

# BLINDBOLT®

The smart solution for steelwork connections,  
now exclusively distributed in New Zealand,  
by Milsons®



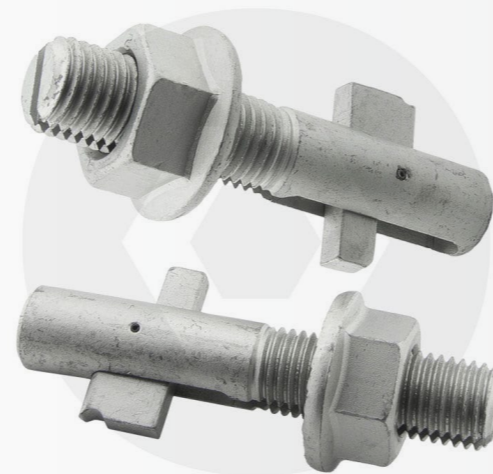
**milsons®**

 [milsons.co.nz](http://milsons.co.nz)  0800 507 444

Blind Bolt offers an innovative and highly effective fixing solution for both horizontal and vertical applications in all types of constructional cavities. Its success lies in its straightforward operation. The design is both simple and ingenious: a metal bar is threaded at one end and slotted at the other, equipped with a pivoting toggle that holds it securely in place. Whether used horizontally or vertically, the Blind Bolt ensures a perfect fix.

Applying the Blind Bolt is a breeze with just three steps: drill, rotate, and tighten. No welding gear or specialised tools are necessary, making it ideal for restricted access or working at height. This efficiency means you can work quickly without sacrificing quality, ultimately saving both time and money – a key consideration for anyone in construction or engineering.

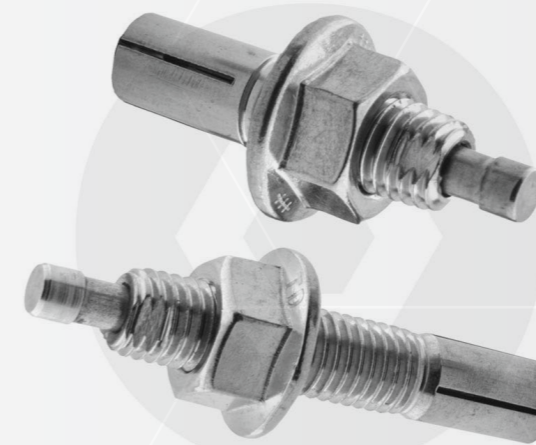
Blind Bolts are perfect for a range of applications, including fixing cladding and facades to building exteriors and securing masonry support systems. From hollow section bolts to box section fixings, Blind Bolt products are making a significant impact on the working lives of designers, engineers, architects, planners, and builders.



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## The Standard Blindbolt

Flexible, high speed blind fixing for multiple applications



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## The Heavy Duty Blindbolt

For heavy-duty applications available in multiple finishes



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## The Thin Wall Blindbolt

For fixing light weight materials, such as sheet steel or cladding

For more information: [blindbolt.co.nz](http://blindbolt.co.nz)

# The Standard Blind Bolt

## Introduction

**BLINDBOLT®**

**Thanks to the unique flexibility of the Blind Bolt we are constantly finding new areas where the product can save time and money, as well as increasing our range of sizes to suit your requirements.**

The Blind Bolt brings exceptional qualities to the market in that it has transcended the first generation of blind fixings and fasteners become a product that is widely utilised throughout the construction industry. There aren't many fixing products which can change the way designers and architects think, but we can honestly state that about our blind bolts.

No longer is fixing into a girder cavity or box section a problem. The Blind Bolt has provided a solid solution whilst also reducing costs, in most cases. The Blind Bolt is now being used in areas where never expected and we are sure there are many more uses for the system.



# The Standard Blind Bolt **Technical Data**

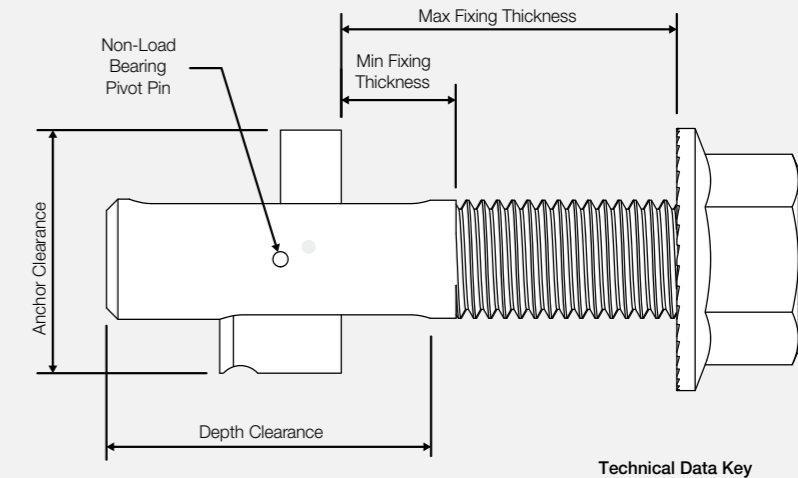


## Blind Bolt Product Specification – Zinc Flake 1000Hr SSP – Property Class 10.9<sup>1</sup>

Product Code	Bolt Size	Box Qty	Hole Diameter, mm	Fixing Thickness, min, mm	Fixing Thickness, max, mm	Anchor Clearance, mm	Depth Clearance, mm	Minimum Hole Centres, mm
<b>BB0850ZF</b>	<b>M8 x 50</b>	50	9	9	24	19	25	20
<b>BB1060ZF</b>	<b>M10 x 60</b>	40	11	10	30	23	30	20
<b>BB1095ZF</b>	<b>M10 x 95</b>	20	11	25	65	23	30	20
<b>BB10130ZF</b>	<b>M10 x 130</b>	20	11	55	100	23	30	20
<b>BB1270ZF</b>	<b>M12 x 70</b>	20	13	12	35	26	35	25
<b>GBB30140ZF</b>	<b>M30 x 140*</b>	5	32	27	60	65	72	75

## Blind Bolt Product Specification – Hot Dip Galvanised – Property Class 10.9<sup>1</sup>

Product Code	Bolt Size	Box Qty	Hole Diameter, mm	Fixing Thickness, min, mm	Fixing Thickness, max, mm	Anchor Clearance, mm	Depth Clearance, mm	Minimum Hole Centres, mm
<b>BB1270HDG</b>	<b>M12 x 70</b>	20	13	12	35	26	35	25
<b>BB12120HDG</b>	<b>M12 x 120</b>	25	13	30	85	26	35	25
<b>BB12180HDG</b>	<b>M12 x 180</b>	20	13	80	140	26	35	25
<b>GBB1475HDG</b>	<b>M14 x 75*</b>	20	15	14	35	32	38	32
<b>GBB14125HDG</b>	<b>M14 x 125*</b>	20	15	28	82	32	38	32
<b>GBB14185HDG</b>	<b>M14 x 185*</b>	20	15	75	142	32	38	32
<b>GBB1690HDG</b>	<b>M16 x 90*</b>	20	17	13	43	36	43	35
<b>GBB16130HDG</b>	<b>M16 x 130*</b>	15	17	40	75	36	43	35
<b>GBB16180HDG</b>	<b>M16 x 180</b>	10	17	55	125	36	43	35
<b>GBB20110HDG</b>	<b>M20 x 110*</b>	10	22	21	56	44	56	48
<b>GBB20140HDG</b>	<b>M20 x 140*</b>	8	22	21	86	44	56	48
<b>GBB20180HDG</b>	<b>M20 x 180*</b>	10	22	80	120	44	56	48
<b>GBB20250HDG</b>	<b>M20 x 250*</b>	10	22	130	185	44	56	48
<b>GBB24130HDG</b>	<b>M24 x 130*</b>	5	26	21	62	53	64	60



<sup>1</sup>Property Class 10.9 means  $f_{ur} = 1000$  MPa

\* We strongly recommend the use of our installation gauges when installing these bolts

# The Standard Blind Bolt **Technical Data**



## Hot Dip Galvanised And Zinc Flake Blind Bolt Property Class 10.9<sup>1</sup> Design resistances to the principles of NZS 3404

Diameter	Tension Capacity $\phi N_{tf}$ (kN)	Shear Capacity over thread $\phi V_f$ (kN)	Shear Capacity over slot $\phi V_f$ (kN)	Recommended tightening torque (Nm)
<b>M8</b>	9.8	14.6	9.1	15
<b>M10</b>	14.1	23.2	19.0	24
<b>M12</b>	22.4	33.7	26.4	30
<b>M14</b>	34.8	46.0	34.8	40
<b>M16</b>	38.8	62.8	49.1	50
<b>M20</b>	71.4	98.0	76.1	65
<b>M24</b>	117	141	105	75
<b>M30</b>	175	224	165	85

These are design values and should be compared directly with the design shear force  $V_f^*$  and design tension force  $N_{tf}^*$ .

Bolt bearing capacity should be calculated in accordance with NZS 3404 clause 9.3.2.4.1, using the nominal diameter of the bolt.

Combined shear and tension should satisfy the following equation:

$$\left(\frac{V_f^*}{\phi V_f}\right)^2 + \left(\frac{N_{tf}^*}{\phi N_{tf}}\right)^2 \leq 1.0$$

using the values of  $\phi V_f$  and  $\phi N_{tf}$  from the adjacent table.

