610	01985-00600
	7.9	31.7				8.4					01923-00620	

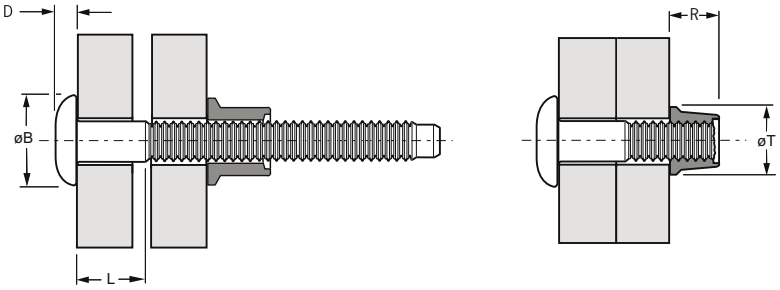
all dimensions in mm / en millimètre / alle Maße in mm / in millimetri / en milímetros

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

Maxlok® 1925 Series
Lockbolt Fastener

English	Français	Deutsch	Italiano	Español
Truss head	Tête large	Flachrundkopf groß	Testa larga	Cabeza alomada de perfil bajo
Pin: Aluminium alloy*	Tige: Alliage d'aluminium*	Bolzen: Aluminium*	Bullone: Lega di alluminio*	Vástago: Aluminio*
Polished	Poli	Poliert	Lucido	Pulido
Collar: Aluminium alloy**	Bague: Alliage d'aluminium**	Schließring: Aluminium**	Collare: Lega di alluminio**	Collar: Aluminio**
Natural	Brut	Blank	Nessuna finitura	Natural

*: 7075 **: 6061



ø				øB	D	L	R	øT			Part No/ref	Part No/ref
nom.	min.	max.	max.	max.	max.	ref.	max.	max.	kN[1)]	kN[1)]	Pin	Collar
4.8 (3/16")	1.6	15.9	5.16	12.0	2.8	2.3	7.9	9.9	4.23	5.78	01925-00610	01985-00600
	7.9	31.7				8.4					01925-00620	
6.4 (1/4")	1.6	15.9	6.75	15.1	3.1	2.2	11.1	13.1	7.45	9.79	01925-00810	01985-00800
	7.9	31.7				9.1					01925-00820	

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

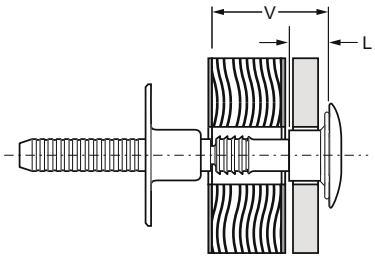
1) typical values / valeurs moyennes / typische Werte / Valori tipici / valores típicos

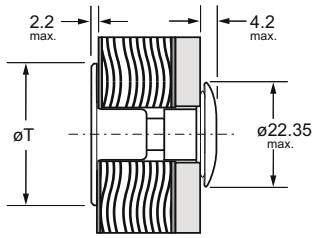
POP® Avdel®

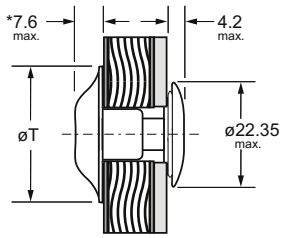
Avtainer® 2311 Series
Lockbolt Fastener

English	Français	Deutsch	Italiano	Español
Low profile head	Profil bas	Flachkopf	Basso profilo	Perfil bajo
Pin: Low carbon steel* Zinc plated JS500 coated	Tige: Acier* Revêtement zingué Finition JS 500	Bolzen: Stahl* Verzinkt JS500 Beschichtung	Bullone: Acciaio a carbonio* Zincato Protezione JS500	Vástago: Acero al carbono* Zincado Pasivado JS500
Shell: Low carbon steel** Zinc plated Clear passivated	Bague: Acier bas carbone** Revêtement zingué Passivation claire	Hülse: Stahl** Verzinkt Klar chromatiert, Cr6-frei	Collare: Acciaio a basso tenore di carbonio** Zincato Passivazione chiara	Collar: Acero bajo en carbono** Zincado Pasivado claro
Locking slug: Nylon	Manchon: Nylon	Sicherungsbuchse: Nylon	Tubolare: Nylon	Junta de bloqueo: Nailon
Seal: Santoprene®	Joint: Santoprene®	Dichtscheibe: Santoprene®	Guarnizione: Santoprene®	Junta de estanqueidad: Santoprene®

