STANLEY®
Engineered Fastening

Fastening Systems
Product Overview

LEGENDARY BRANDS
POP® Avdel®
EST. 1933
POWERFUL PORTFOLIO

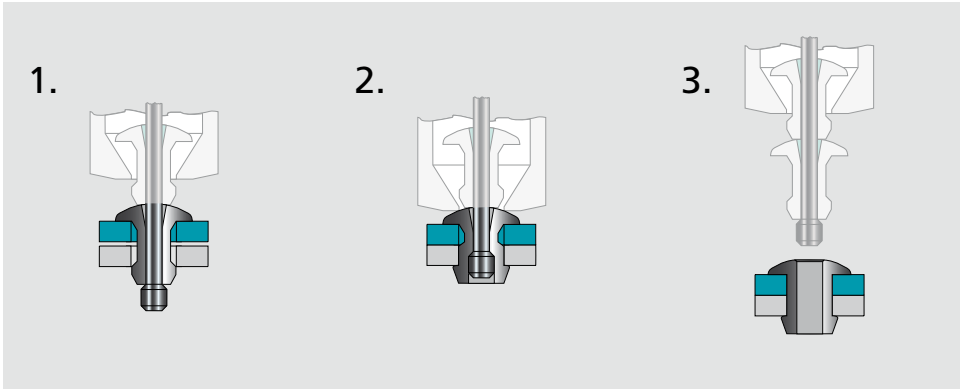
Speed Fastening® Systems

Benefits of assembly

POP Avdel Speed Fastening systems provide rapid and reliable assembly of metals, plastics, composites and passive electronic components. The fasteners are either magazine-fed or fed via a vibrating bowl to a wide choice of installation equipment. At the end of each assembly cycle, the next fastener is automatically delivered to the nose of the tool ready to repeat the assembly process. Speed Fastening offers many benefits over conventional mechanical assembly systems, including:

- High speed, blind sided assembly
- Consistent clamp and grip
- Good vibration resistance
- Highly controlled assembly
- Short cycle times
- Elimination of over-torquing

Typical placing sequence



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

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

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

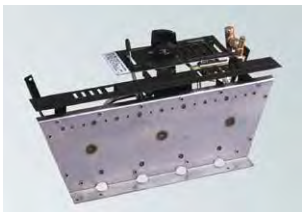
Please visit our website StanleyEngineeredFastening.com for fastener placing animations.

Assembly applications

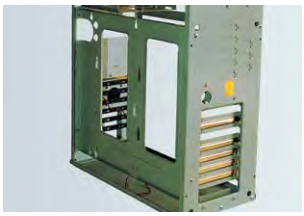
- Aluminium die-cast boxes
- Car bumpers and doors
- DIN connectors and heatsinks to PCB's
- Domestic appliances
- Electrical engineering
- Lighting equipment
- PCB's to chassis assemblies
- Switchgear
- Telecommunications equipment

Window hinge

Gas firing

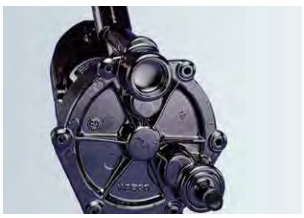


Computer chassis

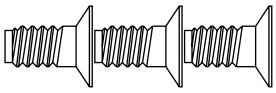


Composite material latch for wheel cover

Vacuum pump for diesel engines



Automotive die-cast chassis with PCB



Range Overview

NeoSpeed®

Wide grip range
High joint clamp
Hole filling
Very high strength

Briv®

Bulbed tail form
Large headform
High joint clamp
Good joint gap closure

Rivscrew®

Threaded fastener
Removable with hex key and reusable
Fastens into materials up to Vickers hardness 105 Hv5

Chobert®

Internal tapered bore
Controlled clamp
High shear
Ideal for soft and brittle materials

Double Flush Chobert®

Flush surface on both sides of the joint
Reduces excess space requirements within the chassis

Grovit®

Designed for blind hole applications
Annular grooves on body
For use in wood, plastics fibreglass and aluminium

Avtronic®

Attaches DIN 41612 connectors and other components to PCBs
Annular grooves on body

Avsert®

Threaded stand-off pillars for PCBs
Internally threaded bore
Many stand-off heights