The design tension resistances make no allowance for the deformation of the connected parts, which is likely to be the critical check when connecting thin material.

<sup>1</sup> Property Class 10.9 means  $f_{yf} = 1000$  MPa

# The Standard Blind Bolt **Technical Data**



## Blind Bolt Product Specification - **Stainless Steel A4-70**

Product Code	Bolt Size	Box Qty	Hole Diameter, mm	Fixing Thickness, min, mm	Fixing Thickness, max, mm	Anchor Clearance, mm	Depth Clearance, mm	Minimum Hole Centres, mm
<b>BB0850A4ASM</b>	<b>M8 x 50</b>	50	9	9	24	19	25	20
<b>BB1060A4ASM</b>	<b>M10 x 60</b>	40	11	10	29	23	30	20
<b>BB1290A4ASM</b>	<b>M12 x 90</b>	20	13	12	55	26	35	25
<b>GBB16100A4ASM</b>	<b>M16 x 100*</b>	20	17	13	53	36	43	35

## Stainless Steel Blind Bolt – Design resistances to the principles of NZS 3404#

Diameter	Tension Capacity $\phi N_{tf}$ (kN)	Shear Capacity over thread $\phi V_f$ (kN)	Shear Capacity over slot $\phi V_f$ (kN)	Recommended tightening torque (Nm)
<b>M8</b>	5.3	12.3	7.8	15
<b>M10</b>	12.7	19.5	13.3	22
<b>M12</b>	22.0	28.3	18.4	28
<b>M16</b>	42.9	52.8	36.1	45

\* We strongly recommend the use of our installation gauges when installing these bolts

# NZS 3403 does not cover the design of stainless steel. The values on this table have been determined in accordance with EN 1993-1-8, which is compatible with NZS 3404.

These are design values and should be compared directly with the design shear force  $V_f^*$  and design tension force  $N_{tf}^*$ .

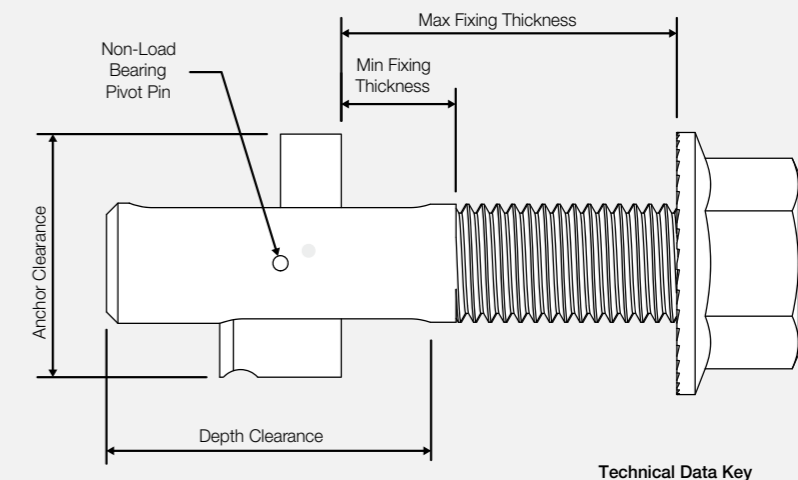
Bolt bearing capacity should be calculated in accordance with NZS 3404 clause 9.3.2.4.1, using the nominal diameter of the bolt.

Combined shear and tension should satisfy the following equation:

$$\left(\frac{V_f^*}{\phi V_f}\right)^2 + \left(\frac{N_{tf}^*}{\phi N_{tf}}\right)^2 \leq 1.0$$

using the values of  $\phi V_f$  and  $\phi N_{tf}$  from the adjacent table.

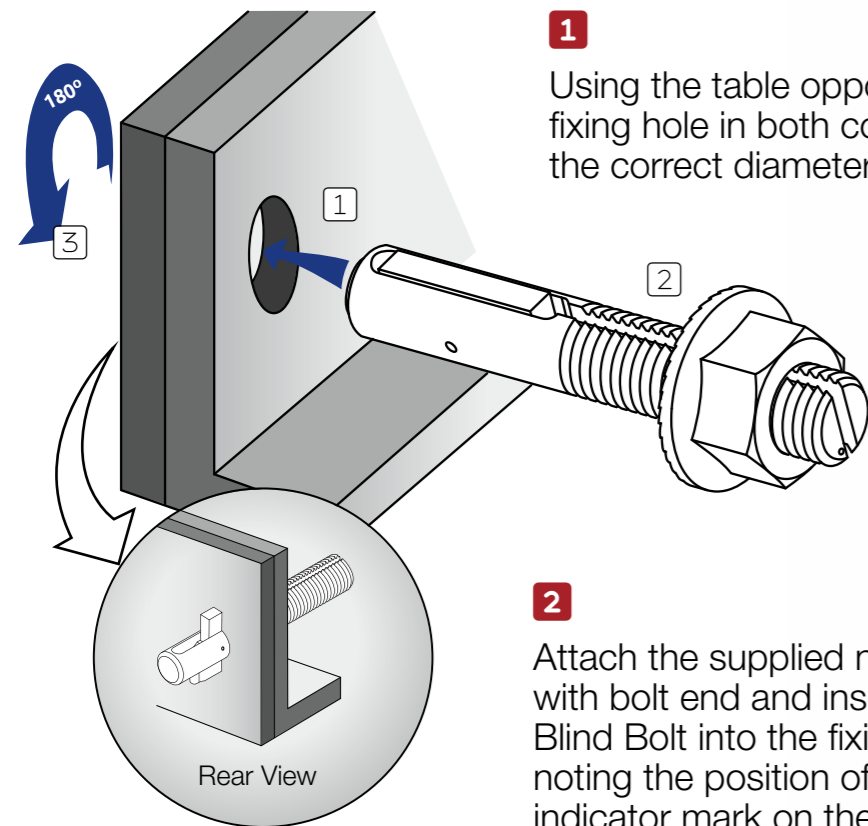
The design tension resistances make no allowance for the deformation of the connected parts, which is likely to be the critical check when connecting thin material.



# Blind Bolt Installation Instructions

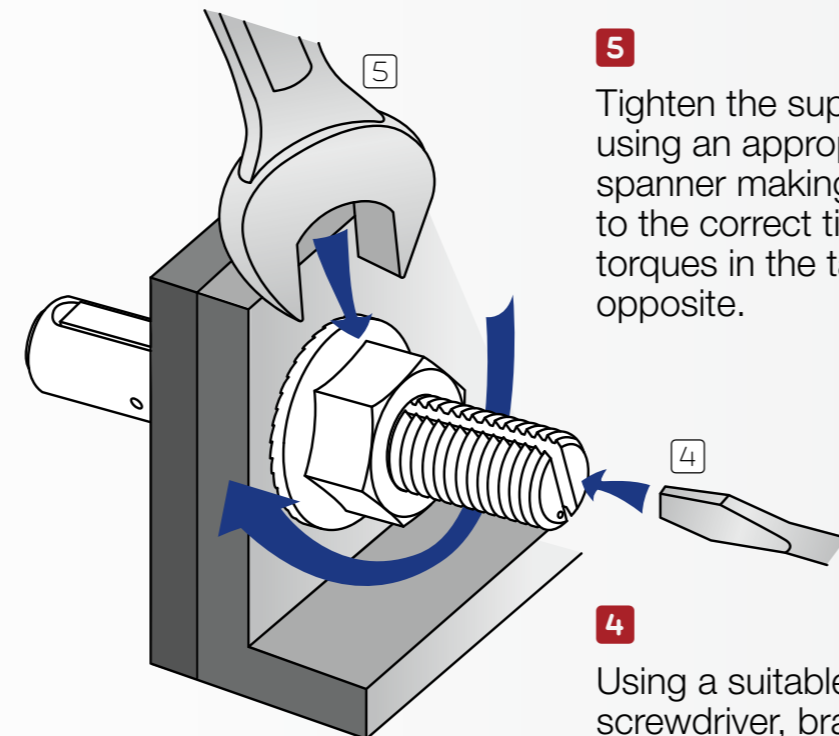
## The Standard Blind Bolt Installation

**! Important**  
Overspray or other contamination on the “blind” side of the joint should be avoided, as this may prevent the application of the recommended tightening torque



**1**  
Using the table opposite drill a fixing hole in both components to the correct diameter.

**2**  
Attach the supplied nut flush with bolt end and insert the Blind Bolt into the fixing hole noting the position of the indicator mark on the head of the bolt, (see indicator mark diagram).



**5**  
Tighten the supplied nut using an appropriate spanner making reference to the correct tightening torques in the table opposite.

