

BUILDING ENVELOPE **FASTENERS GUIDE**

A specification guide on
fasteners to use in various
building envelope applications.

evolution

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evolution

The word "evolution" is rendered in a bold, sans-serif font. The letters are filled with a grayscale image of a bridge under construction, showing cranes and structural elements. A large, thick red swoosh curves around the right side of the word, starting from the top and ending at the bottom.

WE HAVE THE SOLUTION.

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WARRANTY INFORMATION

Evolution is proud to provide an industry-leading warranty¹ on our **EvoShield®** and **Bi-Metal™** fasteners with periods up to:

Fastener Type	Design Life	WARRANTY
EvoShield®	60 years	25 years
Bi-Metal™ A2	60 years	50 years
Bi-Metal™ A4	60 years	60 years

¹Subject to terms and conditions.

CORROSIVITY CATEGORIES

Atmospheric Corrosivity Categories and Examples of Typical Environments

CATEGORY	STEEL LOSS T / YR (MM)	INTERNAL	EXTERNAL	GRADE REQUIRED
C1 (Very Low)	0.0 – 1.3	Clean, heated residential rooms without moisture.	Not applicable.	EDZ4
C2 (Low)	1.3 – 25.0	Rooms where condensation can occur.	Rural areas with low pollution.	EvoShield® 500
C3 (Medium)	25.0 – 50.0	Production rooms with some humidity.	Urban areas with moderate pollution.	A2-70
C4 (High)	25.0 – 50.0	Chemical plants, breweries, etc	Urban areas with moderate salinity (1,000 – 2,000m from salt water source).	A4-50
C4 (High)	25.0 – 50.0	Buildings with permanent condensation and high pollution.	Coastal areas (≤ 1,000m from salt water source).	A4-50
CX (Extreme)	200.0 – 700.0	Exceptionally aggressive environments (swimming pools, etc	Offshore	A5-70

Applications: Façade

Our masonry screw range proves to be an ideal solution for attaching façade elements to masonry and concrete substrates.

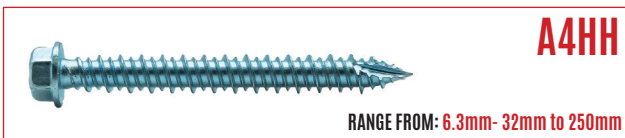
These fasteners are designed to penetrate, engage and securely fasten into various masonry blocks, bricks and even concrete slabs or soffits.

In addition to their mechanical benefits, this fastening solution provides exceptional corrosion resistance in external applications, with an A4 stainless-steel variation providing corrosion resistance even in coastal environments.



SELF TAPPING MASONRY SCREW RANGE:

STAINLESS STEEL:

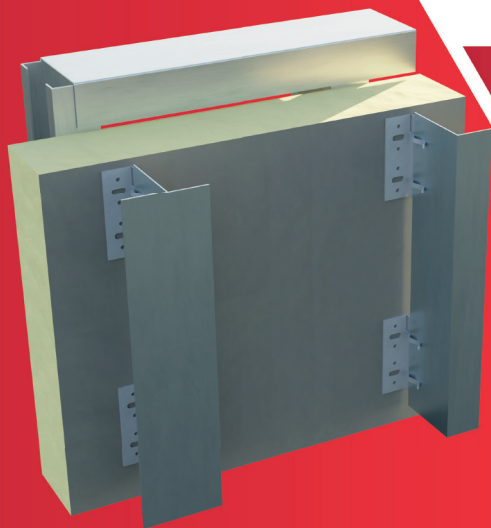


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CARBON STEEL:



Applications: Façade



Fixed to steel framing system



When fastening steel framing elements and sections, our TEK screws are an ideal solution. Utilising their inherent self-drilling and self-tapping capability along with their high tensile strength, make them the preferred choice for these applications.

Evolution's TEK screw range is engineered to accommodate and encompass a wide-range of build-up thickness's and a diverse array of cold and hot-rolled mild steel substrates as well as a stainless-steel option for aluminium substrates (to mitigate against electrogalvanic corrosion acceleration).

Our offering extends not only to A4 fasteners for coastal applications but further to A5 fasteners suitable for the most extreme marine environments and swimming pools.

