Loosening fixings?

IEC provides the answer...

The Secure Bolt System (SBS) is a patented and reusable self-locking system that can be used where standard bolt and washer or nut would be required. It has been tested to stringent industry specifications by accredited test laboratories worldwide, ensuring its effectiveness in applications subject to severe vibration.

The system offers an excellent solution to manufacturers requiring the tightening of fasteners in applications prone to vibration. It is a mechanical based, self-locking, reusable fastener system that will not lose torque under high vibration and heat applications.

The SBS Fastener is a unique fastener system that is protected by worldwide patents. This product is available in both SAE and Metric sizes as well as different grades or classes. Customized designs for specific applications are also available on request.

<table>
<thead>
<tr>
<th>Description</th>
<th>Bolt Description</th>
<th>Torque in lb/ft</th>
<th>Tightening</th>
<th>Bolt Length in mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>M6 x 1.0P</td>
<td>M6 x 1.0P</td>
<td>16.1</td>
<td>14.0</td>
<td>100</td>
</tr>
<tr>
<td>M8 x 1.25P</td>
<td>M8 x 1.25P</td>
<td>24.6</td>
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<td>125</td>
</tr>
<tr>
<td>M10 x 1.25P</td>
<td>M10 x 1.25P</td>
<td>38.0</td>
<td>27.0</td>
<td>160</td>
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<td>M12 x 1.75P</td>
<td>M12 x 1.75P</td>
<td>65.1</td>
<td>45.0</td>
<td>200</td>
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</tbody>
</table>

The SBS Fastener consists of a bolt, two washers and a nut. Both the underside of the bolt head and the flat part of the washer should be facing the surface of the material that is being tightened. Using a standard wrench or socket turn the bolt clockwise to tighten, ensuring that the wrench or socket is engaged on both the bolt and washer at the same time. Once the bolt and washer are tightened to the desired torque, remove wrench or socket from the washer and proceed to tighten the bolt head until the washers on the bolt head is flush up against the washer on the bolt head.

SBS Fastener System
- Vibration and shock resistant
- Anti-shaft design
- Easy to use
- Reuseable
- Good performance over range of torque settings
- Wide operating temperature range compared to adhesive solution
- Single source fastening solution

How it works...

Before

How the SBS Fastener works

The SBS Fastener consists of a bolt, two washers and a nut. Both the underside of the bolt head and the flat part of the washer should be facing the surface of the material that is being tightened. Using a standard wrench or socket turn the bolt clockwise to tighten, ensuring that the wrench or socket is engaged on both the bolt head and washer at the same time. Once the bolt and washer are tightened to the desired torque, remove wrench or socket from the washer and proceed to tighten the bolt head until the washers on the bolt head is flush up against the washer on the bolt head.

Assembly & applications...

How the SBS Fastener works

The SBS Fastener consists of a bolt, two washers and a nut. Both the underside of the bolt head and the flat part of the washer should be facing the surface of the material that is being tightened. Using a standard wrench or socket turn the bolt clockwise to tighten, ensuring that the wrench or socket is engaged on both the bolt head and washer at the same time. Once the bolt and washer are tightened to the desired torque, remove wrench or socket from the washer and proceed to tighten the bolt head until the washers on the bolt head is flush up against the washer on the bolt head.

IEC Provides the Answer

IEC provides the answer for applications where removal with standard wrench is required.

(1) Standard: designed for applications where removal with standard wrench is required.

(2) Special: designed for removal with tamperproof wrench.

Secure Bolt System
- Total flexibility
- Total strength
- Total security
- Total reliability

Put SBS to the test, available now!
Secure Bolts System

The Secure Bolt System is a patented and reusable self-locking fastener system that can be used in applications where traditional fasteners would not provide adequate security.