**4**  
Using a suitable screwdriver, brace the bolt to prevent the body from rotating.

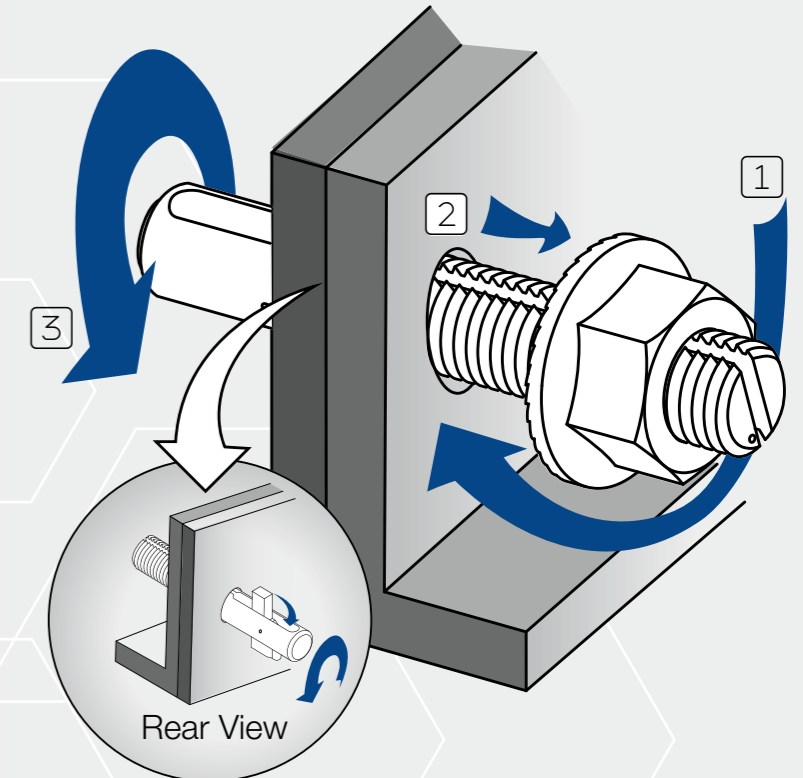
**3**  
Rotate the Blind Bolt through 180°. This action will release the locking anchor, (see rear view).

## Removal

**1**  
To remove a Blind Bolt release the fixing nut but DO NOT remove it

**2**  
Push the Blind Bolt Further into the fixing hole and rotate the entire bolt 180°. (See indicator mark diagram for reference.)

**3**  
Remove the Blind Bolt once anchor has been stowed.

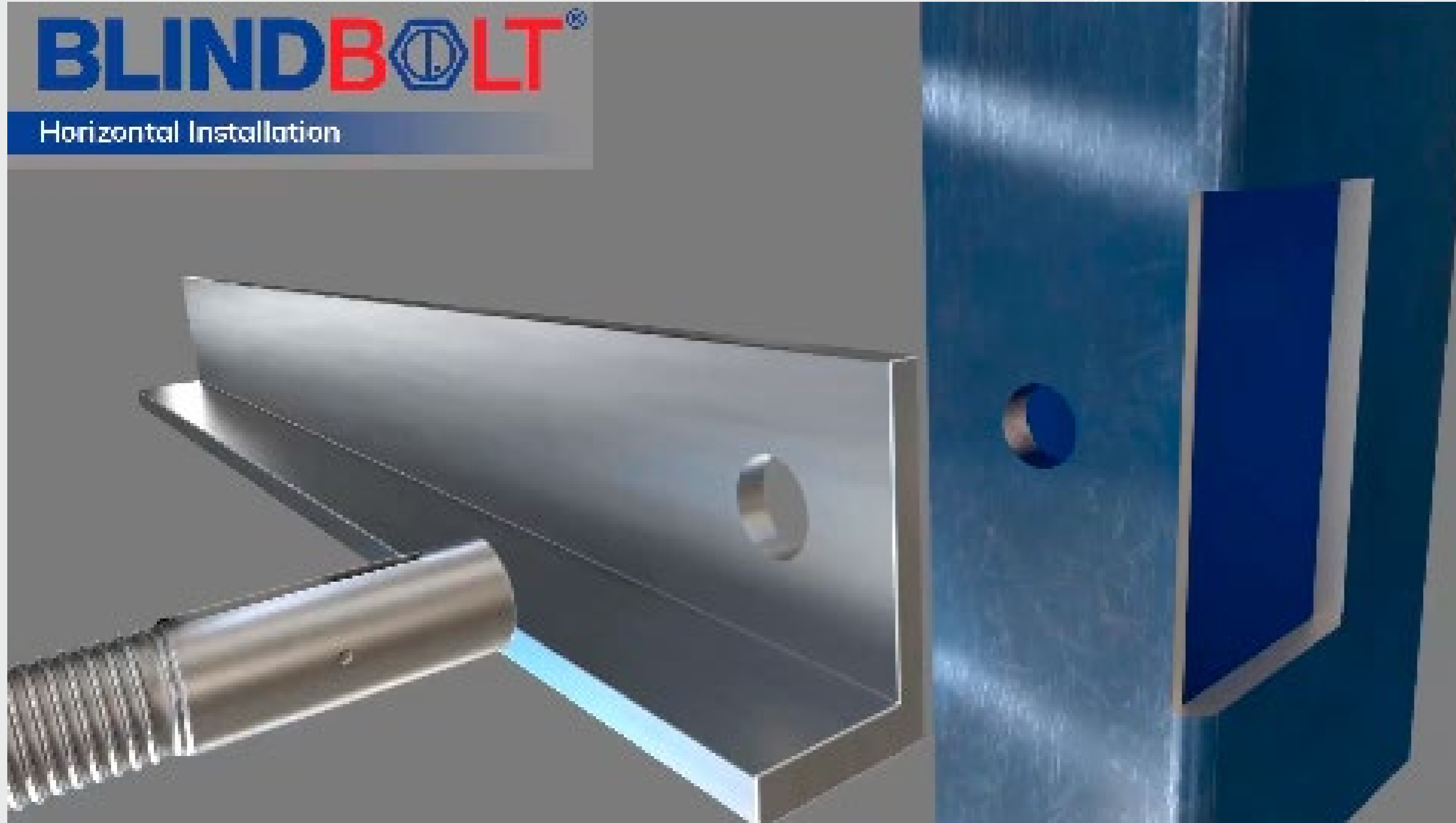


## Diameter & Torque Reference

Bolt Size, mm	Hole Diameter, mm	Hot Dip Galv & Zinc Flake Recommended Tightening Torque, Nm	A4-70 Stainless Steel Recommended Tightening Torque, Nm
<b>M8</b>	<b>9</b>	15	15
<b>M10</b>	<b>11</b>	24	22
<b>M12</b>	<b>13</b>	30	28
<b>M14</b>	<b>15</b>	34	-
<b>M16</b>	<b>17</b>	50	45
<b>M20</b>	<b>22</b>	65	-
<b>M24</b>	<b>26</b>	75	-
<b>M30</b>	<b>32</b>	85	-

# Blind Bolt **Horizontal Installation**

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# Blind Bolt **Horizontal Removal**

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## The Standard Blind Bolt Installation Guide

### Vertical Blind Bolt Installation

**1**

Using the table, drill a fixing hole in both components to the correct diameter.

**2**

Loosely fit the Blind Bolt's nut and fully insert the Blind Bolt into the fitting hole.

**! Important**

Overspray or other contamination on the "blind" side of the joint should be avoided, as this may prevent the application of the recommended tightening torque

**5**

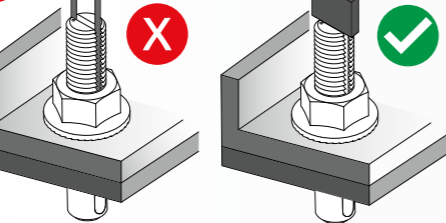
Loosely tighten the Blind Bolt's nut to finger tight.

**6**

Using a suitable screwdriver, brace the bolt to prevent the body from rotating.

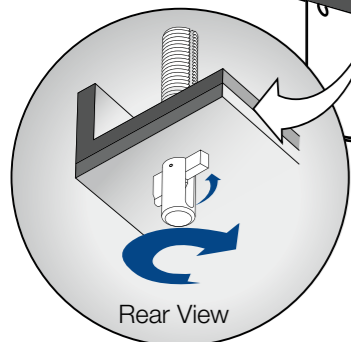
**7**

Tighten the supplied nut using an appropriate spanner making reference to the correct tightening torques in the table opposite.



**4**

For M14 Blind Bolts and above, using the Installation Gauge supplied, insert both legs into the lateral grooves fully to ensure the anchor has correctly deployed<sup>2</sup>.



**3**

To deploy the anchor spin the Blind Bolt rapidly by hand and allow to drop<sup>1</sup>.

<sup>1</sup> Anchors on M14 and above Blind Bolts can also be activated using the provided wire tool, see removal steps opposite.

<sup>2</sup> The head of the Installation Gauge should sit flush on the head of the Blind Bolt if deployment was successful. If a gap is present repeat step 1 and re-test.