TEK® SCREW RANGE:

STAINLESS STEEL:

BMTSPH  

FOR LIGHT STEEL (TEK 3 Point)

RANGE FROM: 5.5mm - 19mm to 25mm

STEEL THICKNESS	1.2mm	1.6mm	2.0mm	2.5mm	3.0mm	4.0mm
DIA. 5.5mm	1.2kN	1.7kN	2.1kN	3.4kN	4.5kN	6.1kN

PULL OUT VALUES FOR STEEL THICKNESS


BMTSLP  

FOR HEAVY STEEL (TEK 5 Point)

RANGE: 5.5mm - 38mm

STEEL THICKNESS	4.0mm	5.0mm	6.0mm	8.0mm	10.0mm	12.5mm
DIA. 5.5mm	6.5kN	7.8kN	10.0kN	11.5kN	12.0kN	12.4kN

PULL OUT VALUES FOR STEEL THICKNESS

BMHH  

FOR LIGHT STEEL (TEK 3 Point)

RANGE FROM: 5.5mm - 25mm to 100mm/6.3mm - 25mm to 50mm

STEEL THICKNESS	1.2mm	1.6mm	2.0mm	2.5mm	3.0mm	4.0mm
DIA. 5.5mm	1.7kN	2.1kN	2.5kN	3.2kN	4.3kN	5.5kN
DIA. 6.3mm	1.9kN	2.4kN	3.2kN	4.0kN	4.9kN	6.5kN

PULL OUT VALUES FOR STEEL THICKNESS

BMHH  

FOR HEAVY STEEL (TEK 5 Point)

RANGE FROM: 5.5mm - 38mm to 100mm

STEEL THICKNESS	4.0mm	5.0mm	6.0mm	8.0mm	10.0mm	12.5mm
DIA. 5.5mm	6.5kN	7.8kN	10.0kN	11.5kN	12.0kN	12.4kN

PULL OUT VALUES FOR STEEL THICKNESS

CARBON STEEL:

TSPH  

FOR LIGHT STEEL (TEK 3 Point)

RANGE FROM: 4.8mm - 16mm/5.5mm - 19mm to 25mm

STEEL THICKNESS	1.2mm	1.6mm	2.0mm	2.5mm	3.0mm	4.0mm
DIA. 4.8mm	1.3kN	1.9kN	2.3kN	3.2kN	4.5kN	5.2kN
DIA. 5.5mm	2.1kN	2.9kN	3.6kN	4.8kN	5.7kN	6.3kN

PULL OUT VALUES FOR STEEL THICKNESS

TSLP  

FOR LIGHT STEEL (TEK 2 Point)

RANGE FROM: 4.8mm - 22mm NEW ARRIVAL: 6.3mm - 25mm

STEEL THICKNESS	1.2mm	1.6mm	2.0mm	2.5mm
DIA. 4.8mm	1.3kN	1.9kN	2.3kN	3.2kN

PULL OUT VALUES FOR STEEL THICKNESS

TSLP  

FOR HEAVY STEEL (TEK 5 Point)

RANGE FROM: 5.5mm - 38mm

STEEL THICKNESS	4.0mm	5.0mm	6.0mm	8.0mm	10.0mm	12.5mm
DIA. 4.8mm	5.8kN	7.1kN	8.8kN	10.7kN	12.9kN	16.3kN

PULL OUT VALUES FOR STEEL THICKNESS

TSHW  

FOR LIGHT STEEL (TEK 3 Point)

RANGE FROM: 4.8mm - 16mm/ 5.5mm - 19mm to 125mm

STEEL THICKNESS	1.2mm	1.6mm	2.0mm	2.5mm	3.0mm	4.0mm
DIA. 4.8mm	1.2kN	1.6kN	2.0kN	3.0kN	3.9kN	4.5kN
DIA. 5.5mm	1.7kN	1.9kN	2.4kN	4.6kN	6.5kN	7.6kN

PULL OUT VALUES FOR STEEL THICKNESS

TSHW  

FOR HEAVY STEEL (TEK 5 Point)

