

**SCREWS**



**Building Ideas That Work**



**The World's Only  
Screw Manufacturer with  
REAL WORLD TESTING**



# Buildex®

## The brand that sets the standard

### Hexagon Head Drive

- Integral hexagon washer head.
- Special head shape to avoid damage during driving.
- Underside has a retaining feature to captivate the seal.

### Sealing Washer

- They are manufactured from a non conductive EPDM compound, made compatible for roofs exposed to corrosive environments.

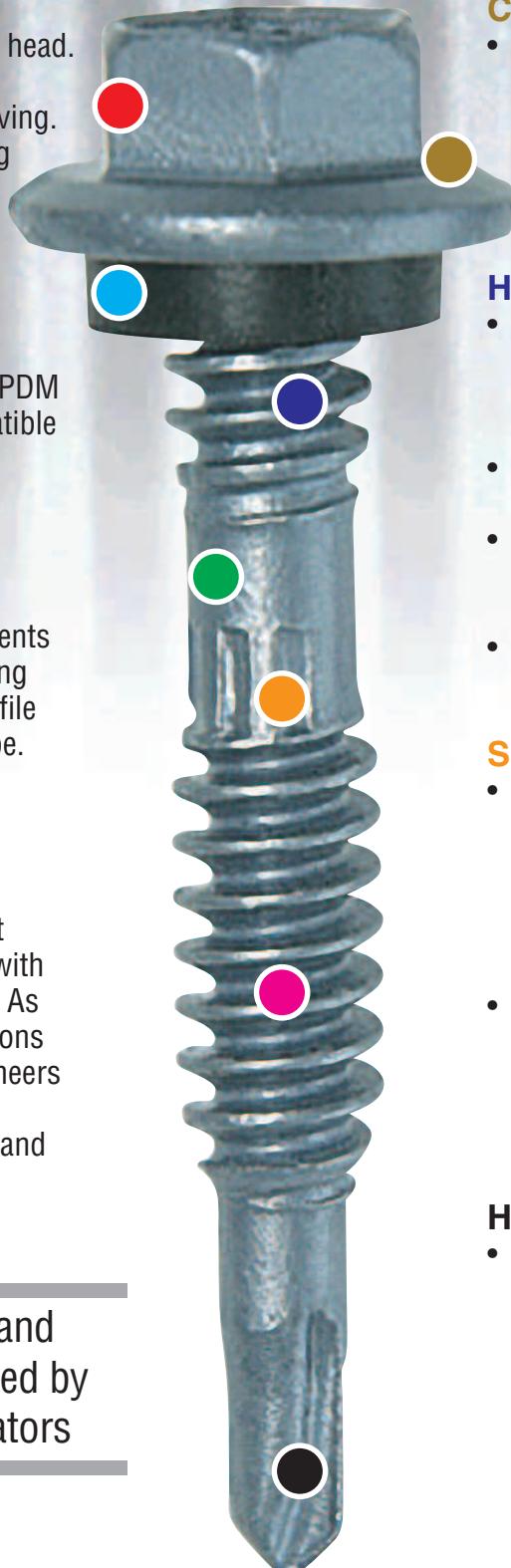
### Dwell Section

- Unthreaded section prevents the profile riding up during fixing and allows the profile to retain its original shape.

### Thread

- Buildex fasteners are designed to give the best possible holding power with a low installation torque. As thinner high tensile sections are introduced, our engineers ensure that screws have optimum holding power and pullout strength.

Features invented and continuously improved by Buildex - the Innovators



### Colormatch

- Buildex colormatch is a durable coating aimed to give a perfect match with your roof color.

### HiGrip 「高绑」

- Extrudes the roof material upwards around the fastener hole to prevent water from entering.
- Grips the roof to make a secure connection.
- Stops the roof sheet moving down the shank if the sheet is walked on.
- Ensures a water tight seal when fixing metal roofing.

### Shankguard 「螺杆保护段」

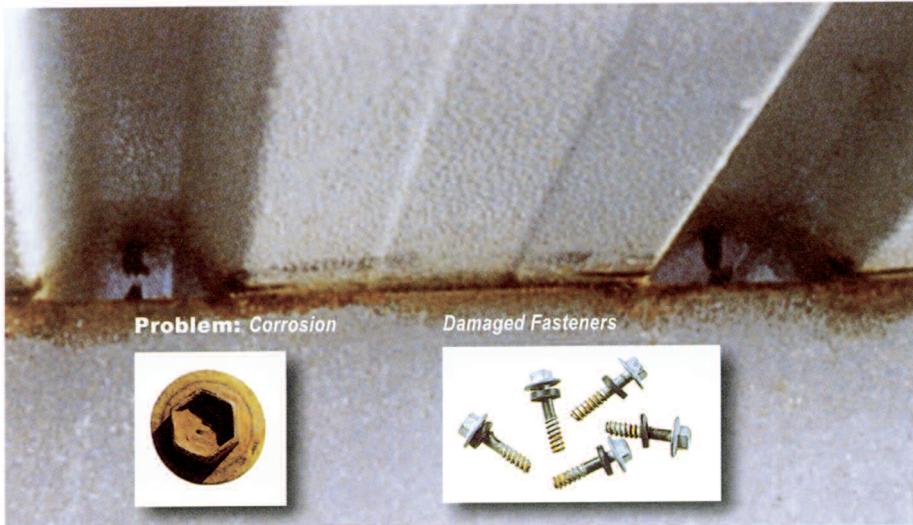
- When a corrosive micro climate exists beneath the roof, a damaged shank corrodes rapidly. This can occur at any time without warning, unnoticed.
- The unique shankguard feature enlarges the hole in the profile, avoiding damage to the protective coating on the shank beneath the roof.

