BREMICK®

ViewTite®

Self-Indicating Washers

GREEN MEANS GO!

TurnaSure ViewTite®
SELF-INDICATOR

The most reliable tensioning with fast, easy visual indication

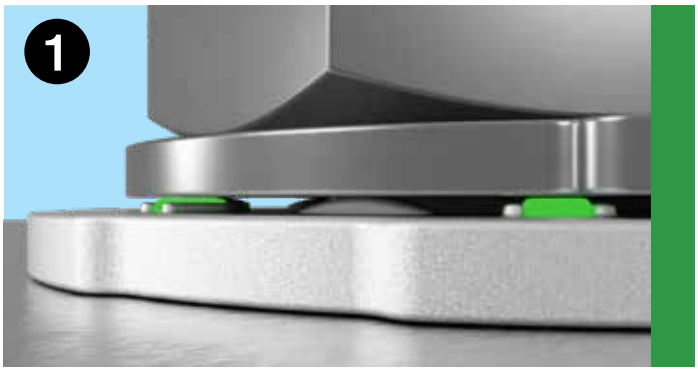
TENSIONING K0 STRUCTURAL ASSEMBLIES

AS/NZS 5131:2016, a key standard for the fabrication and erection of structural steelwork in Australia and New Zealand, mandates specific procedures for tensioning high-strength structural bolt assemblies to ensure structural integrity. The standard, which is referenced by AS 4100 (Steel Structures) and the National Construction Code, outlines two primary acceptable methods for achieving the necessary minimum bolt tension: the **part-turn method** and the use of a **Direct Tension Indicator (DTI) method.** These methods are designed to provide reliable tensioning, which is critical for the performance of bolted connections.

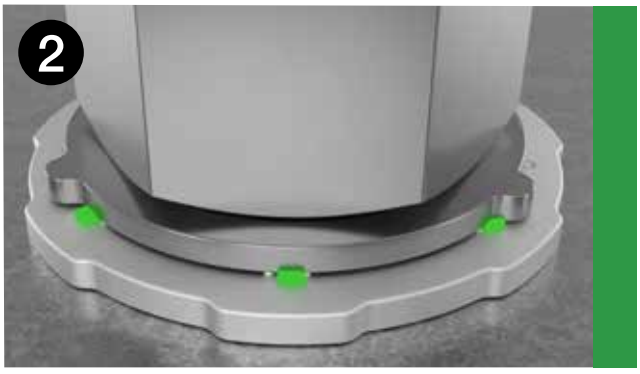
A critical aspect of AS/NZS 5131:2016 is its stance on the use of torque for tensioning. The standard does not permit the use of a torque wrench method for achieving a specified tension in structural assemblies because there is **no reliable correlation between applied torque and the resulting tension** in a real-world construction environment. Factors such as thread condition, lubrication, and the presence of galvanised coatings can significantly vary the friction, making the torque-tension relationship highly unpredictable.

The part-turn method involves marking the bolt assembly components and rotating the nut a specified amount past the snug-tight condition, a process that can be slow and requires careful verification. In contrast, the DTI method uses a compressible washer to provide an indication when the correct tension has been achieved however they still require feeler gauge inspection of every individual bolt. ViewTite takes the DTI method of precise compression of bumps one step further with the emission of a green elastomer when protrusions have been fully compressed. This gives clear visual indication that can be compared to a single reference sample which has been tested with a feeler gauge. This makes it faster, easier and more precise than other methods.

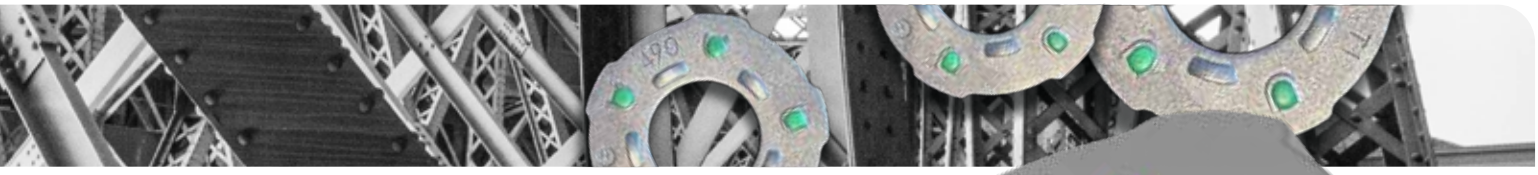
For the complete and detailed process of tensioning structural assemblies, all personnel involved must reference the full AS/NZS 5131:2016 standard and any project-specific documentation or work method statements.