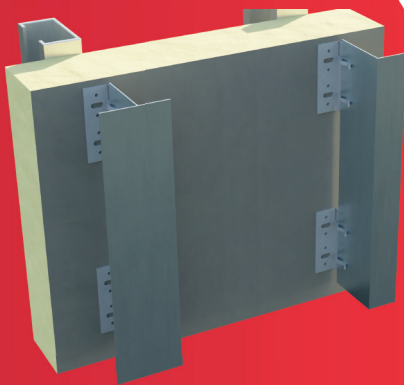
RANGE FROM: 32mm to 100mm

STEEL THICKNESS	4.0mm	5.0mm	6.0mm	8.0mm	10.0mm	12.5mm
DIA. 5.5mm	6.1kN	7.7kN	9.8kN	10.8kN	11.7kN	13.1kN

PULL OUT VALUES FOR STEEL THICKNESS

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Applications: Facade



Fixed through composite panel

Specially designed for optimum performance, our fasteners provide a safe, secure and expedient fastening solution for façade systems comprising:

- composite insulated panel walls and roofs retained to primary or secondary steel framing, as well as
- retention of brick-tie channels through insulation battens and boards to secondary steel framing, timber framing or reinforced concrete (remember to specify our stainless-steel compression sleeves to stop compression of the insulation).

Our fasteners allow flexibility and adaptability to a wide range of insulation materials and thicknesses, ensuring a consistent fastening solution for all applications.

Make use of our technical expertise and get in-touch with our engineers by e-mailing technical@evofas.com to discuss the specific requirements of your project now!

COMPOSITE PANEL FASTENER RANGE:

STAINLESS STEEL:

BMHT12

FOR LIGHT STEEL (TEK 3 Point)

WITH 12mm WASHER



RANGE FROM: 5.5mm - 105mm to 185mm

PULL OUT VALUES FOR STEEL THICKNESS	STEEL THICKNESS	1.2mm	1.6mm	2.0mm	2.5mm	3.0mm	4.0mm
	DIA. 5.5mm	1.7kN	2.1kN	2.5kN	3.3kN	4.1kN	5.4kN

BMTSBWHT

FOR LIGHT STEEL (TEK 3 Point)

WITH 16/19mm WASHER



RANGE FROM: 5.5mm - 80mm to 275mm

PULL OUT VALUES FOR STEEL THICKNESS	STEEL THICKNESS	1.2mm	1.6mm	2.0mm	2.5mm	3.0mm	4.0mm
	DIA. 5.5mm	1.7kN	2.1kN	2.5kN	3.3kN	4.1kN	5.4kN

A2BMHT

FOR LIGHT STEEL (TEK 3 Point)

WITH NO WASHER



RANGE FROM: 5.5mm - 125mm to 185mm

PULL OUT VALUES FOR STEEL THICKNESS	STEEL THICKNESS	1.2mm	1.6mm	2.0mm	2.5mm	3.0mm	4.0mm
	DIA. 5.5mm	1.7kN	2.1kN	2.5kN	3.3kN	4.1kN	5.4kN

A4BMHT

FOR LIGHT STEEL (TEK 3 Point)

WITH 16/19mm WASHER



RANGE FROM: 5.5mm - 105mm to 185mm

PULL OUT VALUES FOR STEEL THICKNESS	STEEL THICKNESS	1.2mm	1.6mm	2.0mm	2.5mm	3.0mm	4.0mm
	DIA. 5.5mm	1.8kN	2.0kN	2.4kN	3.3kN	4.4kN	6.1kN

BMTSBWHT

FOR HEAVY STEEL (TEK 5 Point)

WITH 16/19mm WASHER



RANGE FROM: 5.5mm - 105mm to 245mm

PULL OUT VALUES FOR STEEL THICKNESS	STEEL THICKNESS	4.0mm	5.0mm	6.0mm	8.0mm	10.0mm	12.5mm
	DIA. 5.5mm	6.4kN	7.7kN	10.1kN	11.4kN	12.3kN	12.8kN

CARBON STEEL:

TSHWHT

FOR LIGHT STEEL (TEK 3 Point)

WITH NO WASHER



RANGE FROM: 5.5mm - 135mm to 185mm

PULL OUT VALUES FOR STEEL THICKNESS	STEEL THICKNESS	1.2mm	1.5mm	2.0mm	2.5mm	3.0mm	4.0mm
	DIA. 5.5mm	1.6kN	2.0kN	2.8kN	4.2kN	5.7kN	6.3kN