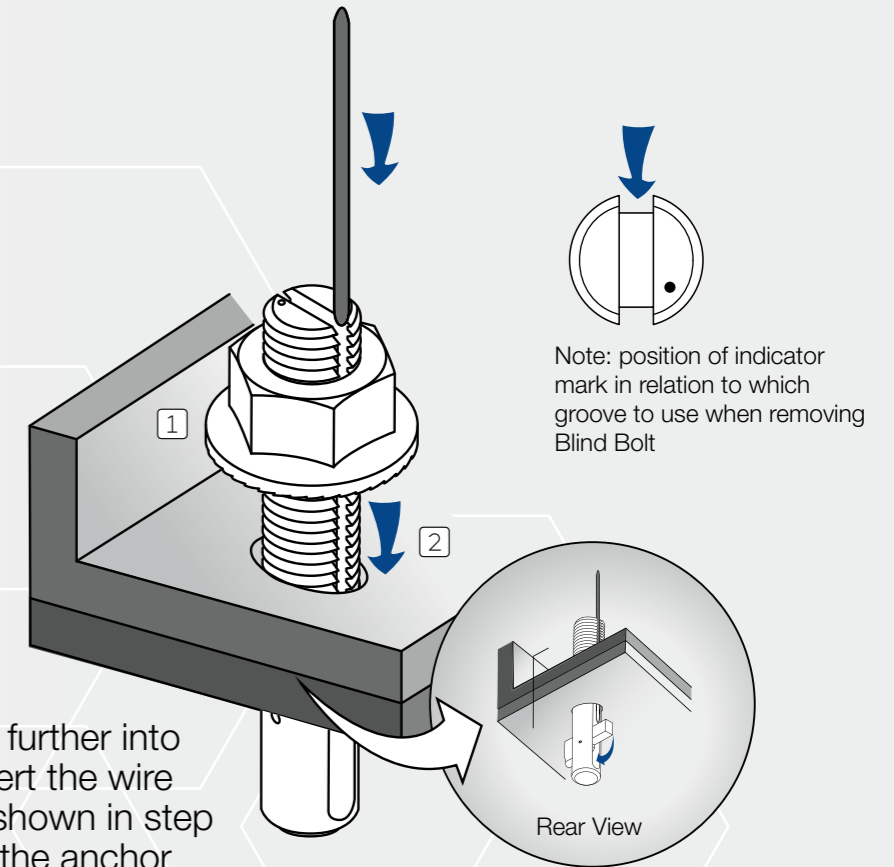
### Removal

**1**

To remove a Blind Bolt release the fixing nut but **DO NOT** remove it.

**2**

Push the Blind Bolt further into the fixing holes, insert the wire tool into the groove shown in step 3a. This will retract the anchor back into the body allowing it to be removed from the fixing hole.



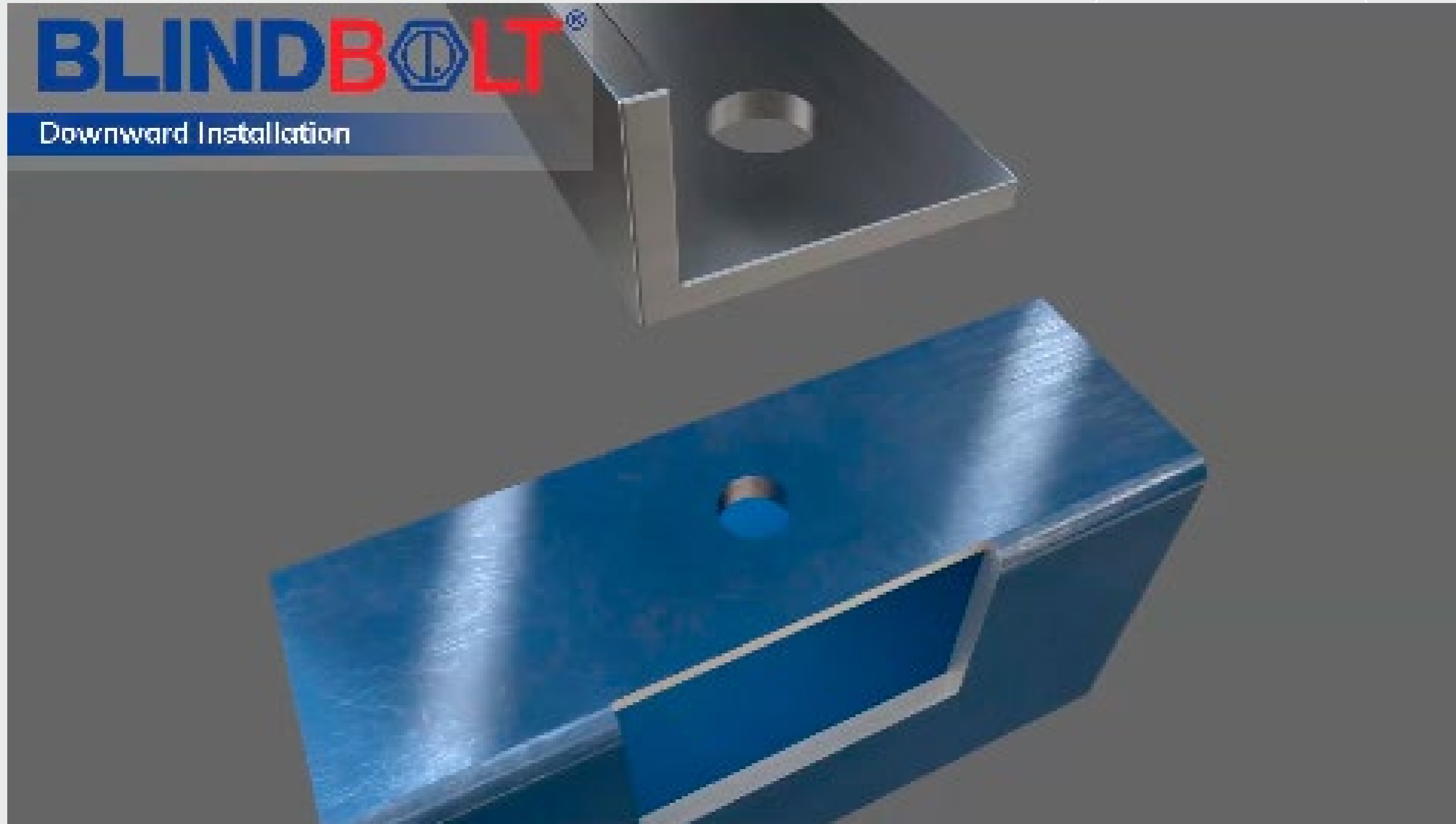
Note: position of indicator mark in relation to which groove to use when removing Blind Bolt

### Diameter & Torque Reference

Bolt Size, mm	Hole Diameter, mm	Hot Dip Galv & Zinc Flake Recommended Tightening Torque, Nm	A4-70 Stainless Steel Recommended Tightening Torque, Nm
<b>M8</b>	<b>9</b>	15	15
<b>M10</b>	<b>11</b>	24	22
<b>M12</b>	<b>13</b>	30	28
<b>M14</b>	<b>15</b>	34	-
<b>M16</b>	<b>17</b>	50	45
<b>M20</b>	<b>22</b>	65	-
<b>M24</b>	<b>26</b>	75	-
<b>M30</b>	<b>32</b>	85	-

# Blind Bolt **Downward Installation**

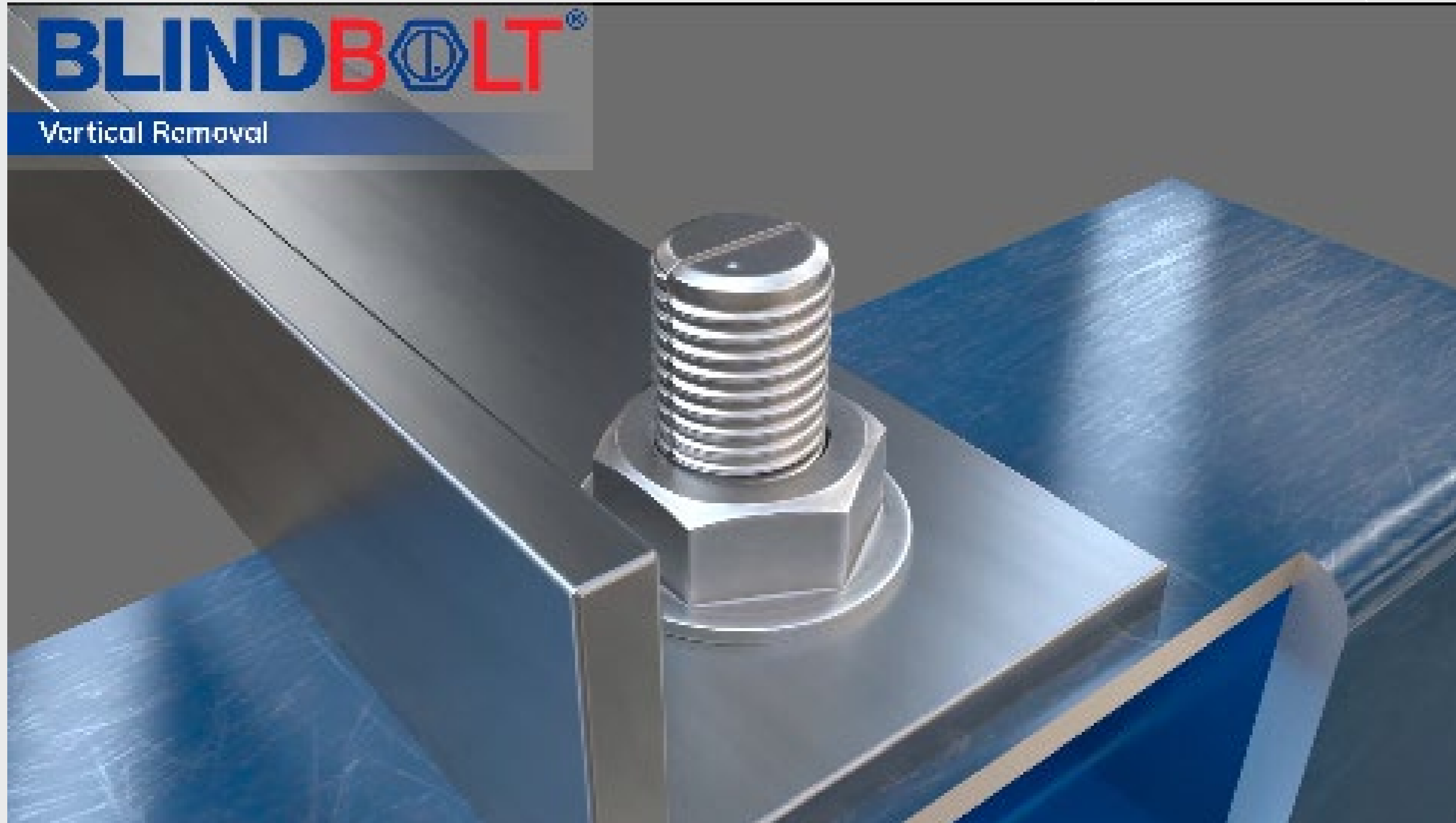
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# Blind Bolt **Vertical Removal**