DURING SNUG TIGHTENING: The hardened washer first makes contact with our patented protrusions, which compress linearly as bolt tension increases and snugging is completed. The elastomer does not emit during snug-tightening.

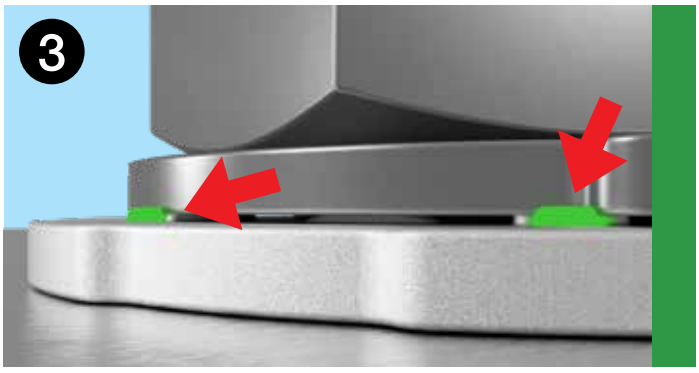


DURING FINAL TIGHTENING: Reduced height 'horseshoes' compress, releasing a precise measure of elastomer from multiple sides of the VeiwTite® indicator

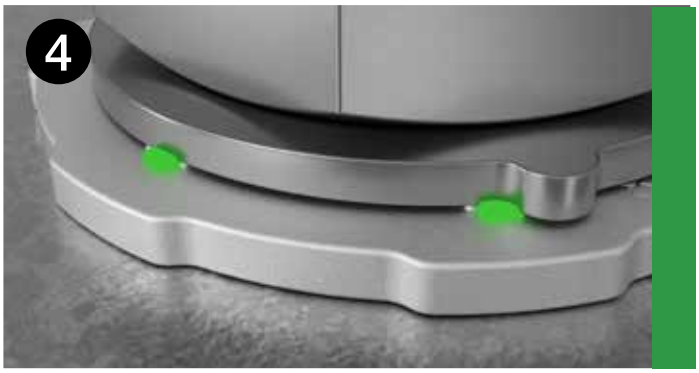


The most reliable tensioning. Now with fast, easy visual indication!

Bremick and TurnaSure are proud to introduce the patent-pending ViewTite® Self-Indicator Washer, the latest innovation from the pioneers in load indicators. ViewTite® DTIs are manufactured to ASTM F959M and are suitable for use in bolted structural steel connections in accordance with AS4100.



AFTER TIGHTENING: WHEN YOU SEE GREEN that matches your reference sample you know your structural bolts are correctly tensioned!



PLACEMENT MATTERS: Unlike traditional self-indicators, you don't have to worry about surface finish variations in the materials being bolted. Our elastomer is on the top of the indicator, which contacts the smooth surface of the hardened washer.

ViewTite®

TurnaSure ViewTite®
SELF-INDICATOR

The most reliable tensioning. Now with fast, easy visual indication!