### Hiteks Drill Point

- Buildex Hiteks point was introduced in 1982 and progressively upgraded to meet the requirements such as, lower loads, faster drilling & changing materials. Hiteks led the revolution in drill screw technology for more than a decade and continues to do so.

# Climaseal®

「刻力封」



Corrosion of fasteners can be caused by salt laden air from the ocean, airborne acids from industry and chemical sprays, U.V. from the sun or humidity in tropical and moist areas. Corrosion dramatically affects the performance of fasteners over their lifetime, subsequently effecting the long term structural integrity of any constitution.

Protective coatings placed on fasteners provide various levels of protection. The Australian Standard for fastener performance (AS3566), which Buildex played a major role in the development, currently lists four classes for corrosion coatings.

**Class 1** - for general internal use, most drywall and chipboard screws are in this category.

**Class 2** - for general internal use where significant levels of condensation occurs. Electroplated Zinc is generally used to meet this class.

**Class 3** - For general external use in mild and moderate industrial and mild marine applications. In moderate marine applications Buildex strongly recommends Climaseal 4.

The class is intended for roofing and cladding screws in standard applications.

Fastener compliance used to be achieved by accelerated laboratory testing. The new revision recommends the use of 'real world' testing - exposure on an outdoor test site with a maximum observable rust presence of 5%.

In the case of heavy zinc coatings, 40µm is deemed to comply. Alloy plating of ZINC/TIN 25µm is equivalent to heavy zinc at 40µm.

Buildex coating Climaseal 3 complies with this class.

**Class 4** - For external use in moderate and severe marine environments, classified in accordance with ISO 9223 as generally between 100m from the beach front to approximately 300m inland. In high winds this may extend further inland.

Compliance is to be assessed through real world testing "when testing at an approved outdoor test site there shall be no red rust present on the significant surfaces of 95% of the fasteners tested". These outdoor test sites must be located less than 500m from the mean high water line, in a coastal area with surf for most of the year.

Buildex coating ZACS 4 and Climaseal 4 comply with this class.



**Solution: Climaseal**



CORROSION MANAGEMENT

## The Buildex® Solution

### PROTECTION WITH

# Climaseal 3®



**Climaseal 3® is an unique anti-corrosive coating system consisting of 3 distinct layers which combine to give exceptional corrosion protection:**

- (1.) A mechanically deposited zinc alloy coating giving excellent galvanic protection.
- (2.) A chromate conversion coating to passivate the zinc alloy, further inhibiting coating loss.
- (3.) An aluminium filled polyester coating with good all-round corrosion and long-term weathering resistance.

Designed to conform to AS3566 Class 3, real life atmospheric testing has confirmed that the performance of Climaseal 3® far exceeds the standard!

If you want a fastener with a high-performance, corrosion resistant coating that won't let you down, consider these benefits:

- Minimal risk of coating damage during installation thanks to new, tougher coating formula.
- Better driving performance because of a smoother, harder finish.
- Superior performance in extreme temperatures, developed and tested in Australia for Australasian conditions.
- Effective sealing of roofing sheets/cladding and reduced corrosion with an improved black non-conductive EPDM seal. The black seal remains elastic in temperature extremes, and will not breakdown and allow water entry.

Climaseal 3® should be used for general external use in mild and moderate industrial, and mild marine applications



CORROSION MANAGEMENT

The Buildex® Solution

# Climaseal®4



## THE ULTIMATE BARRIER

The ultimate anti-corrosion coating for roof fasteners and cyclone plates.

Real world testing has exposed many deficiencies with the acceptance of coated finishes as "deem to comply", simply because of thickness and density measurements.

The new **Climaseal®4** coating is a layered system, combining both a high density sacrificial coating substrate over which a barrier top coat has been applied. The Climaseal®4 is then applied by a new, environmentally friendly, processing system.

**Climaseal®4 meets and exceeds AS3566 Class 4 specifications.**  
It should be used in coastal areas where salt, wind, UV and moisture are prevalent, in tropical zones and industrial areas. It is particularly recommended for use in moderate and severe marine environments.