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# The Heavy Duty Blind Bolt

## Introduction

**BLINDBOLT®**

**The HD, or Heavy Duty Bolt was developed to address the need for a shorter blind fixing with improved performance where a shear plane would fall across the legs of a Blind Bolt.**

With its expanding base and unique pin locking mechanism the HD bolt is the ideal fixing solution between heavy weight steel sections. The HD bolt employs a simple activation method designed to reduce installation time and expense. A hammer and a spanner are all that's required to activate the Heavy Duty Bolt removing the need for costly specialist equipment required with similar products.

- + Quick and easy to install.
- + No oversized hole required.
- + Available in Carbon Steel with a Class 10.9 screw, finished with a Zinc Flake coating giving 1000 hours salt spray protection.
- + Available in A4-70 Stainless Steel for high corrosion areas.
- + Increased assembly efficiency.
- + Unique pin locking design.



# The Heavy Duty Bolt **Technical Data**



## Heavy Duty Product Specification

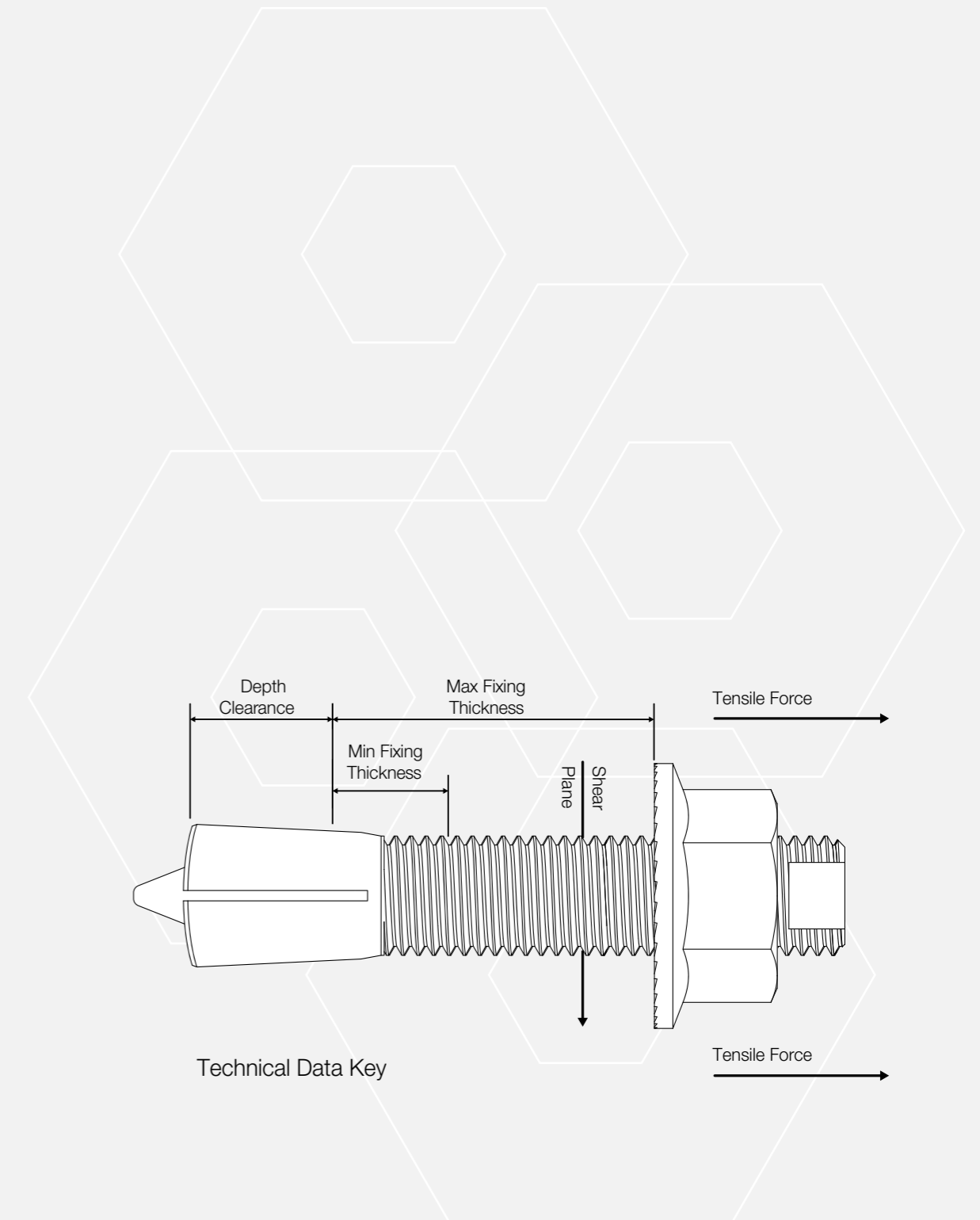
### Zinc Flake 1000Hr SSP (1000 hour Salt Spray Protection)

Product Code	Bolt Size	Hole Diameter, mm	Clamping Range, min, mm	Clamping Range, max, mm	Depth Clearance, mm	Corrosion Protection Salt Spray (hours)
HD0845ZF	M8 x 45	8	7	25	10	Zinc Flake 1000 Hr
HD1045ZF	M10 x 45	10	7	25	12	Zinc Flake 1000 Hr
HD1060ZF	M10 x 60	10	7	40	12	Zinc Flake 1000 Hr
HD1245ZF	M12 x 45	12	8	22	15	Zinc Flake 1000 Hr
HD1260ZF	M12 x 60	12	8	34	15	Zinc Flake 1000 Hr
HD1275ZF	M12 x 75	12	8	48	15	Zinc Flake 1000 Hr
HD1660ZF	M16 x 60	16	12	30	25	Zinc Flake 1000 Hr
HD1675ZF	M16 x 75	16	12	45	25	Zinc Flake 1000 Hr
HD2070ZF	M20 x 70	20	15	32	30	Zinc Flake 1000 Hr
HD2085ZF	M20 x 85	20	15	47	30	Zinc Flake 1000 Hr

## Design Resistances for HD Type Blind Bolts

### Design to BS EN 1993-1-8 Zinc Flake 1000Hr SSP HD Bolts

Bolt Size	Single Shear, kN	Tension, kN	Recommended Pre-load Tightening Torque, Nm
M8	13.6	13.6	20
M10	21.9	31.7	35
M12	32.2	46.6	45
M16	60.8	69.6	95
M20	95.5	88.2	120



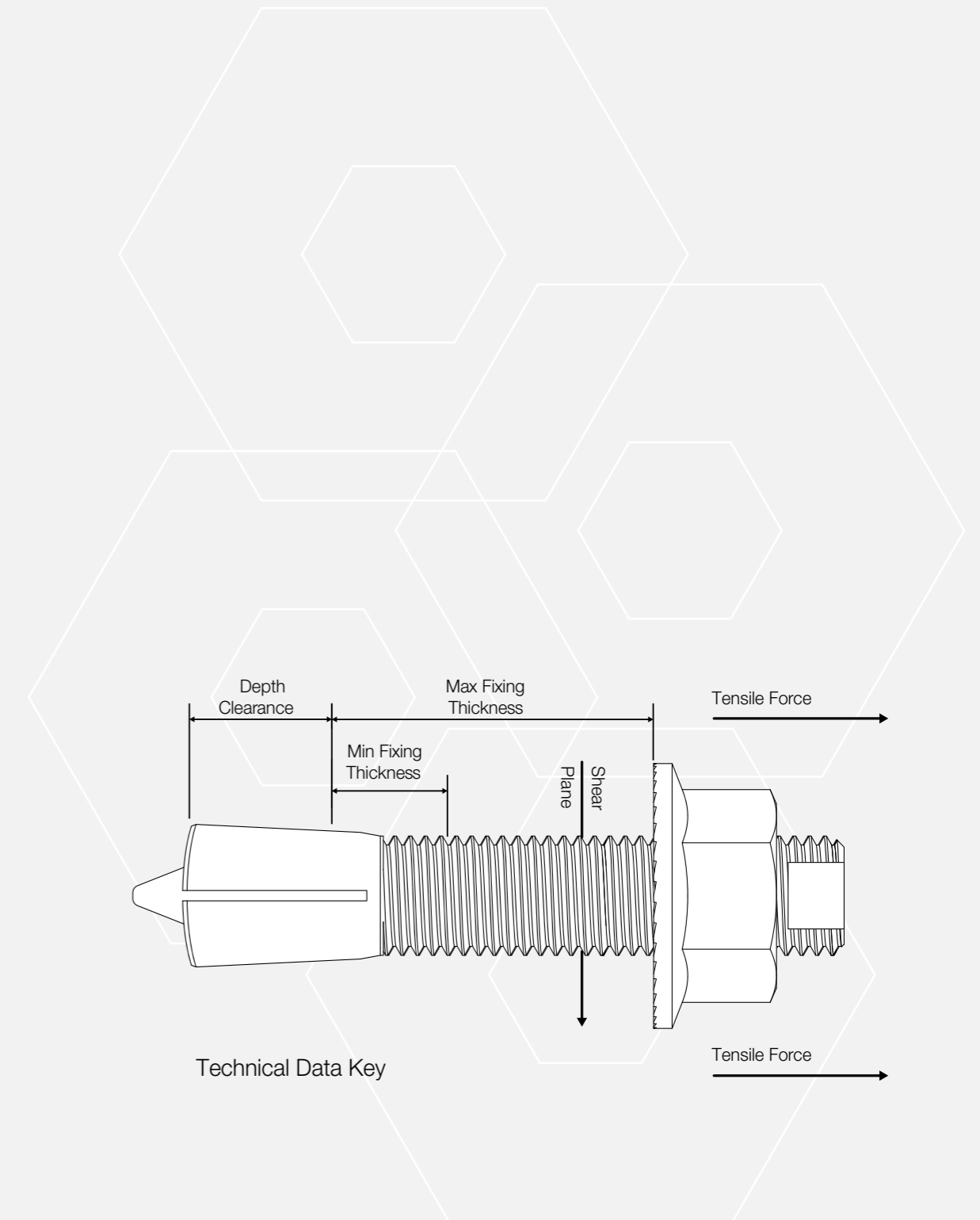
# The Heavy Duty Bolt **Technical Data**