**Overview**

- **Vibration and shock resistant**
- **Anti-shaft design**
- **Easy to use**
- **Reusable**
- **Good performance over range of torque settings**
- **Wide operating temperature range compared to adhesive solution**
- **Single source fastening solution**

**Product Range**

<table>
<thead>
<tr>
<th>Material</th>
<th>Description</th>
<th>Tensile</th>
<th>Finish</th>
<th>Nut / Bolt</th>
<th>Length</th>
<th>Washers</th>
</tr>
</thead>
<tbody>
<tr>
<td>High tensile steel</td>
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<td>Zinc plate - standard</td>
<td>N/A</td>
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</tr>
</tbody>
</table>

**Testing Endorsed by**

- SGS Vibration Laboratories
- NAS 3000

**How it works**

The SBS Fastener system is a patented and reusable self-locking fastener system that can be used in applications where traditional fasteners would not provide adequate security.

**Assembly & applications**

The Secure Bolt System can be assembled and tightened using a standard wrench or socket. This applies to either type of washer used (hex or round).

**LOOSENING FIXINGS?**

IEC provides the answer...

The SBS (Secure Bolt System) Fastener is a patented and reusable self-locking fastener system that can be used in applications where traditional fasteners would not provide adequate security. It is manufactured by IEC, a company with a wide range of quality products.

**We aim to provide the best in both products and service**

IEC provides the answer...

- **Experienced sales staff give fast, effective and friendly service.**
- **Technical support available.**
- **Large stock - same day dispatch - Kwikfit UK & Ireland.**
- **Cost-effective solutions.**
- **Modern technology combined with people, design, communication - no sacrifice.**
- **Think long term - overcoming customers.**

**Integrity • Expertise • Commitment**

IEC, 5 Hammond Road, Hootfield Estate, Penzance, TR18 2HR, Great Britain

**Available!**

Put to the test free samples.
**Product range**

<table>
<thead>
<tr>
<th>Nut Description</th>
<th>Bolt Description</th>
<th>Torque to Nm</th>
<th>BS 98</th>
<th>BS 369</th>
<th>BS 766</th>
<th>BS 1194</th>
</tr>
</thead>
<tbody>
<tr>
<td>M6 x 1.0P</td>
<td>1/8&quot; 12UNC</td>
<td>1.6</td>
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<td>4</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>M8 x 1.25P</td>
<td>5/32&quot; 8UNC</td>
<td>2.6</td>
<td>5</td>
<td>10</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>M10 x 1.5P</td>
<td>3/16&quot; 10UNC</td>
<td>4.0</td>
<td>7</td>
<td>14</td>
<td>21</td>
<td>25</td>
</tr>
<tr>
<td>M12 x 1.75P</td>
<td>1/4&quot; 11UNC</td>
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<td>24</td>
<td>36</td>
<td>40</td>
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<td>12.5</td>
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<td>50</td>
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<td>90</td>
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<tr>
<td>M20 x 2.5P</td>
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<td>135</td>
<td>180</td>
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<tr>
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<td>31.8</td>
<td>63</td>
<td>126</td>
<td>189</td>
<td>240</td>
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</table>

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<td>240</td>
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</table>

**Test results**

Tested under -
- Hex Nut & Conical Washer
- Normal Nut & Flat Washer

IEC provides the answer...

**Loose nut or bolt head?**

The SBS (Secure Bolt System) Fastener consists of a standard hexagon shaped nut or bolt and washer that includes a specially designed wedge integrated into its design.

The concept...

Once the bolt is tightened, the washer and bolt head sit together. The nut or bolt cannot back off as it acts as a ‘wedge’ and will put a downward force onto the metal as it attempts to back off, due to the opposing wedges on the nut and bolt head.

Two types of washer designs...

1. Standard design, for applications where removal with standard wrench is required
2. Special design requiring a special indexed socket for removal for tamperproof applications

**Assembly & applications...**

The SBS Fastener can be assembled and tightened using a standard wrench or socket. This applies to either type of washer used (hex or round).

However, removal of the nut or bolt requires a different approach depending on which type of washer is used.

Using the hex washer with the nutbolt allows the fastening to be loosened using a standard wrench or socket.

The round washer however cannot be loosened using the same standard tools. In this instance the use of a specially designed SBS indexed socket is used.

This has the benefit of adding an ‘anti-theft’ element to this combination of nutbolt and washer.