**From 2004 onwards, a number of Buildex Climaseal®3 and all ZACS®4 coated fasteners will have their coating finish converted to Climaseal®4.**



All Climaseal®4 coated screws are easily recognisable by their silver/blue appearance, the "BXZ4" marking on the screw head, and the blue stripe found on the label packaging of Buildex bulk boxes and trade packs.



**World's only manufacturer that achieved AS3566 Standard with Real World Testing.**

More than 15 years of ongoing Real World Testing with leading steel manufacturer BlueScope Steel and leading research organisation, Commonwealth Scientific and Industrial Research Organisation (CSIRO).



- Open rack - simulates conditions on a roof



- Sheltered rack - simulates under roof and non-rain washed situation



Buildex operates and supports a research, development and testing program aimed at ensuring the customer and the building owner get the best value for money from the fasteners they purchase.

**Real World Test Sites**

In order to test the actual corrosion performance of our products, Buildex has three test sites and use a further four sites (operated by ITW Buildex & CSIRO).

These test sites are positioned at known corrosively aggressive locations around Australia.

Unlike accelerated laboratory testing, these sites expose the products to the combinations of corrosive influences that exist in the real world e.g.

- Chlorides (Marine)
- Humidity (Condensation)
- Acid Rain (Industrial)
- Ultra Violet (UV)

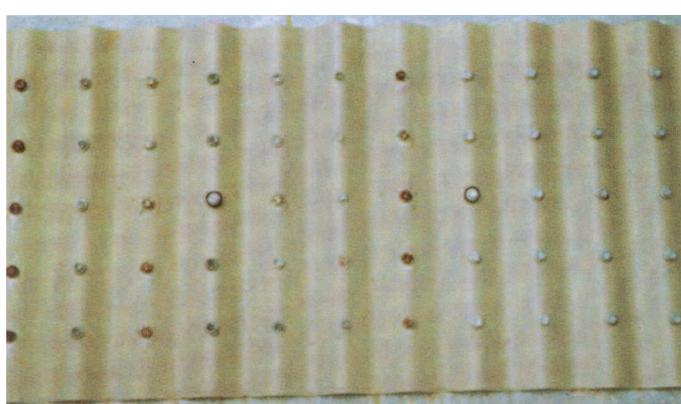
**Results of Buildex Testing**

Buildex has over 15 years experience with real world testing. Many of our products have been developed and improved as a direct result from what has been learned during the testing.

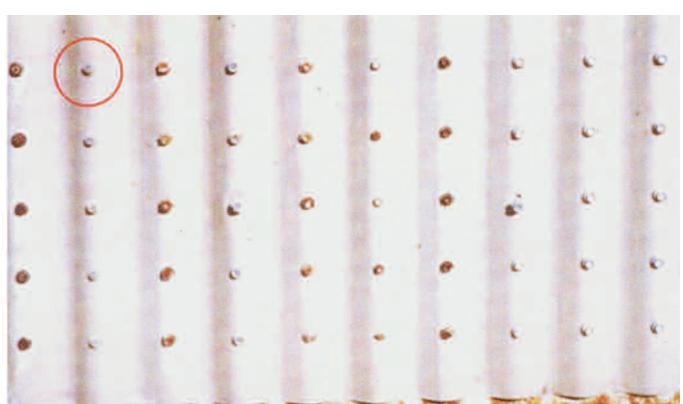
The severe conditions at these sites will give an indication of the product performance after approximately one year. The test also cover competitors' products.

**Scientific Monitoring**

All the sites are scientifically monitored to determine the degree of corrosivity at each site. This is done independently by the CSIRO.



*Buildex Competitors*



*Buildex Climaseal 3*

This panel compares Buildex product coated in Climaseal 3 with our competitors. The exposure time is after twenty-one months. **None of our competitors can compare with Buildex Climaseal 3.**

This is the same panel after an exposure time of thirty-three months. To meet Class 3, the maximum observable rust presence after an exposure time of thirty months is 5%. Buildex products with Climaseal 3 clearly exceed the standard **only one product of the competitors' sample (circled) passes this test.**

# ShankGuard®

## THE BUILDEX® SOLUTION

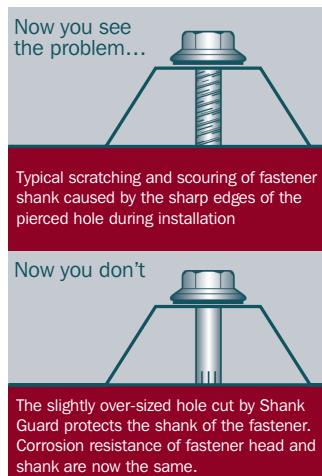
### WHY THE CORROSION RESISTANCE OF BUILDEX® ROOFING FASTENERS IS THE SAME ON THE SHANKS AS THE HEADS.

Under roof corrosion of roofing fasteners is the great hidden danger. All protective coatings are subject to damage during installation. This damage is a scratching by the roof sheeting along the shank of the fastener.