Avlug®

Solderable terminal posts for PCBs
Rolled/knurled shank

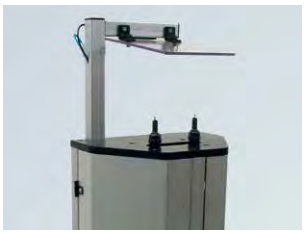
Installation Equipment

7537

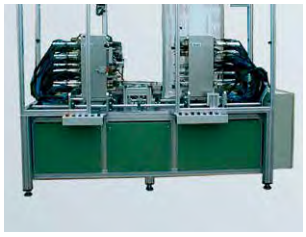
753

7535 Pantograph workstation

Mini-MAS

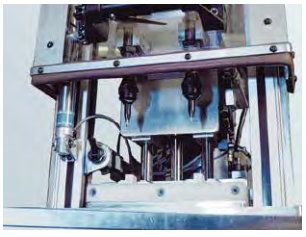


23 placing heads to assemble a computer chassis



70510 Underbench workstation

Twin head fixed pitch workstation



Customised systems

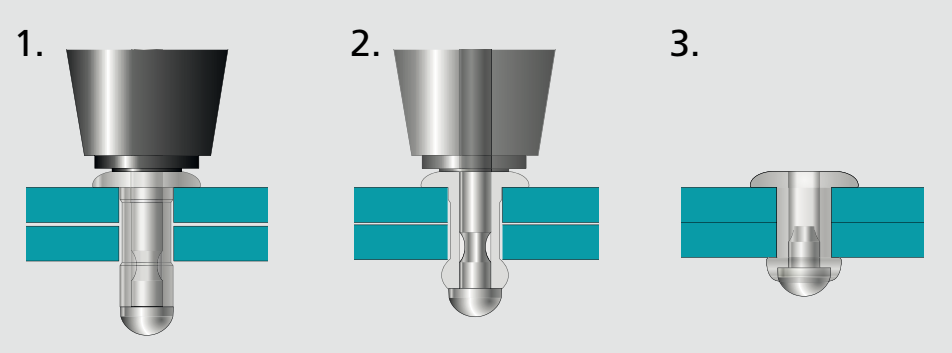
Breakstem Riveting Systems

Benefits of assembly

POP Avdel breakstem fasteners and installation tools are a premier fastening system offering multi-grip performance, consistent and reliable installation and high speed, high performance assembly. Used in all manufacturing industries throughout the world, there is an POP Avdel breakstem fastener and installation tool to suit virtually every assembly requirement. Key user benefits include:

- Blind sided assembly
- Multi-grip performance
- Complete hole fill
- High speed assembly
- Good clamp and vibration resistance
- Consistent high performance
- Positive stem retention
- Extensive product choice

Typical placing sequence



Please visit our website StanleyEngineeredFastening.com for fastener placing animations.

1. The fastener is located on the tool nose piece and inserted into the prepared hole in the workpiece.

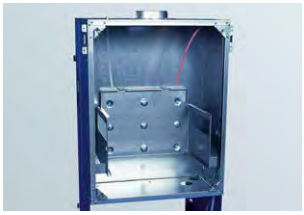
2. On activating the tool, the fastener pulls the materials together and expands to fill the hole.

3. At a pre-determined load, the fastener stem breaks flush with the fastener head, leaving a locked stem.

Assembly applications

- Automotive components
- Boats and caravans
- Building and construction
- Cabinets and enclosures
- Commercial vehicles
- Domestic appliances
- Electrical components
- Garage doors
- Heating and ventilation
- Railway rolling stock
- Reefer cool containers
- Storage and warehousing

Domestic heating systems



Passenger air bag

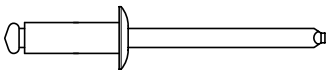
Sliding luggage cover

Garage doors

Wood application

Telecommunications cabinets

non-structural



Range Overview

Open End Rivets

Cost effective standard rivet
Installed quickly and easily
Design of the stem head ensures positive retention after installation

Soft Set

Designed for soft or brittle materials
Incorporates a special aluminum alloy
Low clamping force

Micro Rivet

Smallest blind rivet available accommodates very small holes
Very low secondary side clearance
Soft set body will not damage work piece
Ideal for thin metal and PCBs

Pull-Thru (PT)