## Heavy Duty Product Specification – **A4-70 Stainless Steel**

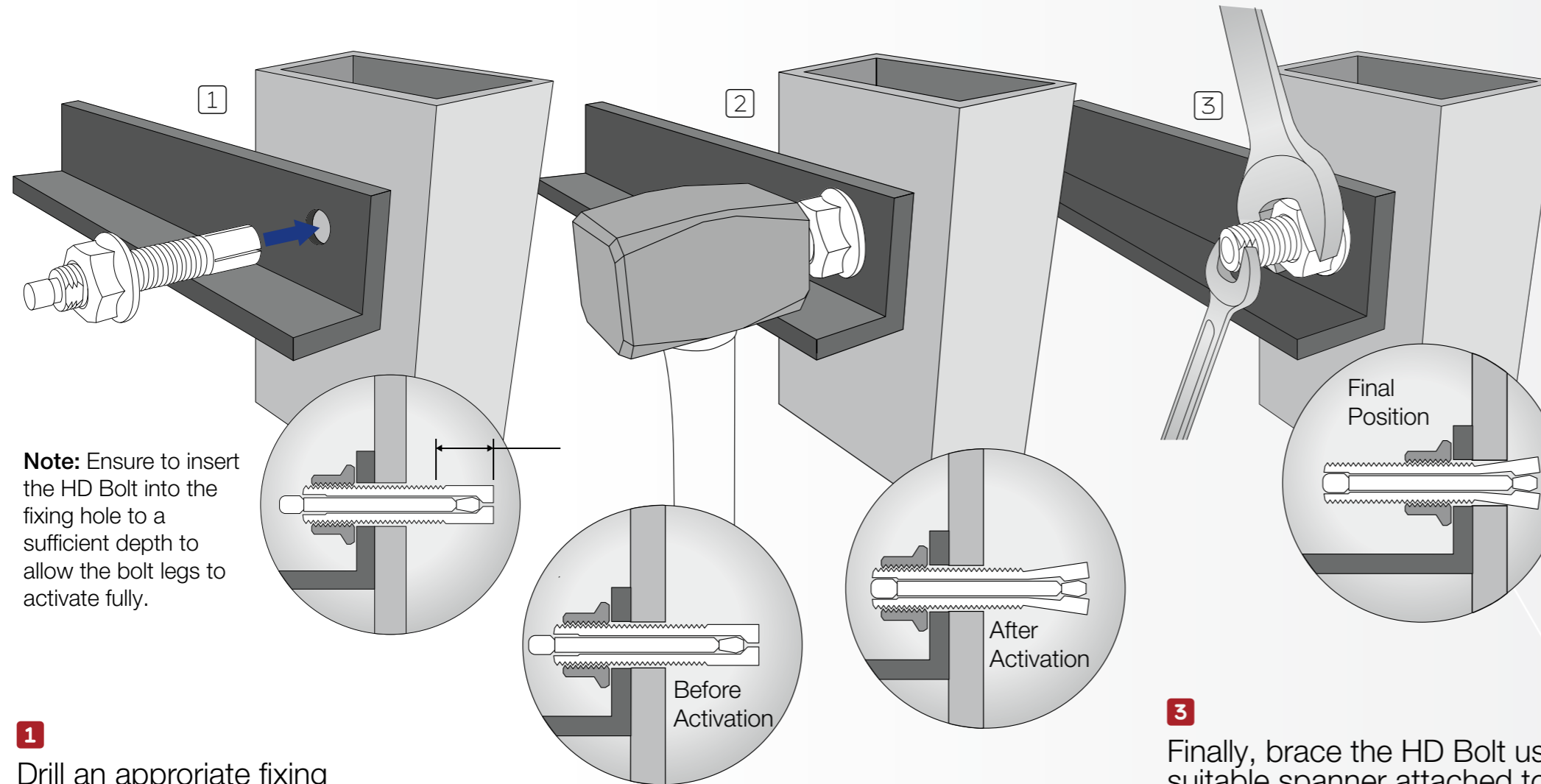
Product Code	Bolt Size	Hole Diameter, mm	Clamping Range, min, mm	Clamping Range, max, mm	Depth Clearance, mm
<b>HD0845SS</b>	<b>M8 x 45</b>	8	7	25	10
<b>HD1045SS</b>	<b>M10 x 45</b>	10	7	25	12
<b>HD1060SS</b>	<b>M10 x 60</b>	10	7	40	12
<b>HD 1245SS</b>	<b>M12 x 45</b>	12	8	22	15
<b>HD1260SS</b>	<b>M12 x 60</b>	12	8	37	15
<b>HD1660SS</b>	<b>M16 x 60</b>	16	12	30	25
<b>HD2070SS</b>	<b>M20 x 70</b>	20	15	32	30

## Design Resistances for HD Type Blind Bolts Design to **BS EN 1993-1-8 A4-70 Stainless Steel**

Bolt Size	Shear, kN	Tension, kN	Recommended Pre-load Tightening Torque, Nm
<b>M8</b>	11.5	11.0	18
<b>M10</b>	18.4	10.1	24
<b>M12</b>	27.1	25.3	30
<b>M16</b>	51.1	29.4	45
<b>M20</b>	80.2	59.5	80



# The Heavy Duty Bolt **Installation Guide**



**Note:** Ensure to insert the HD Bolt into the fixing hole to a sufficient depth to allow the bolt legs to activate fully.

**1** Drill an appropriate fixing hole in box components to be connected, also note clamping range and depth clearance required.

**2** Using a suitable weighted hammer strike the activation pin at the head of the bolt until flush with the bolt head. This will force apart the anchoring legs at the base of the bolt into their locked position.