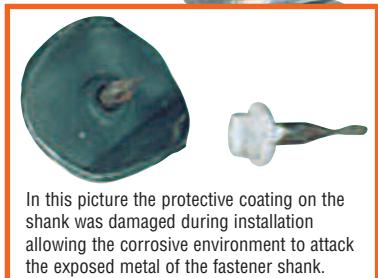
ShankGuard® is a revolutionary patented design feature, specifically developed by Buildex to guard and protect fastener shanks from scratching and scouring that can occur when crest fixing metal roofing.

ShankGuard® actually cuts a slightly larger hole in the roofing profile than the shank diameter, guarding and protecting it against scratching and scouring from the sharp edges of the pierced hole in the metal roof.

ShankGuard® allows the fastener shank to remain unscuffed and scratch free during installation, which in turn keeps the corrosion coating intact and fully functioning.



**The ShankGuard® feature is constructed of small knurls rising above the surface of the shank. When these contact the roofing profile and enlarge the hole, a small amount of protective coating is removed from the crest of the knurl. The surrounding corrosion coating protects these exposed points by galvanic action.**



In this picture the protective coating on the shank was damaged during installation allowing the corrosive environment to attack the exposed metal of the fastener shank.

*Warning:  
Beware of  
ineffective  
imitations which do  
not provide the same  
protection  
as Buildex  
ShankGuard®*

The underside of this roof clearly demonstrates the superiority of the Buildex product with ShankGuard®.

The imported competitor product on the left is in an advanced stage of deterioration due to corrosion.

The Buildex screw with ShankGuard® on the right is in perfect condition. The site where these pictures were taken is classed as moderate marine, protected by a breakwater. All competitors fasteners on this site are failing after 18 months, requiring costly repair and replacement.



# Is STRUCTURAL MANAGEMENT YOUR PROBLEM?

**THERE'S A BETTER WAY TO COME TO GRIPS WITH ROOF FIXING**

**HiGrip® from Buildex® is a revolutionary design in roof fasteners that overcomes the traditional problems with crest fixing metal roofing to steel or timber.**

When roofing screws are placed on the top of the roofing profile prior to installation, an indent area sometimes forms around the screw due to the operator forcing down heavily before drilling commencement.

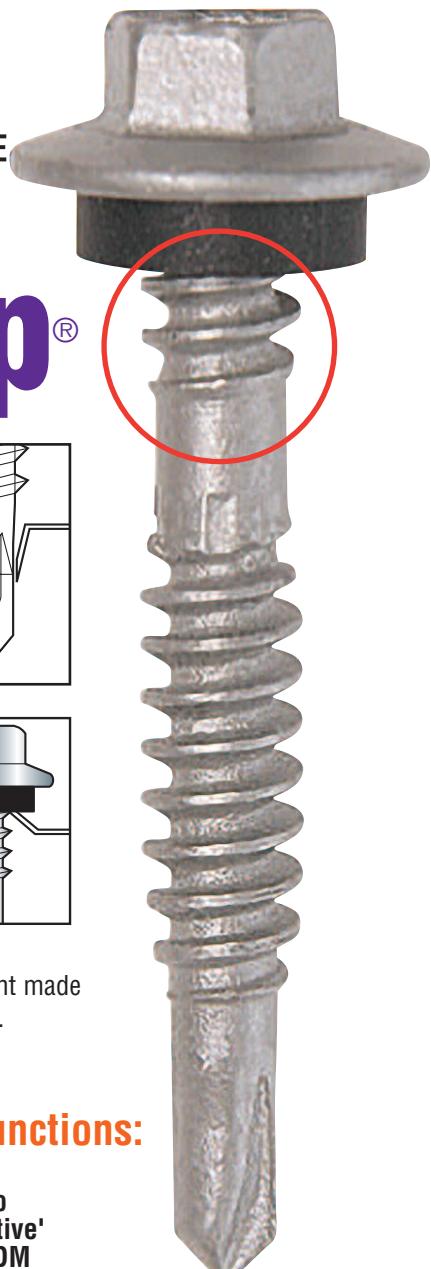
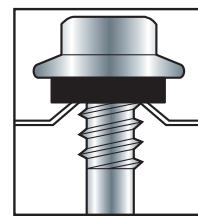
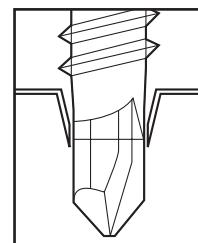
When the profile is fixed down with a non-HiGrip® fastener this indentation remains around the fastener, causing water entry.

HiGrip® is a secondary thread located at the top of the shank under the washer face.

During installation the thread of the HiGrip® is carrying the roof profile in an upward motion while the washer face is carrying the fastener in the downward motion.