1

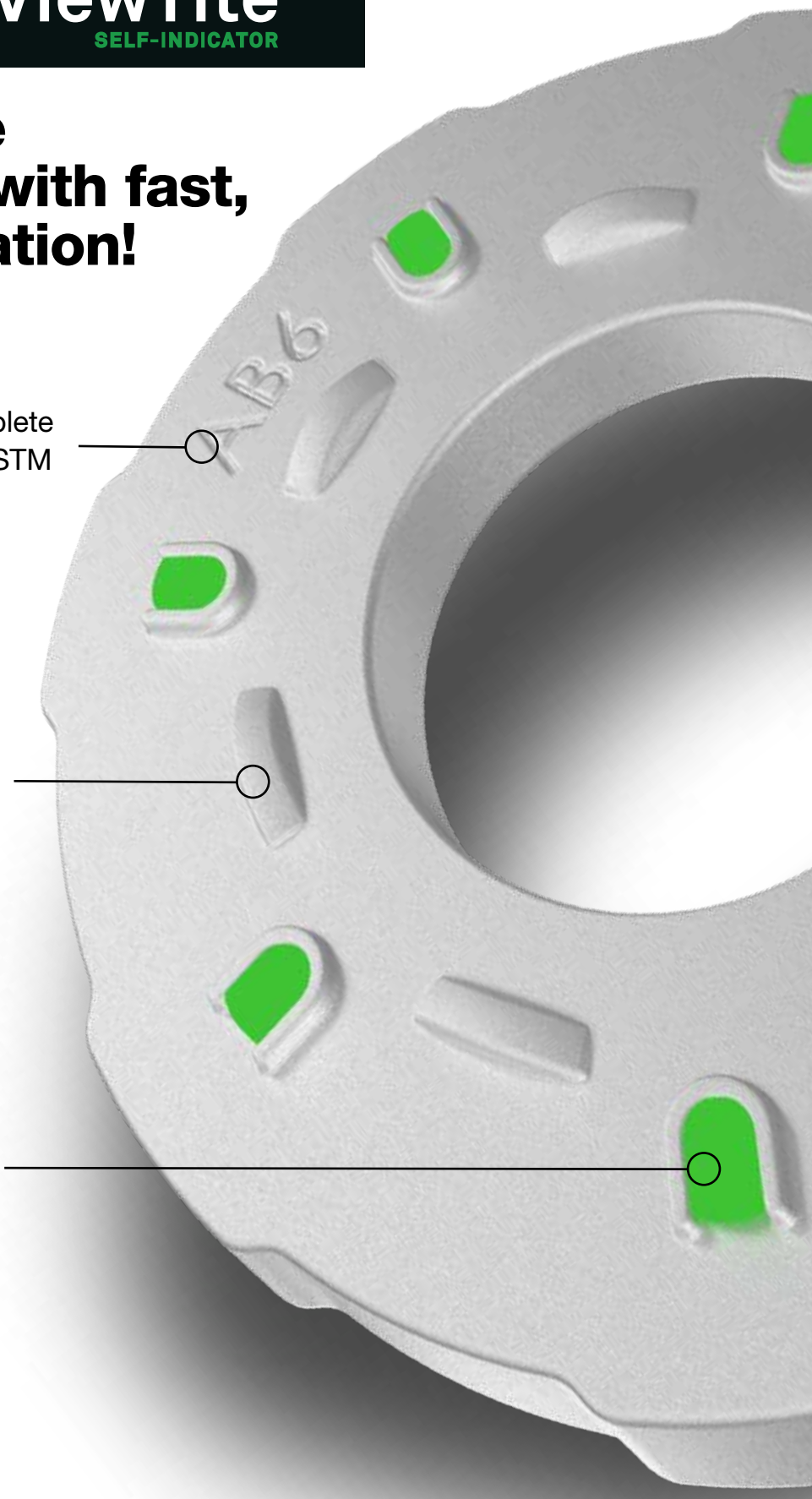
Unique trace number allows for complete traceability and certification as per ASTM F959M

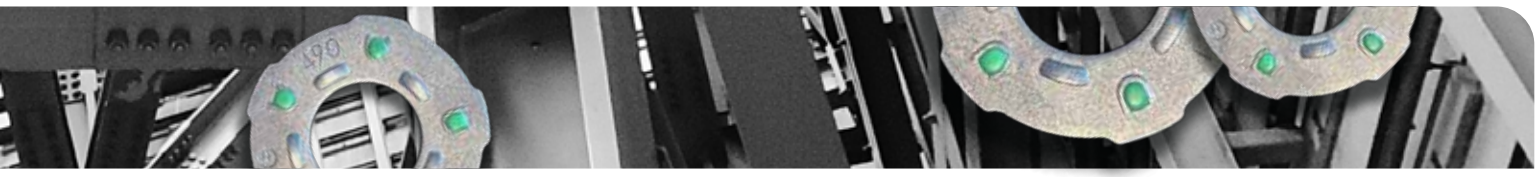
2

Patented curved protrusions are the most reliable and accurate ever made. Protrusions (‘bumps’) compress smoothly and evenly as bolt tension increases.