Flush set on both sides of the application
Insertion can be reversed improving rivet tool access
No loose stem heads remain in the application
Tight radial set provides increased structural rigidity

Closed End Rivets

Seals out moisture, air and other contaminants
Higher tensile and shear strength than the equivalent open end rivet
100% stem retention

Avex®

Multi-grip capability
Good hole fill
Retained stem
Large blind side bearing area

Stavex®

Multi-grip capability
Good hole fill
Retained stem
Large blind side bearing area

Avibulb® / Avinox®

High shear and tensile strength
Retained stem
Large blind side bearing area
Stainless steel Avinox for high corrosion resistance

Bulbex®

Split tail formation for thin sheet & low strength materials
Multi-grip capability
Retained stem

Klamp-Tite® (non-structural)

Split tail formation for thin sheet & low strength materials
Multi-grip capability
Good clamp up

T-Lok®

'Peel-type' tail formation for joining wood to metal
Wide grip range
Retained stem

Avdelmate®

Two piece fastener
Extra wide grip range
Large bearing area against both sides of the application
Excellent hole fill

Earth Tab Rivet

Cost effective earthing point
Paint piercing capability
Twin tabs allow one or two connections

Avex® Splined

Steel splines for electrical continuity in earthing applications
Multi-grip capability

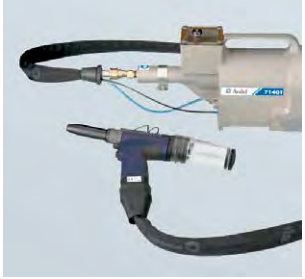
Installation Equipment

PB2500 battery tool

ProSet® XT1 - coming soon

ProSet® XT2 - coming soon

Genesis® nG2-S



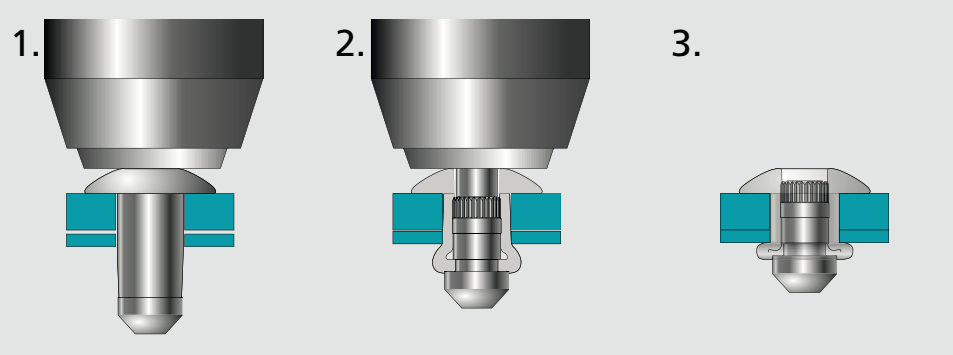
Breakstem Riveting Systems

Benefits of assembly

POP Avdel structural breakstem systems are designed for rapid, blind sided assembly in load-bearing structural applications, where high shear and tensile strength is required. Key user benefits include:

- Blind sided assembly
- High shear and tensile strength
- Multi-grip performance
- Complete hole fill
- High speed assembly
- Good clamp and vibration resistance
- Consistent high performance
- Positive stem retention
- Extensive product choice

Typical placing sequence



Please visit our website StanleyEngineeredFastening.com for fastener placing animations.

1. The fastener is located on the tool nose piece and inserted into the prepared hole in the workpiece.

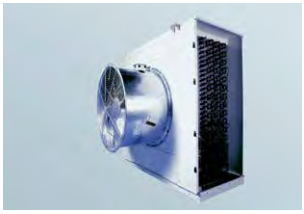
2. On activating the tool, the fastener pulls the materials together and expands to fill the hole.