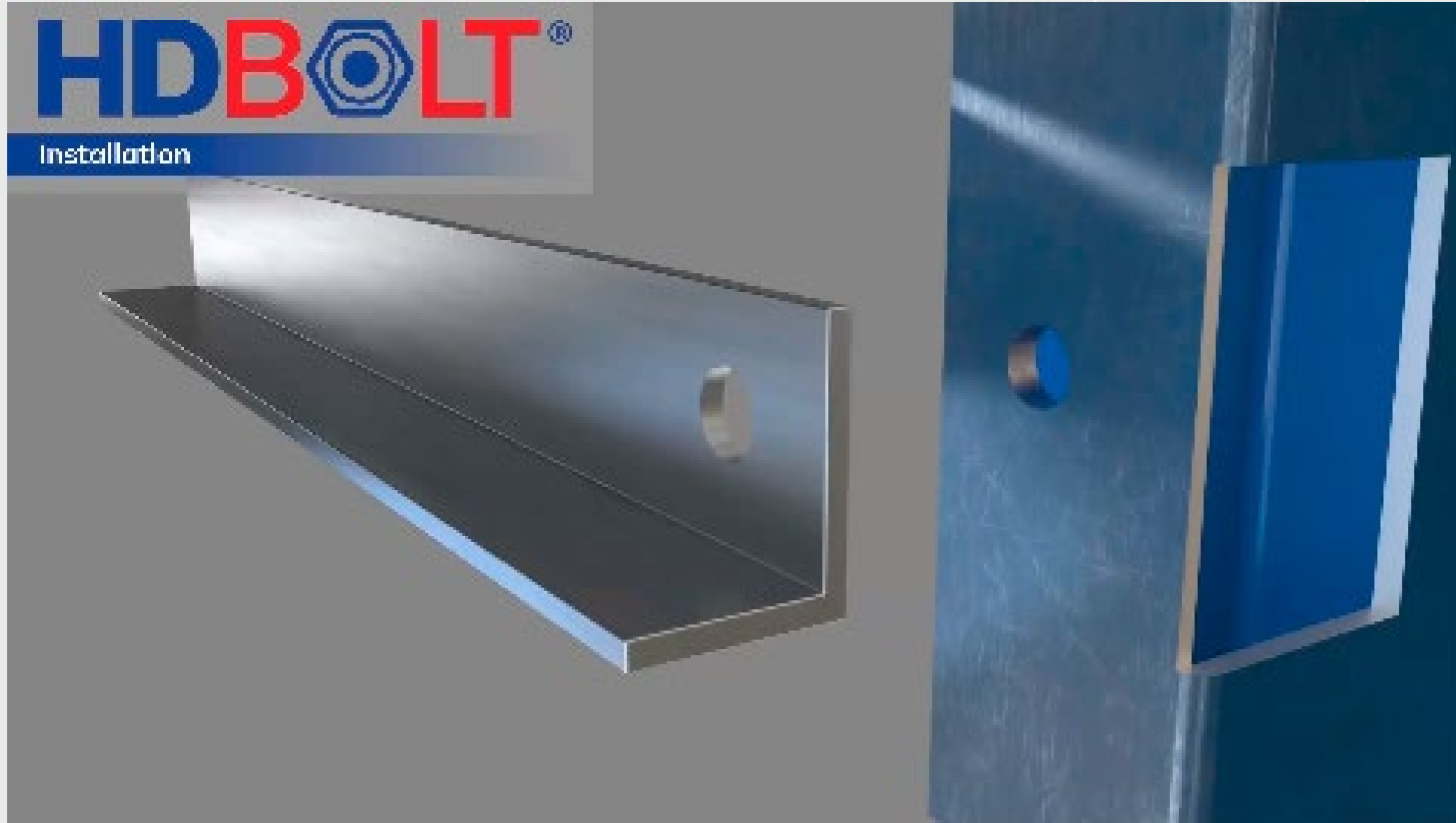
**3** Finally, brace the HD Bolt using a suitable spanner attached to the machined flats at the head of the bolt and tighten the supplied nut to the recommended pre-load torque found adjacent.

## Diameter & Torque Reference

Bolt Size	Zinc Flake 1000hr SSP Recommended Tightening Torque (Nm)	A4-70 Stainless Steel Recommended Tightening Torque (Nm)
M8	20	18
M10	35	24
M12	45	30
M16	95	45
M20	120	80

# Heavy Duty Bolt **Installation**

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# The Thin Wall Blind Bolt

## Introduction

**BLINDBOLT®**

**Thin Wall Bolts or TW Bolts were developed to address the need for a blind fixing to be used into lightweight steel sheet or cladding material.**

After installation, a neat, low-profile head is left with no stud. The Thin Wall bolt has a high shear capacity. It is quick and easy to install.

- + No over-sized hole required.
- + Available in Zinc Nickel Electroplate or 316 stainless steel for high corrosion areas.
- + Increased assembly efficiency.



# The Thin Wall Bolt **Technical Data**



## Thin Wall Bolt Product Specification **Zinc Nickel**

Product Code	Hole Diameter, mm	Depth Clearance, mm	Clamping Range, min, mm	Clamping Range, max, mm
TW5ZF-10	8	35	2	10
TW5ZF-16	8	40	8	16
TW5ZF-10	10	35	2	10
TW6ZF-16	10	40	8	16
TW8ZF-10	13	45	2	10
TW8ZF-16	13	50	8	16

## TW type Blind Bolts

### Design resistance to the principles of NZS 3404# - Zinc Nickel

TW Bolt Size	Set Screw Diameter, mm	Collar Outside Diameter, mm	Hole Diameter, mm	Tension Capacity $\phi N_{tf}$ (kN)	Shear Capacity $\phi V_f$ (kN)
TW5	5	7.8	8	4.8	15.9
TW6	6	9.5	10	10.1	23.4
TW8	8	12.6	13	18.4	41.4

# NZS 3403 does not cover the design of TW bolts. The values on this table have been determined in accordance with EN 1993-1-8, which is compatible with NZS 3404.

These are design values and should be compared directly with the design shear force  $V_f^*$  and design tension force  $N_{tf}^*$ .

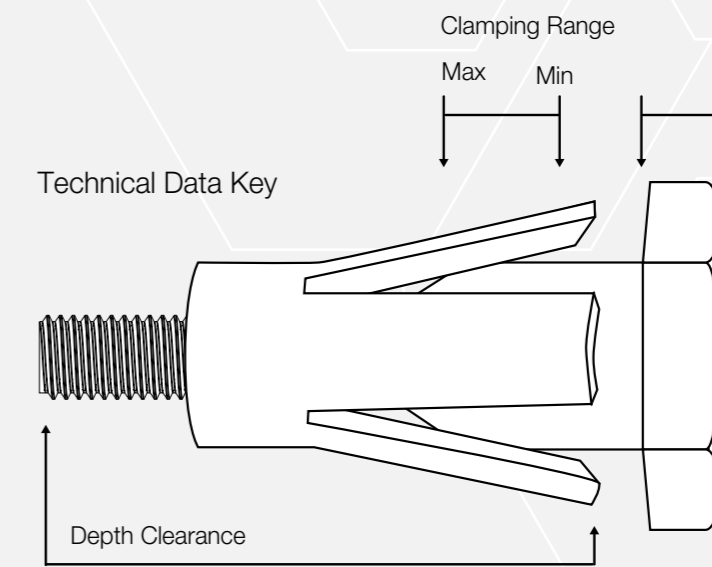
Bolt bearing capacity should be calculated in accordance with NZS 3404 clause 9.3.2.4.1, using the collar outside diameter.

Combined shear and tension should satisfy the following equation:

$$\left(\frac{V_f^*}{\phi V_f}\right)^2 + \left(\frac{N_{tf}^*}{\phi N_{tf}}\right)^2 \leq 1.0$$

using the values of  $\phi V_f$  and  $\phi N_{tf}$  from the adjacent table.

The design tension resistances make no allowance for the deformation of the connected parts, which is likely to be the critical check when connecting thin material.



# The Thin Wall Bolt **Technical Data**



## Thin Wall Bolt Product Specification **Stainless Steel A2-70**

Product Code	Hole Diameter, mm	Depth Clearance, mm	Clamping Range, min, mm	Clamping Range, max, mm
<b>TW5SS-10</b>	8	35	2	10
<b>TW5SS-16</b>	8	40	8	16
<b>TW6SS-10</b>	10	35	2	10
<b>TW6SS-16</b>	10	40	8	16
<b>TW8SS-10</b>	13	45	2	10
<b>TW8SS-16</b>	13	50	8	16

## TW type Blind Bolts

### Design resistance to the principles of NZS 3404# – Stainless Steel A2-70

TW Bolt Size	Set Screw Diameter, mm	Collar Outside Diameter, mm	Hole Diameter, mm	Tension Capacity $\phi N_{tf}$ (kN)	Shear Capacity $\phi V_f$ (kN)
<b>TW5</b>	5	7.8	8	5.0	14.0
<b>TW6</b>	6	9.5	10	7.1	20.8
<b>TW8</b>	8	12.6	13	12.9	36.4

# NZS 3403 does not cover the design of TW bolts. The values on this table have been determined in accordance with EN 1993-1-8, which is compatible with NZS 3404.

These are design values and should be compared directly with the design shear force  $V_f^*$  and design tension force  $N_{tf}^*$ .

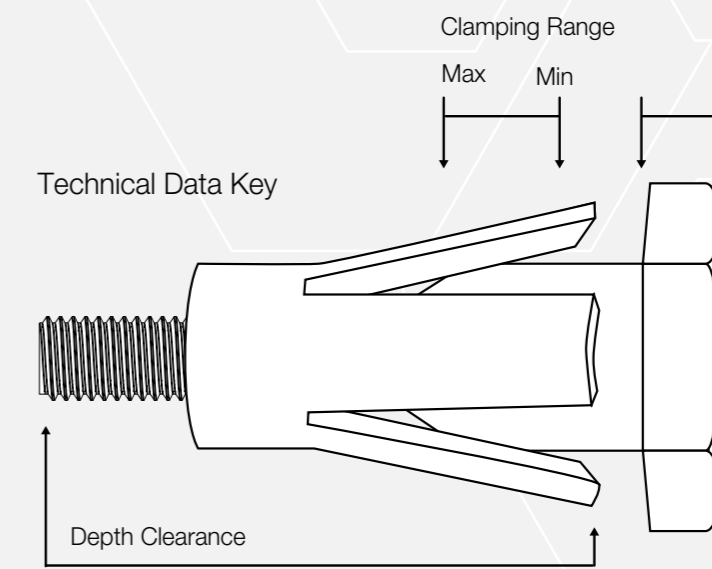
Bolt bearing capacity should be calculated in accordance with NZS 3404 clause 9.3.2.4.1, using the collar outside diameter.