3

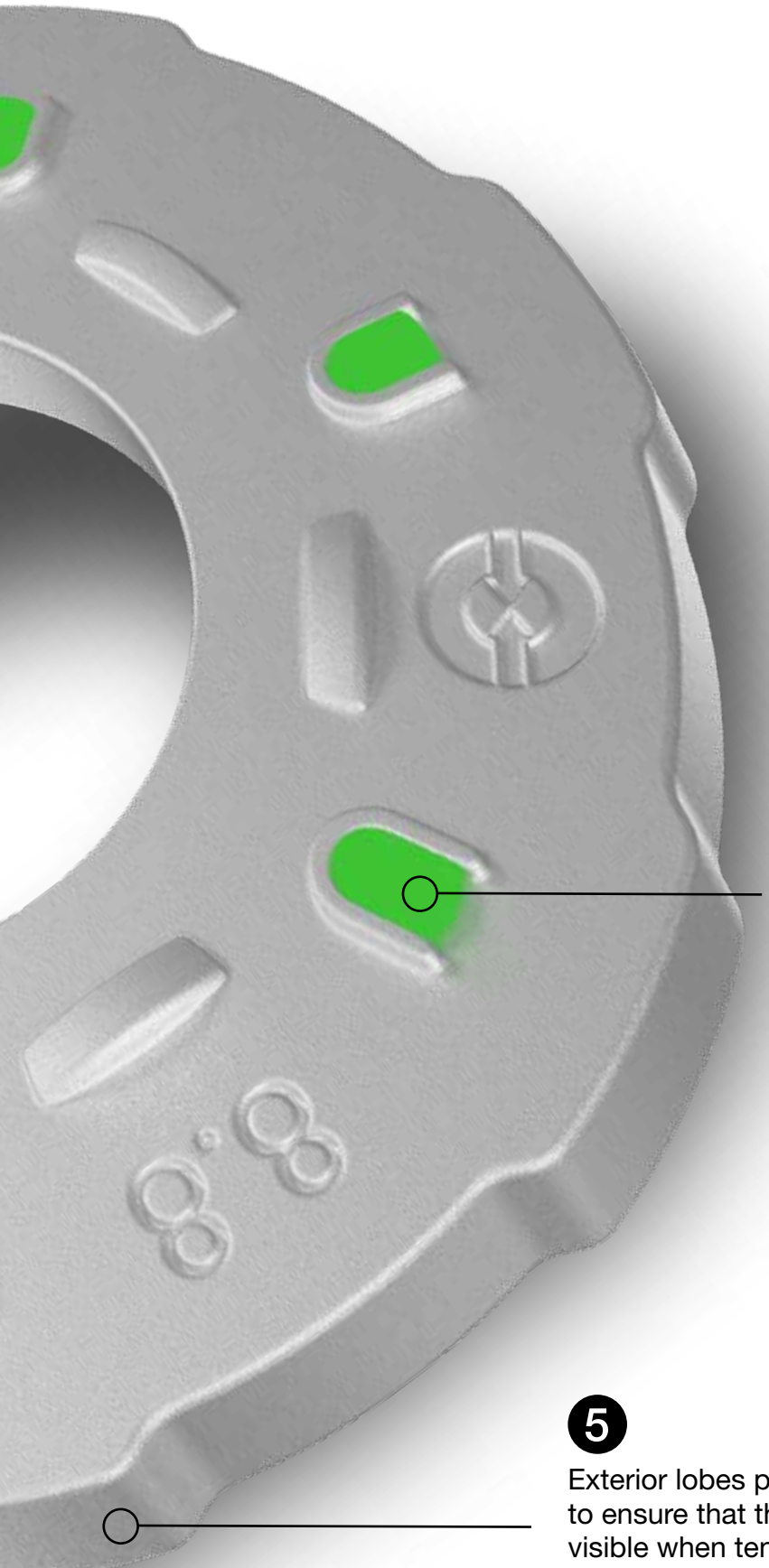
Reduced height ‘horseshoe’ pockets encapsulate a precise measure of elastomer that appears only when the bolt has reached minimum required tension.





Poorly lit construction site? Nightime Inspection? No problems!

The NEW ViewTite® Self-Indicator makes inspection a piece of cake, even in the dark!



4

The elastomer in ViewTite® Self-Indicators glow brightly under UV ‘black’lights, making inspection quick and easy.

5

Exterior lobes provide a platform to ensure that the elastomer is readily visible when tensioning is completed.

ViewTite®

Patented Design

Elastomer is on the top of the washer giving

- more control over the release by eliminating any contact with unpredictable surfaces of the materrial being clamped.
- Stops elastomer loss due to expanded holes.