3. At a pre-determined load, the fastener stem breaks flush with the fastener head, leaving a locked stem.

Assembly applications

- Agricultural equipment
- Automotive assemblies and components
- Boats and caravans
- Building and construction
- Cabinets and enclosures
- Commercial vehicle bodies
- Domestic appliances
- Heating and ventilation
- Pallets and racking
- Roofing and cladding
- Railway rolling stock
- Reefer cool and dry freight containers

Product cooler



Column tail lifts

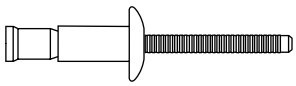
Car seat base

Step ladder

Vehicle panel

Heat exchanger

structural



Range Overview

Avibulb® XT &
Avinox® XT

Multi-grip capacity
High residual clamp load
Good blind side footprint and bulb formation
Avibulb® XT = steel
Avinox® XT = stainless steel

Hemlok®

Very high shear & tensile strength
Large blind side bearing area
Interference lock via splined stem

Monobolt®

Multi-grip capability
Fully sealed fastener
Visible lock
Excellent hole fill
Mechanically locked stem
Good sheet take-up performance

Interlock®

Multi-grip capability
Fully sealed fastener
Excellent hole fill
Mechanically locked stem
Good sheet take-up performance

Q Rivet

Interference lock via a splined stem
Stem plugs entire shell length
Weatherproof

Klamp-Tite® (structural)

Split tail formation for thin sheet and low strength materials
Multi-grip capability
Good clamp up
Mechanically locked stem
Visible lock

T Rivet

'Peel-type' tail formation
High shear and tensile strength
High clamp up
Visible lock

Lockbolt for blind sided assembly

Avbolt®

Use on blind sided application
High residual clamp force
High tensile and shear strength
Speed of installation
Vibration resistance
High grip capability

Avseal® Sealing Plug

Avseal® Sealing Plug

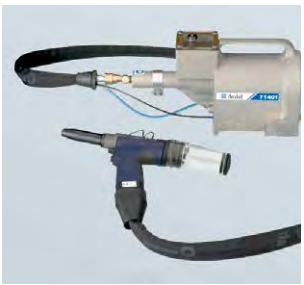
For both low-pressure and high-pressure hole sealing applications
High leak resistance
Exceptional hole fill
Efficient stem locking device
Wide choice of installation tools

Applications

Engine blocks, transmissions, cylinders, brakes, gear box, pneumatic systems, hydraulic blocks, compressors, pumps

Installation Equipment

Genesis® nG2-S



ProSet® XT3 - coming soon

ProSet® XT4 - coming soon

7287

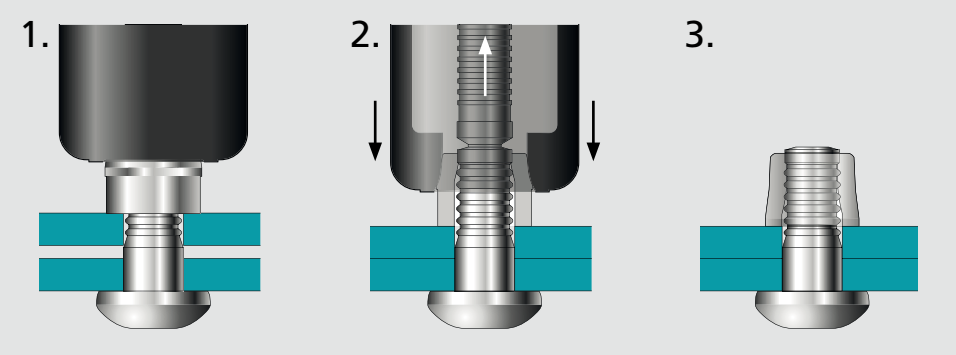
Lockbolt Systems

Benefits of assembly

POP Avdel two piece lockbolt systems are designed for high strength assembly. Quick and simple to place, they provide tamper-proof joints and are the ideal solution where spot welding is not practical or not possible. They are widely used in demanding engineering industries such as vehicle body building, railways, construction and containers. Key user benefits include:

- High speed assembly
- High shear and tensile strength
- Consistent high clamp
- Excellent vibration resistance
- Tamper-proof joints
- Quick and simple to install

Typical placing sequence



1. The fastener bolt is located in the hole and the collar placed over the stem. The tool is then located onto the stem.

2. Tool activation pulls the materials together and swages the collar into the grooves of the pin.

3. At a pre-determined load, the stem breaks flush with the top of the collar.

Please visit our website StanleyEngineeredFastening.com for fastener placing animations.