*: BS 3111 Type 0 DIN 1654 Qst 34-3 **: BS 1449 CS 1 SAE 1008 DIN 1614 StW 24 / DIN 1624 St4







*02310-11860 only / seulement/nur/solo/solo

ø	e		V	L			Part No/ref	Collar / Bague / Hülse / Collare / Collar	
nom.	min.	max.	nom.	nom.	kN[1]	kN[1] e min. / kN[1] e max.	Pin	øT	Part No/ref.
	5.60	7.20	11.1	-			02311-01207[2]	30.5	02310-11860
	11.13	14.30	12.7	-			02311-01208[2]		
	12.70	15.87	14.3	-			02311-01209[2]		
	14.27	17.45	15.9	-			02311-01210[2]		
	15.87	19.05	17.5	4.6			02311-01211		
	17.45	20.62	19.0	6.1			02311-01212		
	19.05	22.22	20.6	7.9			02311-01213		
	20.62	23.80	22.2	9.4			02311-01214		
10.0 (3/8")	22.22	25.40	23.8	10.9	2.22	6.60 / 4.44	02311-01215	32.0	02321-01200[3]
	23.80	26.97	25.4	12.5			02311-01216	22.9	02325-01200[4]
	25.40	28.57	27.0	14.2			02311-01217		
	26.97	30.15	28.6	14.2			02311-01218		
	28.57	31.75	30.2	14.2			02311-01219		
	30.15	33.32	31.7	14.2			02311-01220		
	31.75	34.92	33.3	14.2			02311-01221		
	33.32	36.50	34.9	14.2			02311-01222		
	34.93	38.10	36.5	14.2			02311-01223		
	36.50	39.67	38.1	14.2			02311-01224		

10.3 - 10.7[5]

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

1) - 5) see next page / voir la page suivant / siehe nächste Seite / vedi pagina successiva / ver la página siguiente

1) typical values / valeurs moyennes / typische Werte / Valori tipici / valores típicos
2) Part numbers -01207, -01208, -01209 & -01210 do not have shouldered pins. / Les références -01207, -01208, -01209 & -01210 ne possèdent pas d'èpaulement. / Artikel-Nr. -01207, -01208, -01209 & -01210 haben keine Stufe im Bolzenschaft / Codici prodotto -01207, -01208, -01209 & -01210 non hanno lo spallamento. / Las referencias -01207, -01208, -01209 & -01210 no tienen el cuerpo escalonado.
3) 02321-01200: The larger shell assembly is for use against softer material, spreading the bearing load. / La bague standard 02321-01200 est à utiliser sur des matériaux tendre, pour une meilleure répartition des efforts. / Die größere Hülse ist für den Einsatz gegen weichere Materialien ausgelegt, die auftretende Kraft wird verteilt. / Collare di grande diametro per materiali teneri. / Collar de diámetro major para materiales blandos.
4) 02325-01200: The smaller shell assembly should only be used against metal surfaces. / La bague à diamètre réduit ne peut être utilisée qu'en appui sur un support métallique. / Die kleinere Hülse darf nur auf Metalloberflächen eingesetzt werden. / Collare di piccolo diametro per superfici metalliche. / Collar de diámetro menor para superficies metálicas.
5) Where shells are used against metal surfaces, the hole through the metal should be 15 mm diameter or chamfered 2.5 mm x 45°./ Lorsque la bague prend appui sur un support métallique, percer à 15 mm de ø ou chanfreiner l'entrée du trou à 45° x 2.5 / Bei Auflage der Hülse auf Metall ist im Metall eine 2,5 x 45°-Senkung oder ein Bohrungsdurchmesser von 15 mm erforderlich./ Quando i guschi sono usati su parti metalliche, il foro nella lamiera dovrebbe avere un diametro di 15mm o deve presentare una svasatura di 2,5mm a 45°. / Cuando el collar se utiliza sobre superficies metálicas, el barreno en la pieza metálica debe de ser de 15 mm o tener un avellanado de entrada de 2,5x45°.