Turnasure Legacy

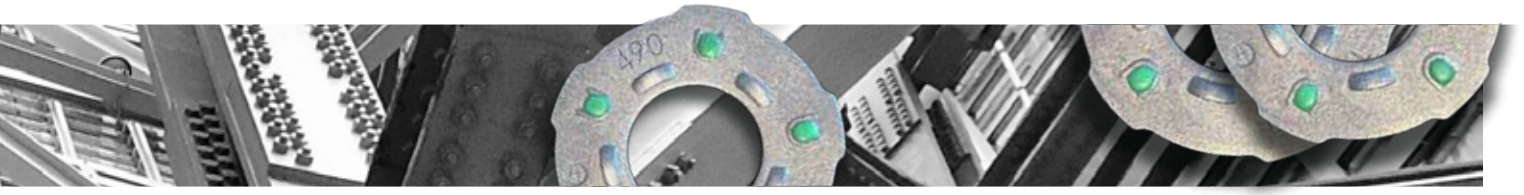
TurnaSure DTIs and ViewTite® Self-Indicators have been trusted in critical projects around the world for a quarter of a century.

Verrazano Bridge - New York, NY

MADE IN USA

The Shard - London, England

KLCC Towers - Kuala Lumpur, Malaysia



ViewTite Self-Indicating Washers provide benefits for everyone involved in your project

Simply put, ViewTite® Self-indicating washers from Bremick, help you speed up installation and inspection, reduce project costs, and give you the peace of mind that comes from knowing that your bolted connections are properly and reliably tensioned.

1

Benefits for Project Owners

ViewTite® Self-Indicating Washers help provide valuable cost savings for project owners. Efficiency and reliability translate into $$ on your bottom line

2

Benefits for Engineers

ViewTite® Self-Indicating Washers provide assurance to engineers who demand accurate, durable, and reliable bolted connections of all sizes and types.

3

Benefits for Fabricators

ViewTite® Self-Indicating Washers provide efficiency and simplicity to the installation process and ensure that requirements are satisfied regardless of field conditions and environmental factors.

4

Benefits for Erectors

ViewTite® Self-Indicating Washers allow for the fast safe erection of steel framing, and provide flexibility in the timing of final tightening without loss of accuracy.

5

Benefits for Inspectors

ViewTite® Self-Indicating Washers make inspection quick and easy, and offer greater safety for inspectors than other methods of inspection. Most importantly, required bolt tension is ensured and not assumed.

Cuatro Torres - Madrid

Central of Taipei - Taiwan

Pre-installation

Testing of a representative sample should be carried out in a calibration device capable of indicating bolt tension. Three samples of each diameter, length and heat number combination should be tested. The test should be carried out by the same installation team, using the same tools. Results should indicate no less than 1.05 times the minimum bolt tension, as per AS4100

REQUIREMENT		M16	M20	M24	M30	M36
Min bolt tension AS4100	kN	95	145	210	335	490
Min requirement @1.05 times		100	153	221	352	515

Bolt Holes

Before insertion of bolt assemblies, holes should be aligned to ensure the threads of the bolts are not damaged during insertion.

Installer - Competent Person

AS/NZS 5131 states that tensioning of high strength structural bolts should only be undertaken by a competent person, which is defined as a person who has acquired, through education, training, qualification or experience or a combination of these, the knowledge and skills that enable them to perform the required task correctly and safely.

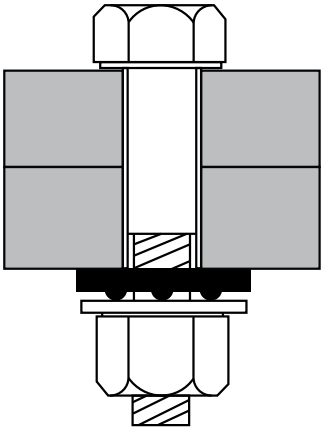
Fastener Storage

Fasteners components used in structural bolted connections should be stored in there packaging, out of the weather and protected from dirt and moisture. Washers should be unmodified and be in as-delivered condition when installed.