The Secure Bolt System can be used in a wide range of different applications.
Our difference...

We are a family owned company founded in 1948 to supply quality mechanical components. Today we supply a broad-based industry with a wide range of quality products. These are manufactured by a network of international people who are each specialists in their own field.

We aim to provide the best in both products and service.

Test results

Material: Nickel plate
Finish: 316 Stainless Steel
Specifications by accredited test laboratories worldwide to prove its effectiveness in applications subject to severe vibration.

How it works...

The SBS Fastener consists of a bolt, two washers and a nut. Both the underside of the two bolt head and the flange of the washer should be facing the surface of the material that is being fastened. The head fits into the material as it attempts to back off, due to the opposing wedges on the nut or bolt head and washers.

Two types of washer designs

(1) Standard hex washer (2) Flanged washer

How the SBS Fastener works

The nut are designed with washers which correspond with the wedges found on the washer. The washers in the washer should be facing the nut and bolt head. The flat part of the washer should be facing the washer. The washer is designed with wedges which correspond with the nut found on the washer. The nut are designed with washers which correspond with the wedges found on the washer. The washers in the washer should be facing the nut and bolt head. The flat part of the washer should be facing the washer. The washer is designed with washers which correspond with the nut found on the washer.

Assembly & applications...

The SBS Fastener can be assembled and tightened using a standard wrench or socket. This applies to either type of washer used (hex or round).

However, removal of the nut bolt requires a different approach depending on which type of washer is used. Using the hex washer with the nut bolt allows the fastening to be loosened using a standard wrench or socket. The round washer however cannot easily be loosened using the same standard tools. In this instance the use of a specially designed SBS internal socket is used.

The Secure Bolt System can be used in a wide range of different applications.
### Product range

<table>
<thead>
<tr>
<th>Description</th>
<th>Bolt</th>
<th>Torque in Nm</th>
<th>Bolt Length in mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>M6 x 1.0P</td>
<td>10.1</td>
<td>14.7</td>
<td>15.6</td>
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<tr>
<td>M8 x 1.25P</td>
<td>24.6</td>
<td>30.6</td>
<td>35.6</td>
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<tr>
<td>M10 x 1.5P</td>
<td>48.4</td>
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<td>67.6</td>
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<tr>
<td>M12 x 1.75P</td>
<td>85.1</td>
<td>120.1</td>
<td>141.1</td>
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<td>M14 x 2.0P</td>
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<td>226.2</td>
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<td>M16 x 2.25P</td>
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<td>353.0</td>
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<td>M18 x 2.5P</td>
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<td>M20 x 2.5P</td>
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<td>711.6</td>
<td>831.0</td>
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<td>M22 x 2.5P</td>
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<td>N/A</td>
</tr>
<tr>
<td>M24 x 2.5P</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Test results

- **SBS Fastener System**
  - **Tested under**: DIN EN 1413:2010
  - **Tested at**: SABS Vibration Laboratories

### IEC provides the answer...

- **Vibration and shock resistant**
- **Anti-shaft design**
- **Easy to use**
- **Reliable**
- **Good performance over range of torque settings**
- **Wide operating temperature range compared to adhesive solution**
- **Single source fastening solution**

### How it works...

**Before**

- The SBS Fastener consists of a bolt, two washers and a nut. Both the underside of the hex bolt head and the top part of the washer should be facing the surface of the material that is being fastened.

**After**

- The SBS Fastener is comprised of an anti-theft element: two specialindexed washers. The nut are designed with a washers that correspond with the wedges found on the washer.

### Assembly & applications...

- **The SBS Fastener can be assembled and tightened using a standard wrench or socket.** This applies to either type of washer used (hex or round).
- **However, removal of the nutbolt requires a different approach depending on which type of washer is used.** Using the hex washer with the nutbolt allows the fastening to be loosened using a standard wrench or socket.
- **The round washer however cannot be loosened using the same standard tools.** In this instance the use of a specially designed SBS indexed socket is required.

**The Secure Bolt System can be used in a wide range of different applications.**
# Secure Bolts System

**Our difference...**

We are a family owned company founded in 1988 to supply quality mechanical components. Today we enjoy a broad-based industry with a wide range of quality products.