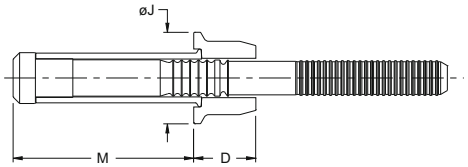
POP® Avdel®

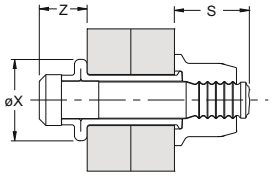
Avbolt® 21001 Series
Structural Blind Fastener

English	Français	Deutsch	Italiano	Español	****
Stem: Chromium Molybdenium 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** 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*** 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)

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 con collares lubricados y no deben ser desengrasados.





ø					M	øJ	D	S	øX	Z			Part No/ref
nom.	min.	max.	min.	max.	max.	max.	max.	max.	nom.	max.	kN min.[1]	kN min.[1]	
10.0 (3/8")	4.78	7.95	10.49	11.05	25.10	18.77	12.65	18.34	15.5	9.58	45.00	32.25	21001-01204
	7.95	11.13			28.27								21001-01206
	9.54	12.72			30.02								21001-01207
	11.13	14.30			31.45								21001-01208
	14.30	17.48			34.62								21001-01210
	17.48	20.65			37.80								21001-01212
	20.65	23.83			40.97								21001-01214
	23.83	27.00			44.15								21001-01216
	27.00	30.18			47.32								21001-01218
	30.18	33.35			50.50								21001-01220
12.7 (1/2")	6.38	9.55	13.87	14.76	31.82	24.30	15.00	20.50	20.63	13.10	90.00	57.00	21001-01604
	9.55	12.73			35.00								21001-01606
	12.73	15.90			38.18								21001-01608
	15.90	19.08			41.36								21001-01610
	19.08	22.25			44.53								21001-01612
	22.25	25.43			47.70								21001-01614
	25.43	28.60			50.87								21001-01616
	28.60	31.78			54.02								21001-01618
	31.78	34.95			57.16								21001-01620
	34.95	38.13			60.27								21001-01622
	38.13	41.30			63.35								21001-01624
16.0 (5/8")	6.35	12.70	17.45	18.49	39.35	29.47	17.45	30.48	25.4	16.01	129.00	91.19	21001-02004
	12.70	19.05			45.70								21001-02008
	19.05	25.40			52.05								21001-02012
	25.40	31.75			58.40								21001-02016
	31.75	38.10			64.75								21001-02020

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

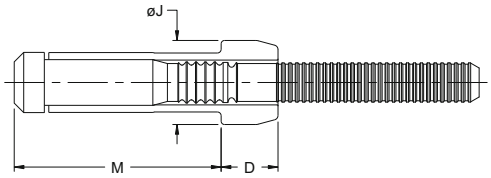
1) Strength values apply only where the joint thickness exceeds 150% of the joint hole diameter.
Les valeurs de résistances mécaniques sont applicables uniquement lorsque l'épaisseur à sertir dépasse 150% du diamètre du trou de l'application.
Die Festigkeitswerte gelten nur bei einem Klemmbereich größer als 150% des Lochdurchmessers.
I valori di resistenza si applicano solamente laddove lo spessore da serrare supera il 150% del diametro del foro.
Los valores de resistencia sólo se aplican si el espesor total de la aplicación supera el 150% del diámetro del remache.

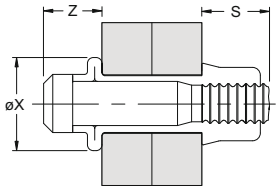
POP® Avdel®

Avbolt® 21021 Series
Structural Blind Fastener

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 carbono** 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)
Bodies are supplied lubricated and must not be degreased. / Les corps sont lubrifiées et ne doivent pas être dégraissées. / 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.





