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

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

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

Intelligent Systems for versatile Fastening

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

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

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

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

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<tr>
<td>Avex®</td>
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<tr>
<td>Stavex®</td>
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<td>Bulbex®</td>
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<td>18</td>
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<tr>
<td>Q Rivet</td>
<td>19</td>
</tr>
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<td>Klamp-Tite® (structural &amp; non-structural)</td>
<td>20</td>
</tr>
<tr>
<td>Other Breakstem Fasteners</td>
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<tr>
<td>N Rivet/BD Series</td>
<td>21</td>
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<tr>
<td>T Rivet</td>
<td>21</td>
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<tr>
<td>Earth Tab Rivet</td>
<td>22</td>
</tr>
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<td>Avex® Splined</td>
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### Installation Equipment

<table>
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<th>Page</th>
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<tr>
<td>Installation Tools</td>
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</table>

### The Range of Avdel® Blind Fastening Systems

<table>
<thead>
<tr>
<th>Fastener Type</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Range of Avdel® Blind Fastening Systems</td>
<td>31</td>
</tr>
</tbody>
</table>
Avdel® Breakstem Systems

Avdel® breakstem fasteners and installation tools are a high performance blind fastening system. For over 70 years the Avdel® brand has been synonymous with world-leading, blind fastening systems. Used in all manufacturing industries throughout the world, there is an Avdel® breakstem fastener and installation tool to suit virtually every assembly requirement. Key user benefits include:

Benefits of assembly

---

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

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

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

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

**Consistent, High Performance**
Designed and manufactured to high tolerances, Avdel® breakstem fastening systems ensure consistently accurate and secure, high strength assembly.

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

**Structural Assembly**
Where load-bearing, structural joints are required, Hemlok®, Q Rivet, Interlock® and Monobolt® fasteners have been designed to offer high shear and tensile strength.

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

---

Domestic appliances  Car chassis  Electronic components
Selecting a Breakstem Fastener

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

**Fastener Selection**

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

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

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

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

**Strength Characteristics**
Hemlok®, Monobolt®, Klamp-Tite® (structural), Stavex®, Avinox® and Avibulb® fasteners all offer high shear and tensile strength. Please refer to the technical data sheets for typical strength values.