TSBWHT

FOR LIGHT STEEL (TEK 3 Point)

WITH 12mm WASHER



RANGE FROM: 5.5mm - 135mm to 185mm

PULL OUT VALUES FOR STEEL THICKNESS	STEEL THICKNESS	1.2mm	1.6mm	2.0mm	2.5mm	3.0mm	4.0mm
	DIA. 5.5mm	1.7kN	2.1kN	2.7kN	4.6kN	4.8kN	5.5kN

TSBWHT

FOR LIGHT STEEL (TEK 3 Point)

WITH 19mm WASHER



RANGE FROM: 5.5mm - 80mm to 300mm

PULL OUT VALUES FOR STEEL THICKNESS	STEEL THICKNESS	1.2mm	1.6mm	2.0mm	2.5mm	3.0mm	4.0mm
	DIA. 5.5mm	1.6kN	2.0kN	2.8kN	4.2kN	5.7kN	6.3kN

TSBWHT

FOR HEAVY STEEL

WITH 16/19mm WASHER



RANGE FROM: 5.5mm - 85mm to 260mm

PULL OUT VALUES FOR STEEL THICKNESS	STEEL THICKNESS	4.0mm	5.0mm	6.0mm	8.0mm	10.0mm	12.5mm
	DIA. 5.5mm	6,000N	8,200N	9,600N	12,400N	14,500N	17,500N

Applications: **Cladding.**



A diverse range of sheeting and cladding systems are employed in industrial and commercial structures.

Evolution Fasteners can support in specifying the appropriate fasteners and specialized components, tailored to the design, to guarantee the safety and security of your building's envelope, SUCH AS:

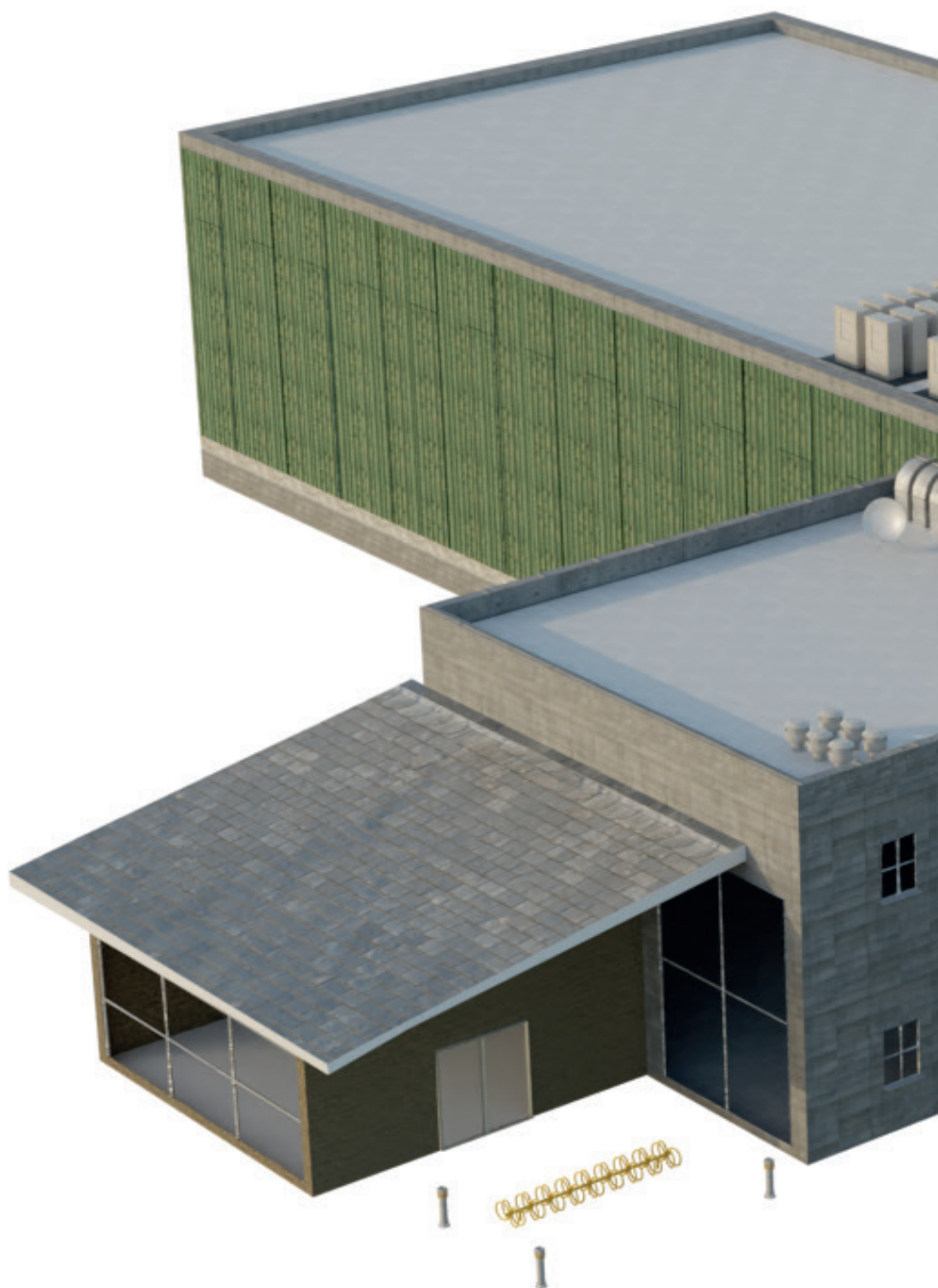
Fibrous Cement Screws
(A2SSDH/TSBWHT6.3-XX-GP)