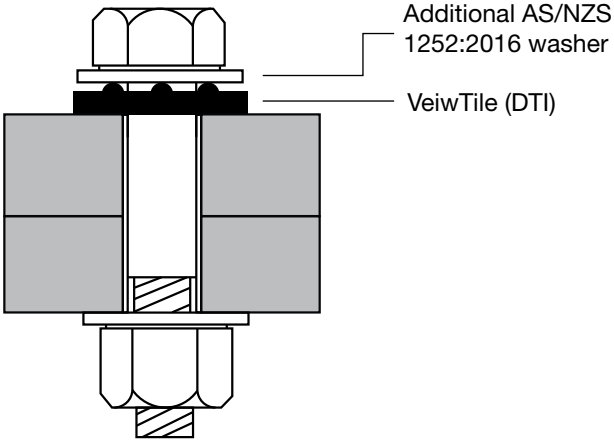
This document is not intended to replace the requirement to read and understand the standards in their entirety. This is a summarized guide only.

Installation

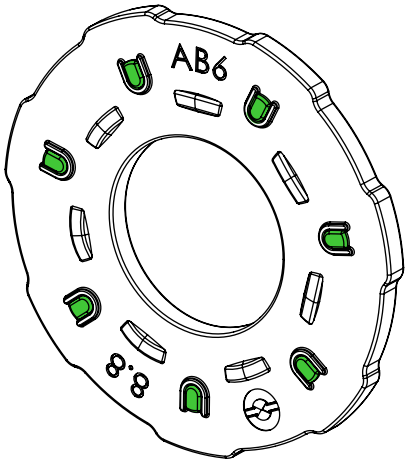
Install the bolt assembly including the ViewTite® washer. The ViewTite® washer should be placed under the component that is going to be turned. If the ViewTite® washer is to be placed under the head of the bolt an additional AS/NZS 1252:2016 structural washer is required, as per the diagram below.



Under Nut Installation



Under Bolt Installation



This side away from the material being clamped

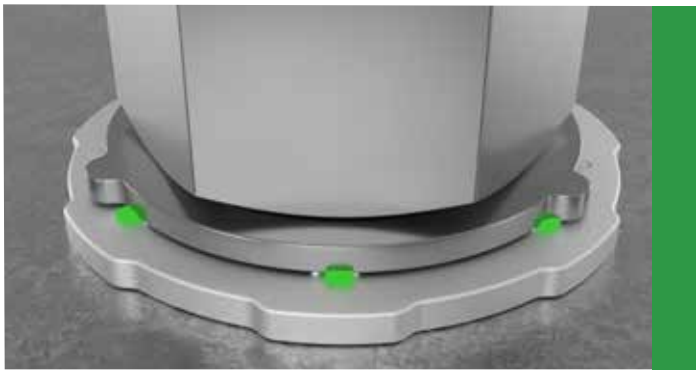
NOTE: The ViewTite® washer can be placed under the bolt head or nut. Selection should be based on criteria such as clearance and ease of inspection. Other factors may be considered such as appearance and consistency of application across the project.

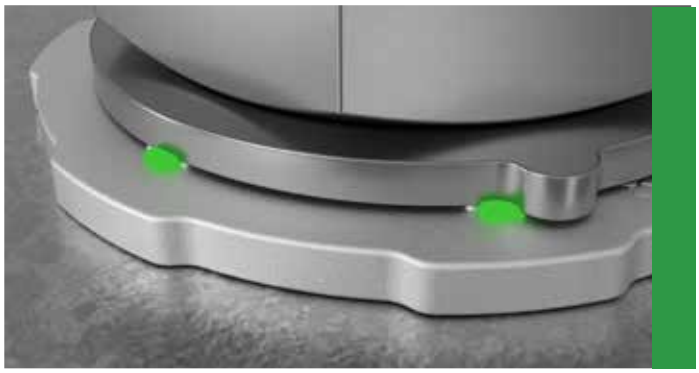
Snug-Tight

Snug tightening is achieved by either a few impacts of an impact wrench or by the full effort of a person using a standard podger spanner. The material being clamped should be in firm contact.

Tensioning

After bringing all bolts in the connection to snug tight. Tension each bolting assembly until elastomer becomes noticeably visible and matches the reference sample you have verified with a feeler gauge.