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

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

<table>
<thead>
<tr>
<th>Brand</th>
<th>Material</th>
<th>Key features</th>
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<tbody>
<tr>
<td>Avex®</td>
<td>Aluminium Alloy</td>
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</tr>
<tr>
<td></td>
<td>Steel</td>
<td>Good hole fill</td>
</tr>
<tr>
<td></td>
<td>Stainless Steel</td>
<td>Retained stem</td>
</tr>
<tr>
<td></td>
<td>Large blind side</td>
<td>Bearing area</td>
</tr>
<tr>
<td>Stavex®</td>
<td>Steel</td>
<td>Multi-grip capability</td>
</tr>
<tr>
<td></td>
<td>Stainless Steel</td>
<td>Good hole fill</td>
</tr>
<tr>
<td></td>
<td>Retained stem</td>
<td>Large blind side Bearing area</td>
</tr>
<tr>
<td>Avibulb®</td>
<td>Steel</td>
<td>High shear and tensile strength</td>
</tr>
<tr>
<td></td>
<td>Retained stem</td>
<td>Large blind side Bearing area</td>
</tr>
<tr>
<td>Avinox®</td>
<td>Stainless Steel</td>
<td>Multi-grip capability</td>
</tr>
<tr>
<td></td>
<td>Retained stem</td>
<td>Large blind side Bearing area</td>
</tr>
<tr>
<td></td>
<td>High shear and tensile strength</td>
<td></td>
</tr>
<tr>
<td></td>
<td>High corrosion resistance</td>
<td></td>
</tr>
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<td>Bulbex®</td>
<td>Aluminium Alloy</td>
<td>Split tail formation for thin sheet and low strength materials</td>
</tr>
<tr>
<td></td>
<td>Aluminium Alloy</td>
<td>Multi-grip capability</td>
</tr>
<tr>
<td></td>
<td>Retained stem</td>
<td>Large blind side Bearing area</td>
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<tr>
<td></td>
<td>Wide grip range</td>
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<tr>
<td>T-Lok®</td>
<td>Steel</td>
<td>“Peel-type” tail formation for joining wood to metal</td>
</tr>
<tr>
<td></td>
<td>Steel</td>
<td>Wide grip range</td>
</tr>
<tr>
<td></td>
<td>Retained stem</td>
<td></td>
</tr>
<tr>
<td>Avdelmate™</td>
<td>Aluminium Alloy</td>
<td>Multi-grip capability</td>
</tr>
<tr>
<td></td>
<td>Aluminium Alloy</td>
<td>Extra wide grip range</td>
</tr>
<tr>
<td></td>
<td>Steel</td>
<td>Large bearing area against both sides of the application</td>
</tr>
<tr>
<td></td>
<td>Steel</td>
<td>Excellent hole fill</td>
</tr>
<tr>
<td>Hemlok®</td>
<td>Aluminium Alloy</td>
<td>Very high shear and tensile strength</td>
</tr>
<tr>
<td></td>
<td>Steel</td>
<td>Large blind side Bearing area</td>
</tr>
<tr>
<td></td>
<td>Interference lock</td>
<td>via splined stem</td>
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<tr>
<td></td>
<td>Via splined stem</td>
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<tr>
<td>Monobolt®</td>
<td>Aluminium Alloy</td>
<td>Multi-grip capability</td>
</tr>
<tr>
<td></td>
<td>Steel</td>
<td>Fully sealed fastener</td>
</tr>
<tr>
<td></td>
<td>Stainless Steel</td>
<td>Visible lock</td>
</tr>
<tr>
<td></td>
<td>Stainless Steel</td>
<td>Excellent hole fill</td>
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<tr>
<td></td>
<td>Mechanically locked stem</td>
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<tr>
<td></td>
<td>Good sheet take-up performance</td>
<td></td>
</tr>
<tr>
<td>Brand</td>
<td>Material</td>
<td>Key features</td>
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<tr>
<td>-----------------------</td>
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<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Interlock®</strong></td>
<td>Aluminium Alloy Steel</td>
<td>Multi-grip capability, Fully sealed fastener, Excellent hole fill, Mechanically locked stem, Good sheet take-up performance</td>
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<tr>
<td></td>
<td>Aluminium Alloy Steel</td>
<td></td>
</tr>
<tr>
<td>Q Rivet</td>
<td>Aluminium Alloy Steel</td>
<td>Interference lock via a splined stem, Stem plugs entire shell length, Weatherproof</td>
</tr>
<tr>
<td></td>
<td>Stainless Steel</td>
<td></td>
</tr>
<tr>
<td>Klamp-Tite® (structural)</td>
<td>Aluminium Alloy Aluminium Alloy</td>
<td>Split tail formation for thin sheet and low strength materials, Multi-grip capability, Good clamp up, Mechanically locked stem, Visible lock</td>
</tr>
<tr>
<td></td>
<td>Aluminium Alloy</td>
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</tr>
<tr>
<td></td>
<td>Stainless Steel</td>
<td></td>
</tr>
<tr>
<td>Klamp-Tite® (non-structural)</td>
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<td>Split tail formation for thin sheet and low strength materials, Multi-grip capability, Good clamp up</td>
</tr>
<tr>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Stainless Steel</td>
<td></td>
</tr>
<tr>
<td>Standard Breakstem Range N Rivet/BD Series</td>
<td>Aluminium Alloy Stainless Steel</td>
<td>Low cost standard rivet, Wide range of materials and sizes, Quick installation, Increased stem retention</td>
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<td>Stainless Steel</td>
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</tr>
<tr>
<td></td>
<td>Copper</td>
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</tr>
<tr>
<td></td>
<td>Monel</td>
<td></td>
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<tr>
<td>Avdel® SR</td>
<td>Aluminium Alloy</td>
<td>Fully sealed fasteners, Good hole fill, Retained stem, Wide range of materials and sizes</td>
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<tr>
<td></td>
<td>Stainless Steel</td>
<td></td>
</tr>
<tr>
<td>T Rivet</td>
<td>Aluminium Alloy</td>
<td>’Peel-type’ tail formation, High shear and tensile strength, High clamp up, Visible lock</td>
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<td>Aluminium Alloy</td>
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<tr>
<td></td>
<td>Steel</td>
<td></td>
</tr>
<tr>
<td>Earth Tab Rivet</td>
<td>Steel</td>
<td>Cost effective earthing point, Paint piercing capability, Twin tabs allow one or two connections</td>
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<tr>
<td></td>
<td>Steel</td>
<td></td>
</tr>
<tr>
<td>Avex® Splined</td>
<td>Steel</td>
<td>Steel splines for electrical continuity in earthing applications, Multi-grip capability</td>
</tr>
<tr>
<td></td>
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</table>
Selection Guide