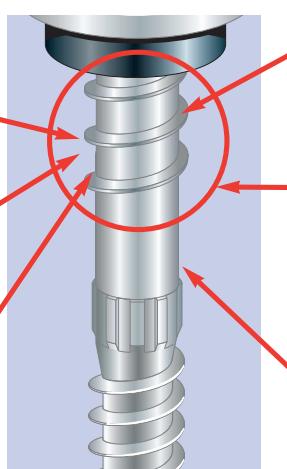
The upward pressure at the HiGrip® tends to straighten or reverse the indent made by the initial penetration, therefore preventing the possibility of water entry.

# HiGrip®

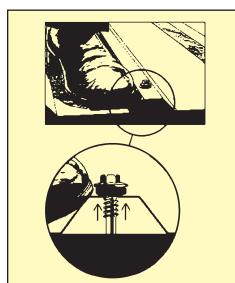


## HiGrip® is designed to achieve a number of functions:

- The operator feels the thread bite, a clear signal to prevent over-drilling.
- Restricts 'over-drilling' which leads to ponding or dimpling.
- Prevents sheet moving down shank when roof is walked on.



- Grips sheet to provide 'positive' joint with EPDM washer.
- Extrudes metal around the fastener hole upwards making water ingress more difficult.
- Unthreaded shank prevents profile riding up during fixing.



# ColorMatch®

ColorMatch - Buildex has developed durable coating on heads of Buildex fasteners and cyclone plates to give the exact colour matching to roofing and cladding. It has the following properties:

- Provides optimum colour matching and design to age together with the roofing and cladding.
- Incorporates the latest advances in UV-resistance technology to ensure tough, durable, environmentally safe and abrasion resistant.
- No special adaptor needed.
- Surpasses the Australian Standard 3566 requirements for corrosion resistance.
- Quality assurance through expert colour matching of manufacturer's panels to painted head.



### WIND SPEED MANAGEMENT

- **Square-Lok**
- **High Rib Profile**
- **Cyclone Assembly**

#### Most vulnerable part of any structure to failure is the roof

After two years of design, development and testing, the all-new Buildex Cyclone Assembly System has these special features

- Self-alignment to the loads profile, even when the fastener is off-alignment.
- Spreads pull-over loads evenly across the surface of the cyclonic plate.
- Eliminates the problems of chafing and single point contacts.

- Significantly improves the roofs holding capacity.
- Quicker and easy to install.
- Tested and approved by the James Cook University Cyclone Testing Station(TR 440).
- Provides a neater, more aesthetic roof appearance.





## THE BUILDEX WARRANTY

Buildex fasteners are made to exacting high standards of quality, subjected to strict inspection and testing procedures.

Buildex is so confident that it can guarantee the highest quality and performance of its fasteners that it has backed it up with the Buildex Warranty, an industry first.

The Buildex Warranty applies to Climaseal 3, Climaseal 4 & ZACS 4 coated roofing screws with ShankGuard and fully threaded roofing and cladding screws. It guarantees against the loss of structural integrity due to the effects of corrosion or metallurgical defects.

**ITW Buildex<sup>®</sup>**

## WARRANTY

**Climaseal 3, Climaseal 4 & ZACS 4  
ROOFING SCREWS**

**ITW Buildex** warranties their **Climaseal 3, Climaseal 4 and ZACS 4 Roofing Screws with *ShankGuard*, and fully threaded Roofing & Cladding Screws**, against the loss of structural integrity due to the effects of corrosion or metallurgical defects, provided that:

- (1) The screws are used with compatible roofing and substrate material.
- (2) The **Buildex** screws (*BX* head marked) are installed correctly.
- (3) The **Buildex** screws are installed in an environment recommended by **ITW Buildex** as suitable for their AS3566 Class 3 and AS3566 Class 4 Roofing Screws (refer overleaf)

Under this warranty, **ITW Buildex** undertakes to replace any defective screws at no cost.

**Effective 1st August 2000**

This warranty is issued by **ITW Buildex**, a division of ITW Australia Pty. Ltd. A.C.N. 004 235 063  
A.B.N. 63 004 235 063 008

**ITW Buildex<sup>®</sup>**

## WARRANTY

**ENVIRONMENTAL CHARACTERISTICS**  
(To determine the type of environment, an inspection of buildings in the area is usually necessary)