ViewTite®

Certification Access

Access your certification with a few mouse clicks

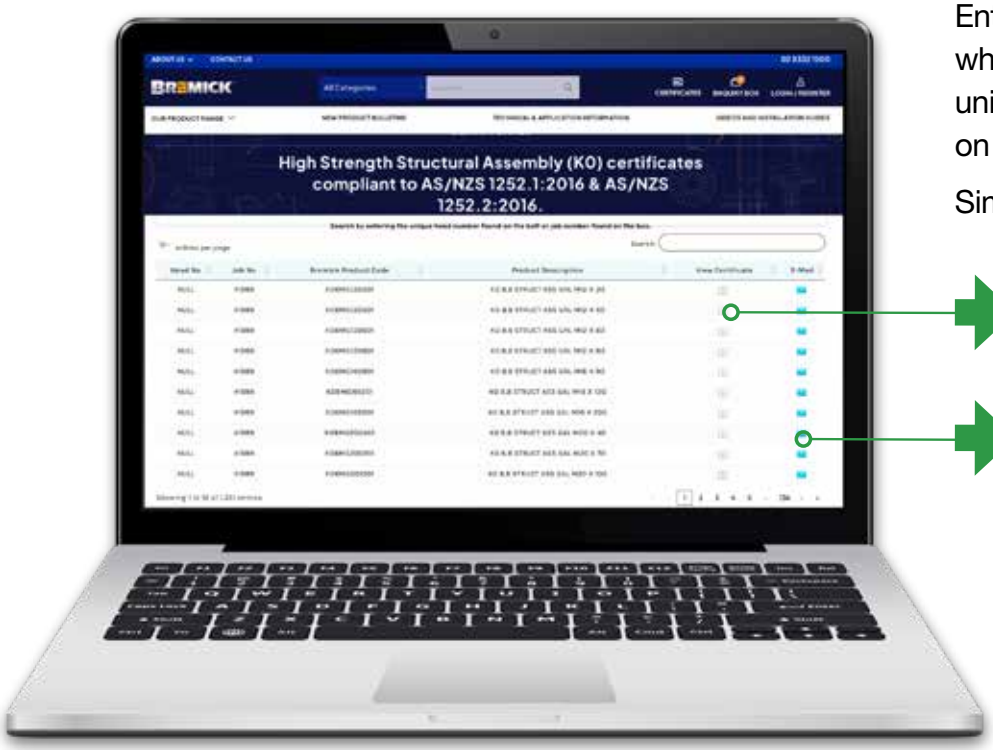
Customer log in is not required to access certification. All documentation is available on our public website. No need to waste time requesting information and waiting for a reply. With a few clicks on our website you can view, download or email the certification.

Simple search

- From the home page of the Bremick website click the certificates icon in the top righthand corner
- This will open the search page below

Or click this link to go directly to the search page
bremick.com.au/certificates/

VT

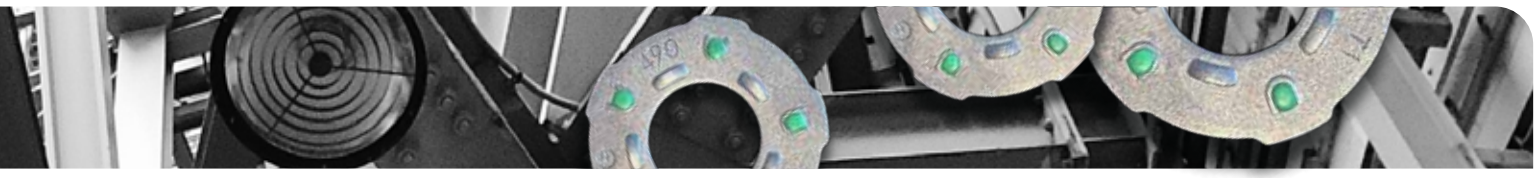


Enter either the Job number which is found on the box or the unique trace number found on the washer.

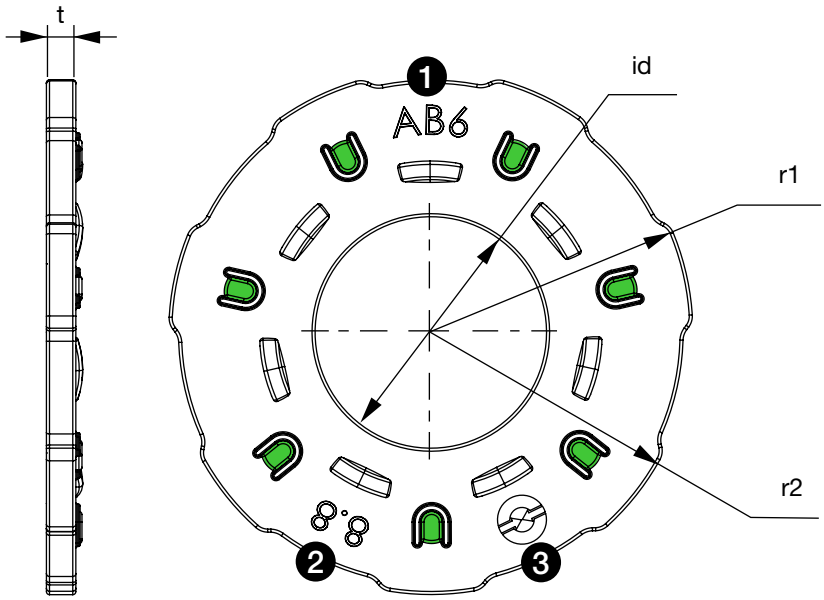
Simply choose the size you require.