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

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Our policy is one of continuous product development and improvement and we reserve the right to change the specification of any product without prior notice.
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<td>Aluminium Steel Stainless Steel Copper Monel</td>
<td>Dome/Protruding Countersunk Large Range</td>
<td>2.4 mm (3/32”) 3.0 mm (1/8”) 3.2 mm (1/8”) 4.0 mm (5/32”) 4.3 mm 4.8 mm (5/32”) 5.0 mm 6.0 mm 6.4 mm (1/4”) 10.0 mm (3/8”)</td>
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</table>
Specifications

Sizes:
3.0 mm to 6.4 mm (1/4”)

Materials:
Aluminium alloy with steel or stainless steel stems

Headforms:
Dome, countersunk and large flange

Key features and benefits

• Multi-grip capability accommodates wide variations in material thickness
• One fastener can be used to replace several standard grip fasteners thus reduced fastener inventory and simpler stock control
• Good hole fill provides strong, vibration resistant joints
• Compensates for irregular, oversized, slotted or misaligned holes

• Can stop sheet movement in non-standard holes
• Retained stem avoids damage, electrical problems or rattling caused by loose stems
• Provides a large blind side bearing area against the rear sheet
• Spreads the tail bearing load/clamp load on the rear sheet making it ideal for use in thin sheet materials

Typical placing sequence

1. 2. 3.

Garage doors Domestic heating systems Car chassis

Assembly applications

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

Please visit our website www.avdel-global.com for fastener placing animations and technical data.
Specifications

Sizes:
3.2 mm to 6.4 mm
(1/8” to 1/4”)

Materials:
Steel or stainless steel

Headforms:
Dome, countersunk and large flange

Key features and benefits

- High shear and tensile strength provides strong, vibration resistant joints
- Stainless steel option provides high corrosion resistance and is ideal for applications requiring elevated temperatures
- Multi-grip capability accommodates wide variations in material thickness
- One fastener can be used to replace several standard grip fasteners thus reduced fastener inventory and simpler stock control

- Good hole fill compensates for irregular, oversized, slotted or misaligned holes and can stop movement in non-standard holes
- Retained stem avoids damage, electrical problems or rattling caused by loose stems
- Provides a large blind side bearing area against the rear sheet
- Spreads the tail bearing load/clamp load on the rear sheet making it ideal for use in thin sheet materials

Typical placing sequence

1. [Diagram]
2. [Diagram]
3. [Diagram]

Please visit our website www.avdel-global.com for fastener placing animations and technical data.

Assembly applications

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

- Snowmobile
- Passenger air bag
- Roll-up security door
Avinox® & Avibulb®

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

Specifications

Sizes:
3.2 mm to 4.8 mm
(1/8” to 3/16”),
Avibulb® up to 6.0 mm

Material:
Stainless steel and steel

Headform:
Dome

Key features and benefits

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

Typical placing sequence

1. 
2. 
3. 

Please visit our website www.avdel-global.com for fastener placing animations and technical data.

Assembly applications

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

Telecommunicatons cabinets
Electronic components
Ladders
Bulbex®

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

Key features and benefits

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

Specifications

Sizes:
4.0 mm and 4.8 mm (5/32” and 3/16”)

Material:
Aluminium alloy

Headform:
Dome

Typical placing sequence

1.  
2.  
3.  

Assembly applications

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

Please visit our website www.avdel-global.com for fastener placing animations and technical data.
**T-Lok®**

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

### Key features and benefits

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

### Specifications

**Sizes:**
4.3 mm and 4.8 mm (3/16”)

**Materials:**
Steel

**Headforms:**
Dome

### Typical placing sequence

1. 
2. 
3. 

Please visit our website www.avdel-global.com for fastener placing animations and technical data.

### Assembly applications

- Garage doors
- Furniture
Avdelmate™

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

Key features and benefits

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

Specifications

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

Materials:
Aluminium alloy and steel

Headforms:
Dome

Assembly applications

- Toys for playgrounds
- Furniture
- Racks

Typical placing sequence

Please visit our website www.avdel-global.com for fastener placing animations and technical data.
Hemlok®

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

Key features and benefits

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

Specifications

Sizes: 6.4 mm (1/4”)
Materials: Aluminium alloy and steel
Headform: Protruding

Typical placing sequence

1. 
2. 
3. 