	<b>WARRANTY PERIODS:</b>
<b>VERY SEVERE MARINE (ISO Category 5)</b> Includes off-shore areas and up to 100m from the high waterline of areas with breaking surf	Not recommended      Not recommended
<b>SEVERE MARINE (ISO Category 4)</b> Generally between 100m from the beach front to approximately 500m inland. In high wind areas, may extend further inland depending on prevailing wind direction and distance from the sea. Characterised by strong salt spray and haze, salt smearing and salt build-up in unwashed areas of structures. Generally a very noticeable deterioration of most building materials is evident.	Not recommended      12 years
<b>MILD AND MODERATE MARINE (ISO Category 3)</b> Generally between 50m and 100m from the beach front, with high topography and/or strong prevailing winds may extend further inland. Characterised by salt spray and haze. Airborne salt present but not visible as haze. ITW Buildex strongly recommends ZACS 4 coating in moderate marine conditions.	7 years      20 years
<b>VERY SEVERE INDUSTRIAL (ISO Category 5)</b> Characterised by heavy fall-out and emissions from stacks, sulphur and acid mists. Includes only plant buildings themselves and any building immediately under stacks. Also includes buildings with high internal humidity caused by corrosion from operations outside.	Not recommended      Not recommended
<b>SEVERE INDUSTRIAL (ISO Category 4)</b> Characterised by fall-out from adjoining severe industrial environments or where small industries lead to significant industrial fall-out. Generally includes other service buildings located near heavy industrial plants, including rock buildings of the plant itself.	Not recommended      20 years
<b>LIGHT INDUSTRIAL/URBAN (ISO Category 1 - 2)</b> This environment is widespread in industrial/urban areas, away from all major industrial sources. This environment may receive more than 100mm heavy industrial fall-out, or where small industries lead to moderate level of fall-out from small stacks, etc.	20 years      30 years
<b>MILD URBAN/RURAL (ISO Category 1 - 2)</b> Away from all above environments and corrosive fall-out within 20m.	30 years      50 years
	40 years      60 years

**CONDITIONS:**

1. Any claim must be notified in writing and is conditional on inspection by **ITW Buildex** before any action is taken. The decision of the **ITW Inspector** is conclusive of the type of environment of the structure.
2. To the extent permitted by law, **ITW** will not be liable for any other loss or damage (apart from the replacement of any defective screws) howsoever caused including and direct, indirect, consequential or incidental.
3. Warranty covers the structural performance of the screws from the date of installation, not the aesthetic performance of the coatings.
4. This warranty is not transferable from the original owner.

## Buildex Corporate Profile

**ITW Buildex** is Australia's leading manufacturer and supplier of self-drilling screws and fasteners.

Established in 1917, the head office is in Moorabbin, Victoria. The on-site manufacturing plant produces hundreds of millions of painting and stainless steel fasteners are made inspection and test procedures.

**ITW Buildex** is quality endorsed to ISO 9002 and is committed to developing modern, innovative products utilising the latest technology available worldwide.

# Self-Drilling Screws

**Self-drilling screws which drill their own hole and tap their own thread**

Buildex self-drilling screws are specifically developed for various applications. They provide high pullout strength, shear strength and maximum thread engagement and positive fastening in both structural steel and timber constructions.

#### Time Saving

Assembly and on-site labour time is greatly reduced by eliminating the task of alignment or the need to pre-drill holes. Fastening operations in roofing, cladding and assembly can be completed in less time, often halving the time of the old conventional method.

#### Easy to Use

Utilisation of unskilled labour is another benefit due to the engineering design of this type of fastener, as selection of drill size and various tools are eliminated. The tradesman will also realise the benefits of speed and ease of installation.

#### One Operation

As the fastening is reduced to one operation, alignment problems are eliminated. It is more economical to use self-drilling screws than to drill, tap and fasten or nut and bolt in the traditional manner.

#### Screw Guns

Best results are obtained with electric screwdrivers (Tek guns) of approx. 380 to 650 watt rating, operating between 2,000 - 2,500 rpm for Buildex Tek® screws and 500 - 2,000 rpm for Type 17's self-drilling screws.



#### Screw Size Identification

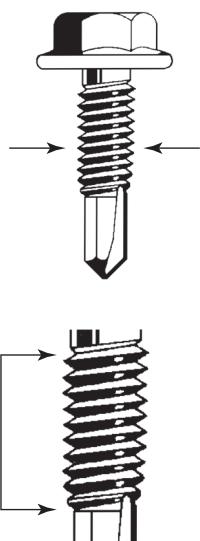
For all screw descriptions in the Buildex range, the first figure indicates the gauge of the screw (G), the second figure indicates the threads per inch (TPI) and the third figure indicates the length of the screw (mm).

**eg. 14-10 x 20mm = 14 gauge, 10 threads per inch, 20mm in length.**

#### Gauge (G)

The gauge of the screw is determined by the basic size of the thread outside diameter. Standard gauges for Buildex screws:

6 gauge	=	3.5mm
8 gauge	=	4.2mm
10 gauge	=	4.8mm
M6 gauge	=	6.0mm
12 gauge	=	5.5mm
13 gauge	=	6.1mm
14 gauge	=	6.3mm
15 gauge	=	6.5mm