Assembly applications

- Agricultural equipment
- Automotive assemblies and components
- Building and construction
- Cabinets and enclosures
- Commercial vehicle bodies
- Domestic appliances
- Fencing
- Railway rolling stock
- Reefer cool and dry freight containers
- Solar & wind energy

Solar power plants

Steel construction

Commercial vehicles

Rail wagon for vehicle transportation

Ventilator frame

Container

Range Overview

NeoBolt®

No pin break
High strength and superior vibration resistance
Fast and consistent intallation

Avdelok®

High shear strength
High controlled clamp

Avdelok® XT

Exceptional shear and tensile strength
Sizes from 12.7 mm (1/2") to 28.6 mm (1-1/8")

Maxlok®

Wide grip range
High shear strength

Avtainer®

High shear strength
Joins composite panels to metal
Leak resistant
High speed installation

Lockbolt for blind sided assembly

Avbolt®

Use on blind sided application
High residual clamp force
High tensile and shear strength
Vibration resistance
High grip capability

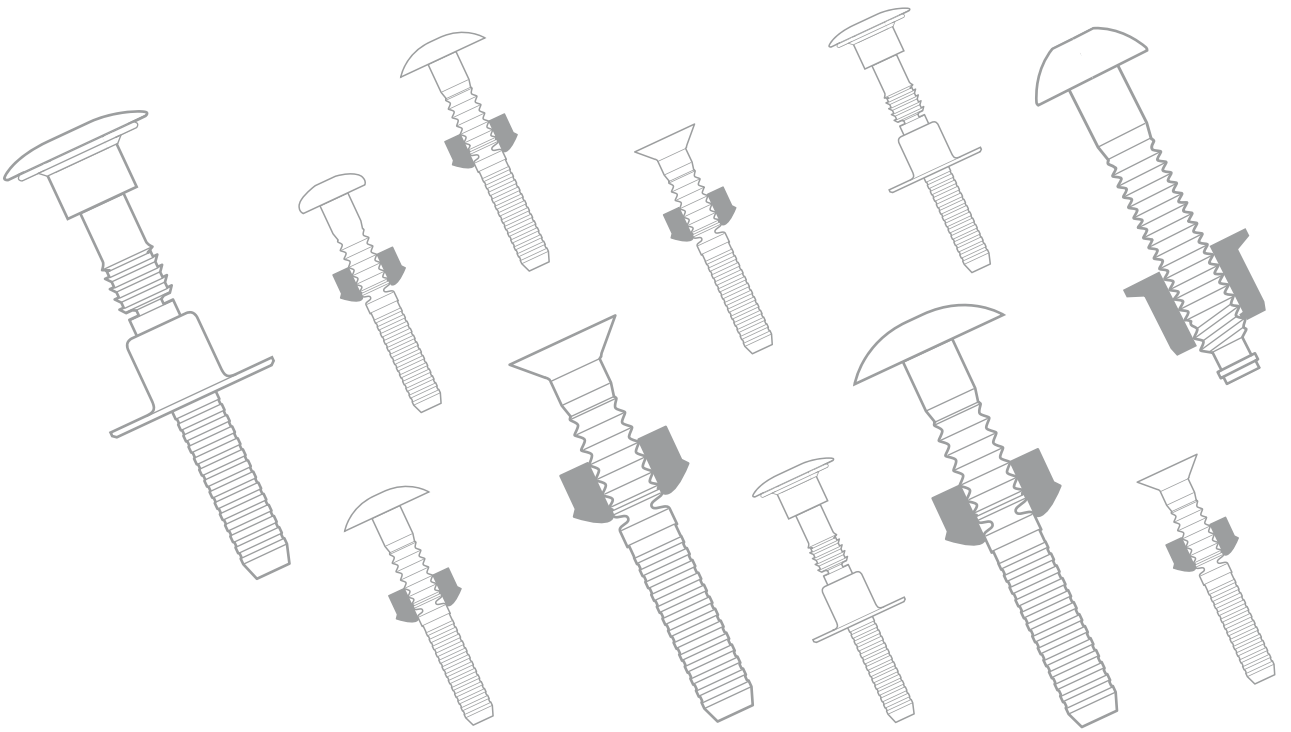
Installation Equipment

73200

nG3 LB

7287

734 AV™



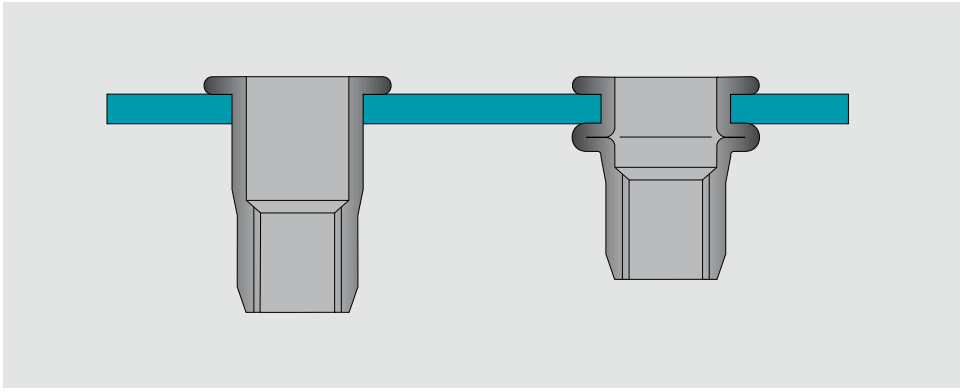
Blind Rivet Nuts

Benefits of assembly

POP Avdel blind rivet nuts and installation tools provide a quick, reliable and low cost system of inserting high quality, load bearing threads. The blind rivet nuts offer many benefits over weld nuts, self-tapping screws, pressed inserts and nuts & bolts. Key user benefits include:

- Blind sided assembly
- Reliable and secure thread installation
- No damage to surface coatings
- Reduced rework and wastage
- Lower cost of installation
- Suitable for use in stamped or drilled holes
- Designed for automation

Typical placing sequence



Please visit our website StanleyEngineeredFastening.com for fastener placing animations.

The rivet nut is threaded onto the drive screw of the installation tool and inserted into the prepared hole in the workpiece.

On activating the tool, the blind rivet nut is pulled towards the tool, forming the body wall radially outwards to clench tightly against the workpiece.

At a pre-determined torque, the drive screw of the tool reverses and is disengaged from the thread, leaving the rivet nut securely in position.

Assembly applications