Assembly applications

- Automotive
- Warehouse racking
- Ladders

Please visit our website www.avdel-global.com for fastener placing animations and technical data.

Vehicle mud flaps

Scaffold tower

Step ladder

Car seat base
Monobolt®

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

Key features and benefits

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

Specifications

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

Materials:
Aluminium alloy, steel and stainless steel

Headforms:
Protruding and countersunk

Typical placing sequence

1. Car chassis
2. Column tail lifts
3. Product cooler

Assembly applications

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

Please visit our website www.avdel-global.com for fastener placing animations and technical data.
Interlock®

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

Key features and benefits

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

Specifications

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

Materials:
Aluminium alloy and steel

Headforms:
Protruding and countersunk

Typical placing sequence

1. 
2. 
3. 

Please visit our website www.avdel-global.com for fastener placing animations and technical data.

Assembly applications

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

Truck trailer

Heaterexchanger
Q Rivet

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

Key features and benefits

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

Specifications

Sizes:
3.2 mm to 6.4 mm (1/8” to 1/4”)

Materials:
Aluminium alloy, steel and stainless steel

Headforms:
Protruding, large flange and countersunk

Typical placing sequence

1. \( \text{Car seat base} \)
   \( \text{Vehicle mud flaps} \)
   \( \text{Step ladder} \)

Please visit our website www.avdel-global.com for fastener placing animations and technical data.

Assembly applications

- Automotive
- Building industries
- Commercial vehicles
- Domestic appliances
- Heating and ventilation
Klamp-Tite®

Specifications

Sizes:
4.8 mm and 6.4 mm
(3/16” and 1/4”)

Materials:
Aluminium alloy

Headforms:
Protruding

Key features and benefits

• Split tail formation spreads the tail bearing load/clamp load on the rear sheet
• Ideal for use in thin sheet materials offering high resistance to pull-out loads
• Multi-grip capability accommodates wide variations in material thickness

Specifications

Typical placing sequence (structural)

1.

2.

3.

Please visit our website www.avdel-global.com for fastener placing animations and technical data.

Typical placing sequence (non-structural)

1.

2.

3.

Please visit our website www.avdel-global.com for fastener placing animations and technical data.

Assembly applications

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<thead>
<tr>
<th>structural</th>
<th>non-structural</th>
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<tr>
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<td>Cladding</td>
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<td>Commercial vehicles</td>
<td>Caravans/RV</td>
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<td></td>
<td>Plastic components</td>
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</tbody>
</table>
Other Breakstem

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

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

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

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

T Rivet
‘Peel-type’ structural breakstem rivet providing good vibration resistance and shear and tensile strength.

- High clamp-up where there is sheet separation
- Visible lock - T Rivet can withstand severe vibration without loss of the stem's plug section
- Multi-grip version available
- Sizes of Ø 4.8 mm (3/16") and 6.4 mm (1/4")
- Dome, large flange and countersunk headforms
- Materials of body/stem: aluminium/aluminium and aluminium/steel

Please visit our website www.avdel-global.com for technical data.
Other Breakstem Fasteners

Earth Tab Rivet

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

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

Avex® Splined

Designed with steel splines for electrical continuity in earthing applications.

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

Please visit our website www.avdel-global.com for technical data.
Installation Tools

Genesis® nG Series Power Tool Range

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

• Vacuum air supply cut-off on trigger minimizes air consumption
• Quick release stem collector saves time for emptying it
• Integrated cycle counter (except nG1 and nG2S)
• Lightweight construction reduces operator fatigue
• Toughened plastic body and heavy duty rubber base make it a robust tool

• nG1, nG2 and nG2S feature a quick release nose equipment reducing setting times
• Soft touch rubber grip on handle for comfortable operation
• nG2S split version with lightweight placing head and remote intensifier

Placing capability

nG1:
Up to 4.8 mm (3/16") aluminium breakstem rivets
and up to 4.0 mm (5/32") steel breakstem rivets

nG2:
Up to 4.8 mm (3/16") breakstem rivets

nG2S:
Up to 4.8 mm (3/16") breakstem rivets

nG3:
Up to 6.4 mm (1/4") breakstem rivets produced by Avdel, except Hemlok® structural fasteners

nG4:
Up to 6.4 mm (1/4") breakstem rivets produced by Avdel, except Monobolt® structural rivets