These are manufactured by engineers of international repute who are also specialists in their own field.

We are approved to BS EN ISO 9001:2000.

We aim to provide the best in both products and service.

Our patented self-locking system gives fast, effective and friendly service. Technical support is seamless.

Large stocks - same day dispatch - Xtreme and Twist 47x47 mm.

Cost effective solutions.

Modern technology combined with people, service, communication - no surprises! Think long term - everlasting customer.

---

## Integrity • Expertise • Commitment

---

## IEC provides the answer...

The SBS (Secure Bolt System) Fastener is a patented and reusable self-locking system that can be used where a standard bolt, washer or nut would be required. It has been tested to stringent industry specifications by accredited test laboratories worldwide to prove its effectiveness in applications subject to extreme vibration. The system provides an excellent solution to manufacturers experiencing the loosening of their fasteners in applications prone to vibration. It provides a mechanically based, self-locking, reusable fastener system that will not lose torque under high vibration and heat applications.

The SBS Fastener is a new unique fastener system that is protected by world-wide patents. This product is available in both SAE and Metric sizes as well as different grades or classes. Customized designs for specific applications are also available on request.

### Benefits
- Vibration and shock resistant
- Anti-shaft design
- Easy to use
- Reusable
- Good performance over range of torque settings
- Wide operating temperature range compared to adhesive solution
- Single source fastening solution

### How it works...

**Before**

- Rounded washer

**After**

- Rounded washer

### Composition

The SBS Fastener consists of a bolt, two washers and a nut. Both the underside of the two bolt head and the flat part of the washer should be facing the surface of the material that is being fastened. The nut are designed with wedges which correspond with the wedges found on the washer.

The wedges on the washer should be facing the nut and bolt head, and the flat of the washer should be facing the surface of the material that is being fastened. Using a standard wrench or socket turn the bolt clockwise to tighten, ensuring that the wrench or socket is engaged on both the bolt head and washer at the same time. Once the bolt and washer are tightened to the desired torque, remove wrench or socket from the washer and proceed to tighten the bolt head until the wedges on the bolt head sit flat up against the washers. This ensures that the Fastener is fully engaged.

### Assembly & applications...

The SBS Fastener can be assembled and tightened using a standard wrench or socket. This applies to either type of washer used (hex or round).

However, removal of the nutbolt requires a different approach depending on which type of washer is used. Using the hex washer with the nutbolt allows the fastening to be loosened using a standard wrench or socket.

The round washer however cannot easily be loosened using the standard tools. In this instance the use of a specially designed SBS indexed socket is used. Using the hex washer with the nutbolt allows the fastening to be loosened using a standard wrench or socket.

The Secure Bolt System can be used in a wide range of different applications.

---

## Test results

**Tested under**

Normal Nut & Flat Washer

**Material:**

- Nickel plate
- Dacromet
- High tensile steel according to DIN 17 240 as defined within DIN 267 part 13

**Patents:**

- System that is protected by world wide patents.

**Patents:**

- Vibration and shock resistant
- Anti-shaft design
- Easy to use
- Reusable
- Good performance over range of torque settings
- Wide operating temperature range compared to adhesive solution
- Single source fastening solution

<table>
<thead>
<tr>
<th>Description</th>
<th>Material</th>
<th>Design</th>
<th>Screw head size</th>
<th>Pocket Size</th>
<th>Washers</th>
<th>Nut size</th>
<th>Material</th>
<th>Finish</th>
<th>Total flexibility</th>
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</thead>
<tbody>
<tr>
<td>M8 x 1.25P</td>
<td>M8 1.25</td>
<td>Round</td>
<td>3 / 8” x 18 UNC</td>
<td>8.6</td>
<td>12.2</td>
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<td>M10 x 1.5P</td>
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<td>M24</td>
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</table>

**SBS Lock System**

- NAS 3350
- SGS Vibration Laboratories
- JQA Vibration Laboratories

**Torque Nm Torque in 1lb/ft**

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