ø					M	øJ	D	S	øX	Z			Part No/ref
nom.	min.	max.	min.	max.	max.	max.	max.	max.	nom.	max.	kN min.[1]	kN min.[1]	
4.8 (3/16")	2.36	3.99	5.28	5.64	12.41	7.32	4.95	6.38	7.54	5.35	12.40	8.00	21021-00602
	3.99	5.59			14.01								21021-00603
	5.59	7.16			15.59								21021-00604
	7.16	8.76			17.19								21021-00605
	8.76	10.34			18.76								21021-00606
	10.34	11.94			20.36								21021-00607
	11.94	13.51			21.94								21021-00608
	13.51	15.11			23.54								21021-00609
	15.11	16.69			25.11								21021-00610
	16.69	18.29			26.71								21021-00611
	18.29	19.89			28.29								21021-00612
6.4 (1/4")	2.36	3.99	7.04	7.42	16.51	9.70	6.61	8.76	9.84	7.24	22.69	14.46	21021-00802
	3.99	5.59			18.11								21021-00803
	5.59	7.16			19.69								21021-00804
	7.16	8.76			21.29								21021-00805
	8.76	10.34			22.86								21021-00806
	10.34	11.94			24.46								21021-00807
	11.94	13.51			26.04								21021-00808
	13.51	15.11			27.64								21021-00809
	15.11	16.69			29.21								21021-00810
	16.69	18.29			30.81								21021-00811
	18.29	19.89			32.39								21021-00812
8.0 (5/16")	4.78	7.95	8.84	9.35	23.31	12.39	8.61	10.25	12.28	9.10	36.47	23.57	21021-01004
	7.95	11.13			26.49								21021-01006
	11.13	14.30			29.66								21021-01008
	14.30	17.48			32.84								21021-01010
	17.48	20.65			36.01								21021-01012
	20.65	23.83			39.19								21021-01014
	23.83	26.97			42.36								21021-01016

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

1) Strength values apply only where the joint thickness exceeds 150% of the joint hole diameter.
Les valeurs de résistances mécaniques sont applicables uniquement lorsque l'épaisseur à sertir dépasse 150% du diamètre du trou de l'application.
Die Festigkeitswerte gelten nur bei einem Klemmbereich größer als 150% des Lochdurchmessers.
I valori di resistenza si applicano solamente laddove lo spessore da serrare supera il 150% del diametro del foro.
Los valores de resistencia sólo se aplican si el espesor total de la aplicación supera el 150% del diámetro del remache.

Powerful Brands. Breakthrough Solutions.

At STANLEY Engineered Fastening we believe in seeking ways to serve our customers better. We create the future by anticipating our customers needs. Through diversifying our product lines, creating unique assembly technologies and offering a breadth of service to meet the demands of industry worldwide, STANLEY Engineered Fastening provides technological solutions to over 100 different industries.

Avdel®

Avdel has been producing assembly systems since 1936 and offers a comprehensive range of fasteners and tooling.

Dodge®

With a focus on high-quality threaded inserts for plastics products, Dodge has been a leader in the fastening market since the 1950s.

Gripco®

Gripco has been providing quality nut and threaded assembled products since 1904.

Heli-Coil®

Based on a long history that began in the aerospace industry, Heli-Coil offers a vast range of high-quality thread inserts.

iForm®

iForm continues a proud heritage since 1969 and represents over 40 years of creative threaded fastener application engineering.

POP®

From 2mm micro rivets to 1/4"structural rivets, POP blind rivets meet the needs of multiple markets.

Spiralock®

Spiralock is a technologically superior fastening system ideally suited for threaded joint applications subjected to heavy shock and vibration.

STANLEY Assembly Technologies

STANLEY Assembly Technologies supplies production solutions to the global assembly market.