Halter Fastener Range for
Standing Seam Systems
(TSFHR/TSHF)

Membrane Covered Roof
Panels

Composite Panel Range
(BMTSBWHT/A4BMHT/TSBWHT)

Stitching Screw Range For Sheet
Stitching
(BMTSFHR/BMTSHF/A4SS TSFHR/TSHF)



For further assistance and help, don't
hesitate to contact Evolution fasteners technical team on:

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Fixing sheeting and cladding to steel and aluminium

Bi-Metal TEK Range A2 and A4
(BMHH/BMBW/A4BM)



Carbon Steel Range for Light and Heavy Steel
(TSHW/TSBW)



A4 Self Tapping Screws
(A4ST)



Fixing sheet steel

A2 Bi-Metal Stitching
(BMTSFHR/BMTSHF/A4SS)



Carbon Steel Stitching/Halter Fixing Screws
(TSFHR/TSHF)



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Fixing composite panels to steel and timber

A2 and A4 Bi-Metal Composite Panel Range (BMTSBWHT/A4BMHT)

Carbon Steel Composite Panel Range (TSBWHT)



Fixing fibre cement sheeting

Fibrous Cement Board Screw (SSDH-GP)

A2 Stainless Fibre Cement Board (BAZ) Screws (A2SSDH)



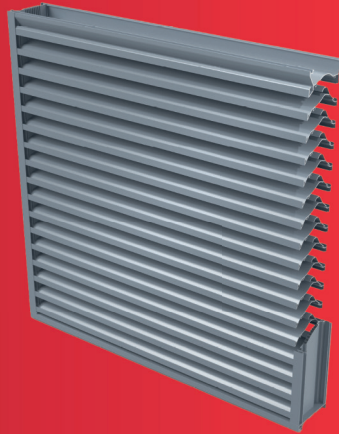
Fixing timber to steel

A2 Bi-Metal Timber Tek (BMWD)

Carbon Steel Timber Tek (TSTF)



Applications: Louvres.