- Adjustable feet/castors
- Automotive components
- Compressor units
- Computer chassis
- Door hinges
- Lawnmowers
- Lift cabins
- Number plates
- Radios
- Roof rack attachments
- Window frames

Suspension damper

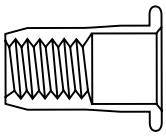
Hydro formed cross beam

Handrail

Automotive crash structure

Washing machine

Gas burner



Range Overview

POP Avdel blind rivet nuts are available in a variety of materials, head forms and body shapes and include well known brands like POP Nut®, Hexsert®, Eurosert®, Nutsert®, Squaresert®, Versa-Nut®, as well as Jack Nut® and Well-Nut®.

Splined Body

Improves torque-to-turn resistance in softer materials such as aluminium when compared to plain body blind rivet nuts.

Hexagonal Body

Improves torque-to-turn in components via form lock when compared to round and splined rivet nuts.

Square Body

Improves torque-to-turn resistance in components via form lock due to even greater contact surface compared to round and splined blind rivet nus.

Slotted Body

Slotted body forms four legs when placed.
Extra large blind side bearing area.
For use in composites and plastics.

Closed End Body

Prevents the ingress of dirt and fluids into thread.

Pipe POP Nut®

Designed to be installed in a pipe with the curved surface of a rear flange, creating a horizontal surface for subsequent component assembly.

Large Flange

Provides a large load bearing surface to reinforce the hole and prevent push through.

Low Profile

Allows near flush installation and clamp up without the need to prepare special holes.

Countersunk

Allows flush installation and secure clamp up.

Well Nut®

Rubber blind nuts ideal for isolating against vibration, electrical conductivity and galvanic corrosion and for selaing against ambient moisture and gases.

Jack Nut®

Designed to be installed in soft or brittle materials such as plastic, cardboard or glass..

Customised Designs

We can design and manufacture blind rivet nuts with a wide variety of forms and finishes:

- Special surface coatings
- Varying grip ranges, flange dimensions and nut lengths
- Closed end and sealed rivet ntus

Installation Equipment

ProSert® XTN20

74200

74405

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

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