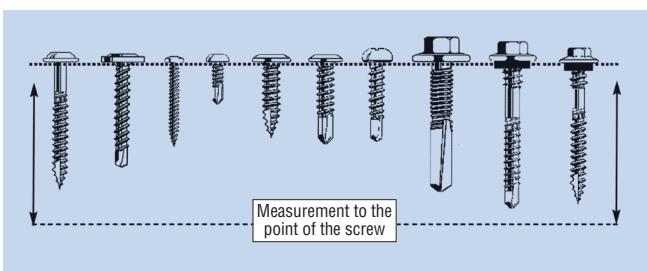


#### TPI (Threads Per Inch)

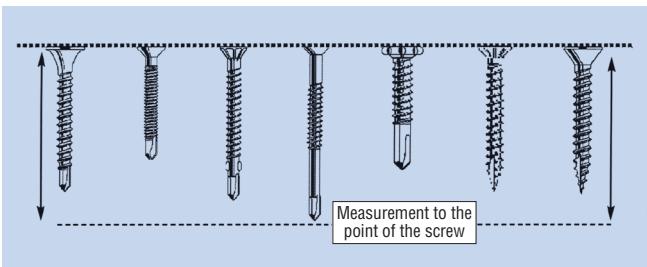
The TPI is the number of thread crests that can be counted along a lineal measurement of 1 inch (25.4mm).

#### Length of Fasteners

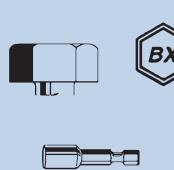
The following types of fasteners are measured from the underside of the head to the point of the screw:



The following types of fasteners are measured from the top of the head to the point of the screw.

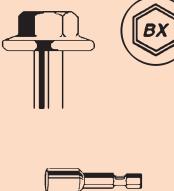


# Buildex® HEAD STYLES

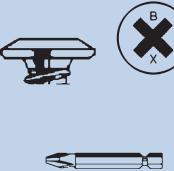
**HEXAGON HEAD**

## 六角头

Gives greater strength and ease of torque input. Available in 1/4", 5/16" and 3/8" socket sizes. For water tight sealing use a bonded washer.

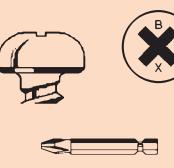
**HEXAGON HEAD  
WITH WASHER FACE**带垫片型  
六角头

The integral washer recess is to accommodate a resilient watertight sealing washer. The washer surface provides bearing surface to the drive socket. Available in 1/4", 5/16" and 3/8" socket sizes.

**WAFER HEAD**

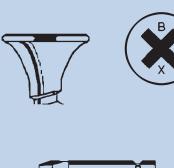
## 平头

A versatile head style used for many fastening applications. The low head design eliminates the risks of dimpling the roof when the tradesperson walks on it. Driven with a #2 Phillips Cross Recess Bit.

**PAN HEAD**

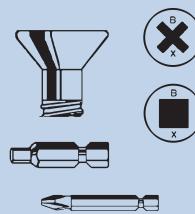
## 盘头

A round head with a flat underside fully threaded for accurate clamping. Designed for applications fixing against metal surfaces. Driven with a Phillips #2 Cross Recess Bit.

**BUGLE HEAD**

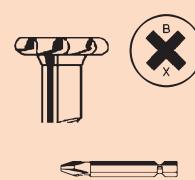
## 喇叭头

Has a smooth curved surface under the head face designed to spin the face of the plaster board without damaging or tearing the surface. When set, this head is slightly below the surface for neat finishing. Driven with a Phillips #2 Cross Recess Bit.

**COUNTERSUNK HEAD**

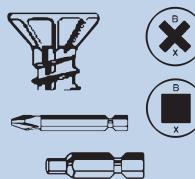
## 沉头

Originally designed for countersinking into timber for a flush or recessed finish. It can also be used for industrial hinges and similar applications. Driven with a Phillips #2 Cross Recess Bit or #2 Square Drill.

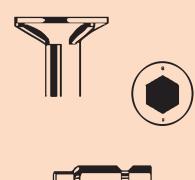
**SELF EMBEDDING  
HEAD**

## 自嵌式头

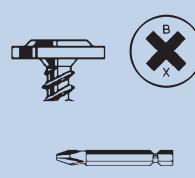
Has a special flat head with cutters and flutes, designed to ream into fibre cement sheeting and hardwoods. The head type will achieve a flush or recessed finish. Driven with a Phillips #2 Cross Recess Bit.

**COUNTERSUNK RIB  
HEAD**暗头  
带肋型

Used for countersinking into composite material such as chipboard and timber. Driven with a Phillips #2 Cross Recess Bit.

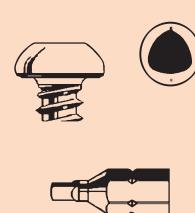
**BUGLE HEAD  
BATTEN**喇叭头  
带肋型

A bugle head with ribs designed to be embedded into timber for a flush head finish. Batten fastening to timber rafters in cyclonic areas is a major application. Driven with a 5mm Internal Hexagon Drive Bit.

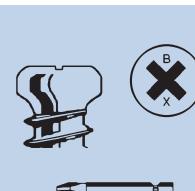
**BUTTON HEAD**

## 钮扣头

Low profile head with a flat underside. This design enables the fastener to sit level on the surface being fastened. The low profile head sits flat behind the plasterboard. To drive use a Phillips #2 Cross Recess Bit.