Please visit our website www.avdel-global.com for technical information.
Quick Release Nose Equipment

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

Swivel Heads

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

Sensitive Trigger

Increase safety and improve product quality
This system replaces the standard pneumatic trigger with a preloaded mechanical trigger. It uses the force exerted by pushing the fastener into the application to trigger the installation. Available on all Genesis® ng models.
Key benefits are:

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

Options

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

In addition to these there are more options to customise the Genesis® tools:
- Extended Nose Assemblies for applications where fasteners are placed in deep recessed areas.
- A Stem Extraction System can be fitted to eliminate the need to take the Genesis® tool off line to empty the stem collector.
- Bench/Stand Mounted Workstations with either handle or foot pedal triggers to free up both hands
Assembly Workstations

Avimat® Automated Assembly System

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

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

Blow Feed Unit

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

Customised Assembly Systems

From simple twin-headed modules to multi-headed, customised equipment, these systems can dramatically reduce assembly time and costs while improving consistency of placing. These systems can be designed for virtually any application or assembly environment and process monitoring equipment or clamping modules can be easily integrated. The direction, type and number of assembly heads can all be customised. We have designed equipment with two heads to over eighty heads but the configurations are virtually limitless.

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

Assembly of any Configuration

Fastening at any Angle
Customised Assembly Systems

Assembly Systems

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

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

Assembly Applications

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

Assembly Applications

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

Speed Fastening® Systems
Extra fast and reliable fastening from one side. Because rivets are fed automatically.

Breakstem Systems
Blind fastening systems with various features. From multi-grip rivet up to high strength stainless steel rivet.

Lockbolt Systems
For joints with highest impact. High clamp force and vibration resistance.

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

Installation Equipment
From manually operated handtools to customised assembly workstations.
Your local distributor for Avdel® Breakstem Systems is:

**AUSTRALIA**
Acument Australia Pty Ltd.
891 Wellington Road
Rowville
Victoria 3178
Tel: +61 3 9765 6400
Fax: +61 3 9765 6445
E-mail: info@acument.com.au

**FRANCE**
Avdel France S.A.S.
33 bis, rue des Ardennes
BP4
75921 Paris Cedex 19
Tel: +33 (0) 1 4060 8000
Fax: +33 (0) 1 4208 2450
E-mail: AvdelFrance@acument.com

**JAPAN**
Acument Japan Kabushiki Kaisha
Center Minami STF,
3-1 Chigasaki-Chuo, Tsuzuki-ku,
Yokohama-city, Kanagawa Prefecture
Japan 224-0032
Tel: +81 45 947 1200
Fax: +81 45 947 1205
E-mail: info@acument.co.jp

**GERMANY**
Avdel Deutschland GmbH
Klusriede 24
30851 Langenhagen
Tel: +49 (0) 511 7288 0
Fax: +49 (0) 511 7288 133
E-mail: AvdelDeutschland@acument.com

**ITALY**
Avdel Italia S.r.l.
Viale Lombardia 51/53
20047 Brugherio (MI)
Tel: +39 039 289911
Fax: +39 039 2873079
E-mail: vendite@acument.com

**SOUTH KOREA**
Acument Korea Ltd.
212-4, Suyang-Ri,
Silchon-Eup, Kwangju-City,
Kyunggi-Do, Korea, 464-874
Tel: +82 31 798 6340
Fax: +82 31 798 6342
E-mail: info@acumentkorea.com

**SPAIN**
Avdel Spain S.A.
C/ Puerto de la Morcuera, 14
Poligono Industrial Prado Overa
Ctra. de Toledo, km 7,8
28919 Leganés (Madrid)
Tel: +34 (0) 91 3416767
Fax: +34 (0) 91 3416740
E-mail: ventas@acument.com

**UNITED KINGDOM**
Avdel UK Limited
Pacific House
2 Swiftfields
Watchmead Industrial Estate
Welwyn Garden City
Hertfordshire
AL7 1LY
Tel: +44 (0) 1707 292000
Fax: +44 (0) 1707 292199
E-mail: enquiries@acument.com

**USA**
Avdel USA LLC
614 NC Highway 200 South
Stanfield, North Carolina 28163
Tel: +1 704 888-7100
Fax: +1 704 888-0258
E-mail: infoAvdel-USA@acument.com

www.avdel-global.com

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