Combined shear and tension should satisfy the following equation:

$$\left(\frac{V_f^*}{\phi V_f}\right)^2 + \left(\frac{N_{tf}^*}{\phi N_{tf}}\right)^2 \leq 1.0$$

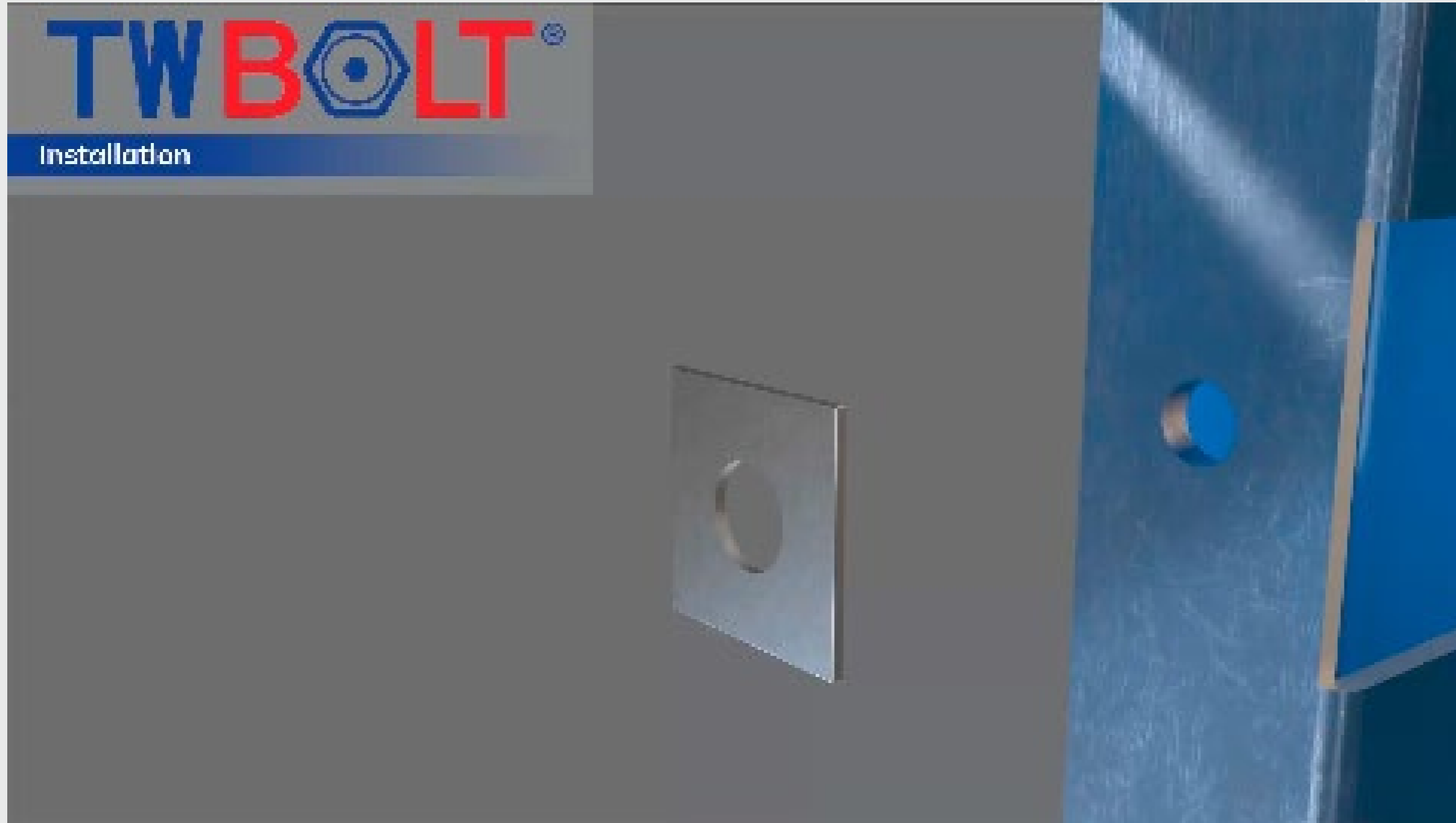
using the values of  $\phi V_f$  and  $\phi N_{tf}$  from the adjacent table.

The design tension resistances make no allowance for the deformation of the connected parts, which is likely to be the critical check when connecting thin material.



# Thin Wall Bolt **Installation**

**BLINDBOLT**<sup>®</sup>



Or please access  
the video  
via this [link](#)

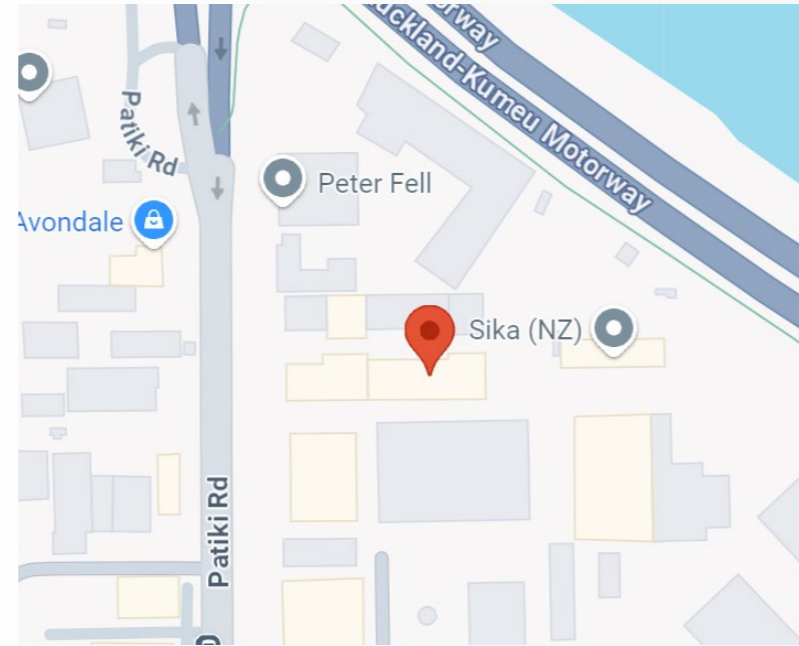
# Milsons Company Branches



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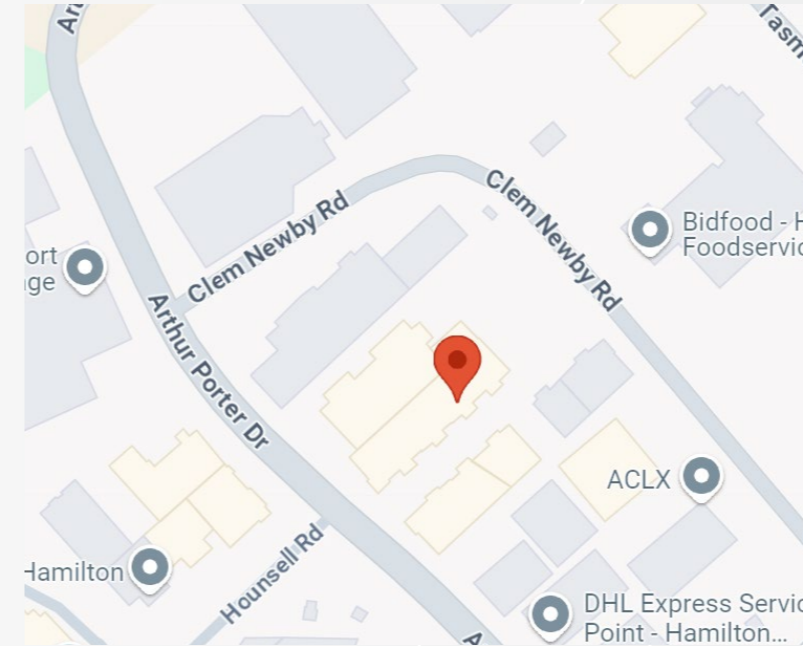
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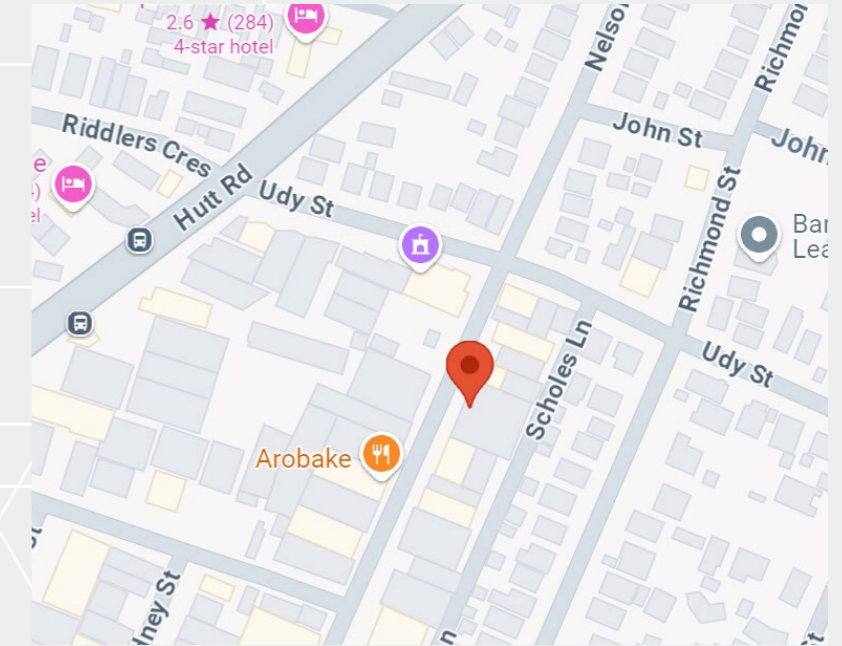
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# Our **Contact Details**

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