**TAMPER RESISTANT HEAD**

Has a descending diameter from the base to the top to prevent tools such as pliers and spanners being used to undo it. The driver is trilobular and available only through the Buildex Customer Service Centre.

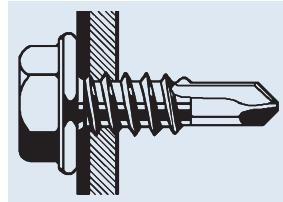
**SPECIAL PAN HEAD** 特制盘头

A low profile head found on Buildex Ripple Teks® screws. Used for fixing mini-corrugated sheeting, it seals without a washer and does not deform the sheeting. To drive use a Phillips #2 Cross Recess Bit.

## FIXING TO...METAL

**Buildex® Metal Teks®** self-drilling screws have a hardened drill point that will drill and thread in structural steel and mild steel. These Teks points are designed in a manner much the same as a HSS high speed steel drill bits.

There are two main criteria of a Teks® point:

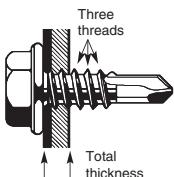


- (1) The point must be in perfect diameter ratio relationship to the thread, so as to not overdrill. This allows the thread to engage in the steel at an acceptable tapping torque. The pullout load is also determined by the ratio of the thread diameter to the hole diameter.
- (2) The point must have a swarf flute longer than the total thickness of the steel being drilled. This prevents problems with fastener installation due to swarf clogging the flute.

It is important that the drill point has completed drilling the total thickness of the steel before the thread engages.

The drilling advance speed (ie. speed the drill point travels into steel), is about ten times slower than the thread advance speed. For instance a 10 gauge X 16mm Teks drills 3mm steel in about 7 seconds. The thread on the fastener only takes less than one second to travel through the 3mm steel.

To choose the correct fastener, it is necessary to select one where the length of the drill point is equal to or greater than the total thickness of the material to be drilled including the air-gap. If the drill point is less than the total thickness of the material and the thread engages, then the fastener can break or become impossible to drive.



As a rule the correct length screw should have at least 3 threads protruding behind the metal you are fastening to

The table indicates the metal thickness capacity of each gauge size available. When the gauge size has been determined, the length and head style for the intended application would then need to be determined.

Screw Gauge	Threads per inch	Drilling Capacity (max)
6	20	2.3mm
8	18	2.5mm
10	16	3.5mm
10	24	4.5mm
12	14	4.5mm
12	24	6.0mm
13	13	1.0mm
14	10	3.0mm
14	20	6.4mm
15	15	2.5mm
Series 500-12g	24	12.5mm

# SELF-DRILLING

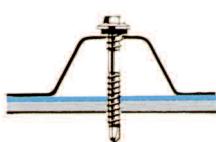


## SELECTION GUIDE

# APPLICATIONS



### Crest Fixing



- Without Insulation
- With Insulation

#### Drilling Capacity < 6.0mm

CTEKS 12-14 x 50 HGS  
CTEKS 12-14 x 68 HGS

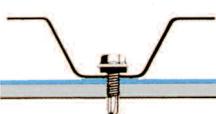
#### Drilling Capacity < 12.5mm

CTEK5 12-24 x 50 HWFS  
CTEK5 12-24 x 65 HWFS

#### Hardwood

CT17 12-11 x 50 HGS  
CT17 12-11 x 65 HGS

### Valley Fixing



- Without Insulation
- With Insulation

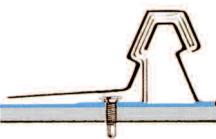
#### Drilling Capacity < 6.0mm

CTEKS 12-14 x 20 HWFS  
CTEKS 12-14 x 30 HWFS

#### Drilling Capacity < 12.5mm

CTEK5 12-24 x 32 HWFS  
CTEK5 12-24 x 32 HWFS

### Clip Fixing



- Without Insulation
- With Insulation

#### Drilling Capacity < 6.0mm

MTEKS 10-24 x 16 WAF  
MTEKS 10-24 x 22 WAF

#### Drilling Capacity < 12.5mm

CTEK5 12-24 x 32 WAF

### Side Fixing (Stitching)



#### Drilling Capacity < 2.5mm

CMBT 15-15 x 20 HWFS

## TECHNICAL SPECIFICATION

### Ultimate Average Pullout Loads (G450)

Gauge / TPI	1.0mm	1.2mm	1.5mm	1.9mm	2.4mm
10g - 16TPI	2.8kN	3.5kN	4.3kN	5.8kN	8.3kN
12g - 14TPI	2.8kN	3.1kN	4.2kN	5.5kN	7.3kN

### Mechanical Properties

	Single Shear Strength	Axial Tensile Strength	Torsional Strength
10g	6.8kN	11.9kN	8.4Nm
12g	8.8kN	15.3kN	13.2Nm
14g	10.9kN	19.7kN	18.5Nm