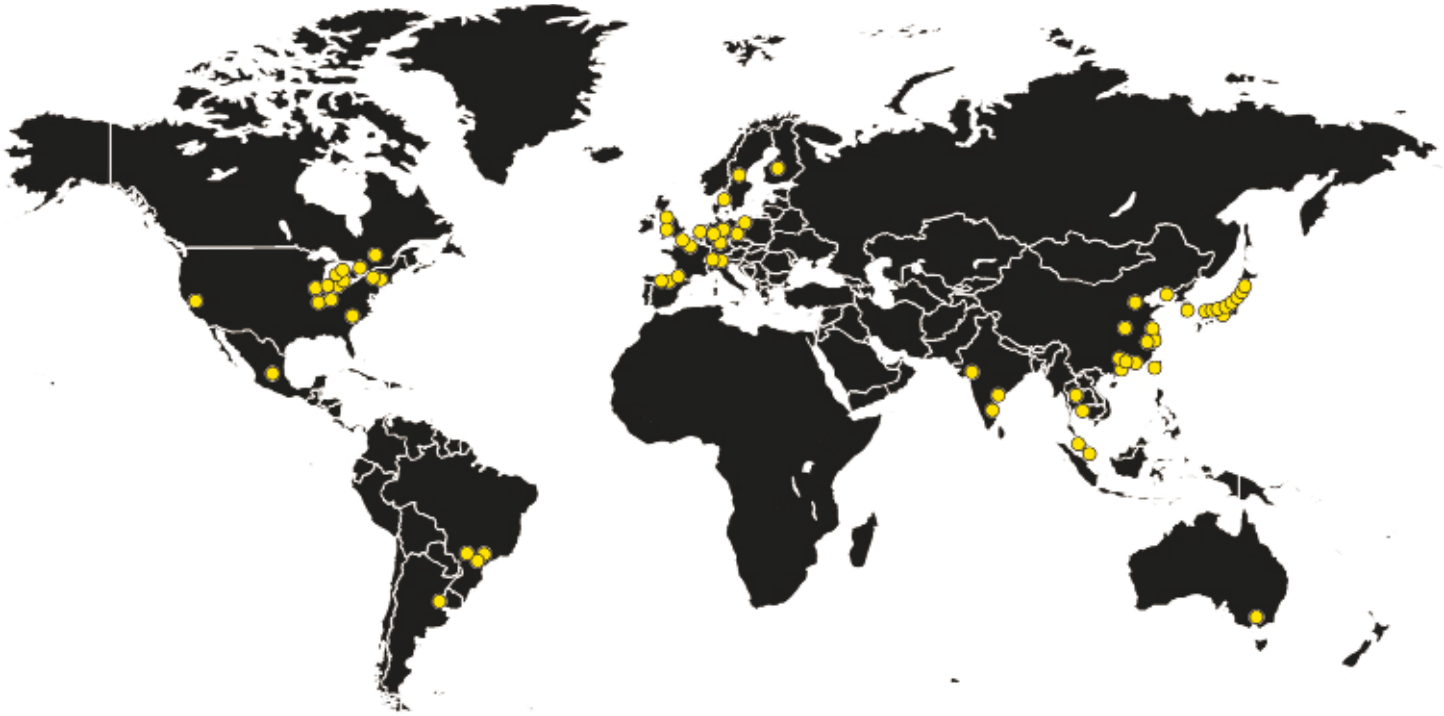
Tucker®

A one-sided drawn-arc welding process is the foundation of the Tucker No-Hole assembly solution.

Warren®

Whether it's plastic, metal, or a combination of the two, Warren can design a product that will suit your environment.

STANLEY®
Engineered Fastening



STANLEY Engineered Fastening, a Stanley Black & Decker Inc. Company has been revolutionizing fastening and assembly technologies for a variety of industries for more than 40 years.

For more information, please visit our website
www.StanleyEngineeredFastening.com

Quick Links:

- Our locations
  http://www.stanleyengineeredfastening.com/contact/global-locations
- Request Information
  http://www.stanleyengineeredfastening.com/econtact/request-information
- Resource Center
  http://www.stanleyengineeredfastening.com/resource-center