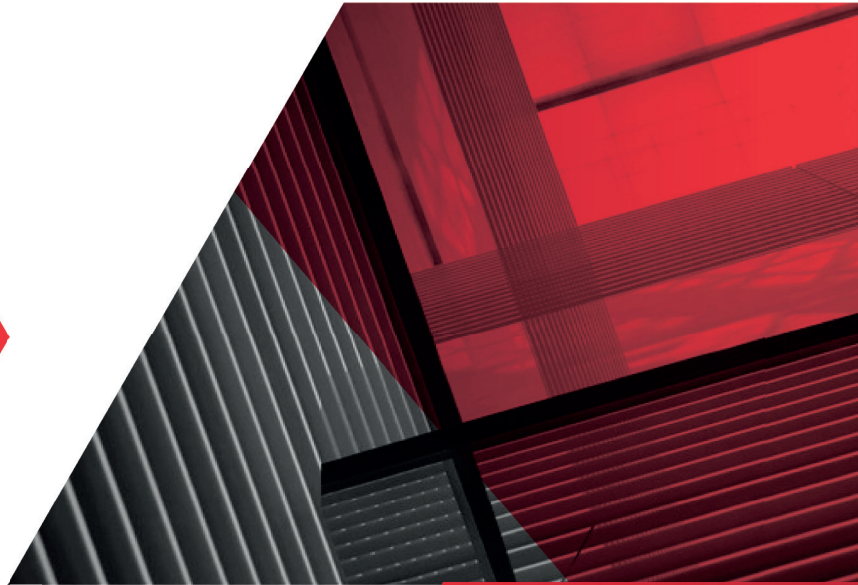


RAIN DEFENCE LOUVRES



SCREENING LOUVRES

Whether the requirement is for rain defence louvres, screening louvres, ventilation louvres, or acoustic louvres, our extensive selection of fasteners ensures optimal performance and durability in securing these systems against the elements and environmental noise.

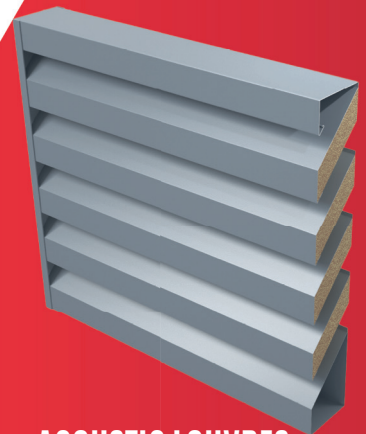


Understanding the unique demands of each louvre application—be it for airflow management, water penetration resistance, visual screening, or sound attenuation—**Evolution Fasteners' technical team** is readily available to offer expert guidance.

By simply reaching out to our technical support team, clients can receive free, personalized advice on selecting the ideal connect fastener for their specific louvre system and job requirements.

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ACOUSTIC LOUVRES



VENTILATION LOUVRES

Technical assistance at Evolution Fasteners:

Our expertise extends to various stages of construction, whether it involves new developments in the planning phase or renovation projects that include new roofing or external cladding. We provide support through consulting, educational sessions, technical evaluations, or tailored on-site assessments. Our array of services in specification and technical support encompasses:

- Tailored specifications for individual projects
- Provision of CAD layouts and BIM models
- Educational seminars and product showcases
- ¹Anchor pull-out assessments
- ²Calculations for wind resistance
- ³Testing for specific application requirements



WE HAVE THE SOLUTION

About Evolution Fasteners:

The team at Evolution boasts a wealth of expertise across various sectors of the construction industry and is accessible from 8:30 am to 5:30 pm, Monday through Friday. They are on hand to offer information about products, pricing, or guidance on the appropriate uses for our fasteners.

Our entire product range is stocked at our UK Distribution Centre, ensuring next-day delivery* across most of the UK and swift delivery to mainland Europe within a few days.



Premium quality is something we take very seriously at Evolution and our ISO 9001 certification demonstrates this. We are dedicated to ensuring quality in everything we do, from our products to our Customer Services and Marketing Support.

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¹subject to terms and conditions, may incur a fee/ charge.

²subject to terms and conditions, may not be possible due to responsibility exclusions pursuant to Construction (Design and Management) Regulations 2015 and/ or the Building Safety Act 2022.

³Testing for specific application requirements need a footnote number and footnote at bottom of page: *subject to terms and conditions, contingent on specification of Evolution products therein.

*subject to availability and limitations

evolution

We Have the **Solution.**

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This document aims to offer general guidance that aids in choosing the right fasteners for roofing, cladding, or similar products. It's recommended that readers consult with qualified and experienced professionals for advice on material usage, methods, and applications. While every effort has been made to ensure the accuracy of the data and information provided, based on the facts or prevailing practices and opinions at the time of publication, Evolution Fasteners Ltd does not accept liability for any mistakes, inaccuracies, or for any loss or damage resulting from the application of the information contained in this document.

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