Click to view, save or print

Click to email someone else a link to the certification



Markings



1. Unique trace number
2. Property class
3. Manufacturers mark

CHEMICAL COMPOSTION %

Material	C	Mn	P	S
	RANGE	RANGE	MAX	MAX
Carbon Steel	0.30-0.55	0.50-0.90	0.04	0.05

MECHANICAL PROPERTIES

		M16	M20	M24	M30	M36
MINIMUM Bolt tension at full indication	kN	91	142	205	326	475
Inspecion Gap at bolt tension	MM	0.125mm				
Hardness (MAX)	HRC	37				

DIMENSIONAL DATA (mm)

ITEM CODE	PACK QTY	NOMINAL BOLT DIAMETER	INTERNAL DIAMETER (ID)	RADIUS (R1)	RADIUS (R2)	THICKNESS (t)
WDTMG16VT82	100	M16	16.813	19.0500	20.638	3.581
WDTMG20VT82	100	M20	20.980	20.5740	22.225	3.759
WDTMG24VT82	100	M24	25.197	27.9525	29.540	4.064
WDTMG30VT82	50	M30	31.496	34.3535	35.941	4.064
WDTMG36VT82	50	M36	37.800	41.2100	42.800	4.800

K0 STRUCTURAL ASSEMBLY

NEW M33

K0 High Strength Structural Assemblies are manufactured & tested in strict compliance to AS/NZS 1252.1:2016 & AS/NZS 1252.2:2016.

The unique head mark (trace number) adds an additional level of traceability. Testing requirements are all covered in the certification file which is easy to read and available via a few clicks online. The range continues to evolve with the recent introduction of M33.

ASSEMBLY

Diameter	Code Prefix	Finish	Length
M12	K08MG12	Hot Dip Galvanised	30 – 200mm
M16	K08MG16	Hot Dip Galvanised	40 – 350mm
M20	K08MG20	Hot Dip Galvanised	40 – 400mm
M24	K08MG24	Hot Dip Galvanised	50 – 400mm
M27	**K08MG27**	**Hot Dip Galvanised**	**80 – 300mm**
M30	K08MG30	Hot Dip Galvanised	75 – 300mm
M33	K08MG33	Hot Dip Galvanised	130 – 300mm
M36	K08MG36	Hot Dip Galvanised	100 – 240mm

NUT

Diameter	Code	Finish
M12	NSTMG12K082	Hot Dip Galvanised
M16	NSTMG16K082	Hot Dip Galvanised
M20	NSTMG20K082	Hot Dip Galvanised
M24	NSTMG24K082	Hot Dip Galvanised
M27	**NSTMG27K082**	**Hot Dip Galvanised**
M30	NSTMG30K082	Hot Dip Galvanised
M33	NSTMG33K082	Hot Dip Galvanised
M36	NSTMG36K082	Hot Dip Galvanised

WASHER

Diameter	Code	Finish
M12	WK0MG1200W2	Hot Dip Galvanised
M16	WK0MG1600W2	Hot Dip Galvanised
M20	WK0MG2000W2	Hot Dip Galvanised
M24	WK0MG2400W2	Hot Dip Galvanised
M27	**WK0MG2700W2**	**Hot Dip Galvanised**
M30	**WK0MG3000W2**	**Hot Dip Galvanised**
M33	WK0MG3300W2	Hot Dip Galvanised
M36	WK0MG3600W2	Hot Dip Galvanised

BREMICK®

bremick.com.au

For complete product specifications and pricing refer to Bremick's ordering portal

BRE7187_V8