

# BUILDING ENVELOPE FASTENERS GUIDE

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



**PARADIGME.**  
Specialised Fixings Systems

**evolution**



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paradigme.co.uk

## CONTENTS:

<b>About Paradigme</b>	4
<b>Applications: Façade</b>	5-7
<b>Applications: Cladding</b>	8-9
<b>Sheeting and Cladding Fasteners</b>	10-11
<b>Applications: Louvres</b>	12
<b>Technical Assistance at Evolution</b>	13
<b>Warranty info/Corrosion Resistance</b>	14



# PARADIGME

Specialised Fixings Systems

## About Paradigme:

Paradigme Ltd are specialist suppliers of certified structural and architectural fasteners & fixings for external construction projects. We have a wealth of experience and supply market leading companies who manufacture and install Architectural façades, rainscreen cladding and solar shading

Our experience and understanding of construction allow us to source fixings and components suitable for almost any external project. We can provide all the technical specifications and advice you need.

E: [sales@paradigme.co.uk](mailto:sales@paradigme.co.uk)  
T: +44 (0) 161 470 2857

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

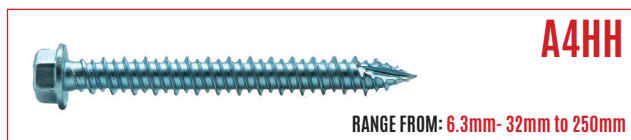
These fasteners are designed to penetrate, engage and securely fasten into various masonry blocks, bricks and even concrete slabs or soffits.

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:

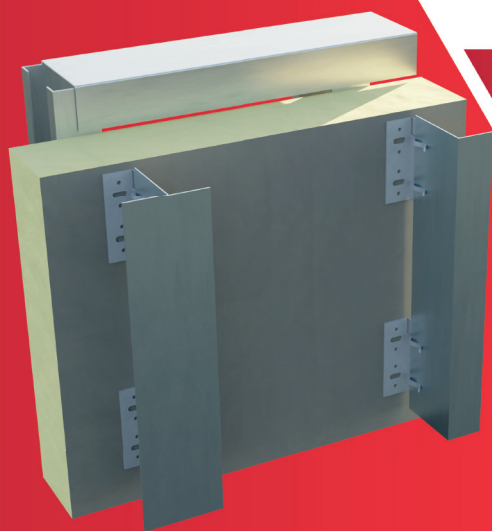
### STAINLESS STEEL:



### 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**



PULL OUT VALUES FOR STEEL THICKNESS

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

#### BMTSLP

FOR HEAVY STEEL (TEK 5 Point)

**RANGE: 5.5mm - 38mm**



PULL OUT VALUES FOR STEEL THICKNESS

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

#### BMHH

FOR LIGHT STEEL (TEK 3 Point)

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



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	3.2kN	4.3kN	5.5kN
DIA. 6.3mm	1.9kN	2.4kN	3.2kN	4.0kN	4.9kN	6.5kN

#### BMHH

FOR HEAVY STEEL (TEK 5 Point)

**RANGE FROM: 5.5mm - 38mm to 100mm**



PULL OUT VALUES FOR STEEL THICKNESS

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

## CARBON STEEL:

### TSPH

FOR LIGHT STEEL (TEK 3 Point)

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



PULL OUT VALUES FOR STEEL THICKNESS

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

### TSLP

FOR LIGHT STEEL (TEK 2 Point)

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



PULL OUT VALUES FOR STEEL THICKNESS

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

### TSLP

FOR HEAVY STEEL (TEK 5 Point)

**RANGE FROM: 5.5mm - 38mm**



PULL OUT VALUES FOR STEEL THICKNESS

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

### TSHW

FOR LIGHT STEEL (TEK 3 Point)

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



PULL OUT VALUES FOR STEEL THICKNESS

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

### TSHW

FOR HEAVY STEEL (TEK 5 Point)

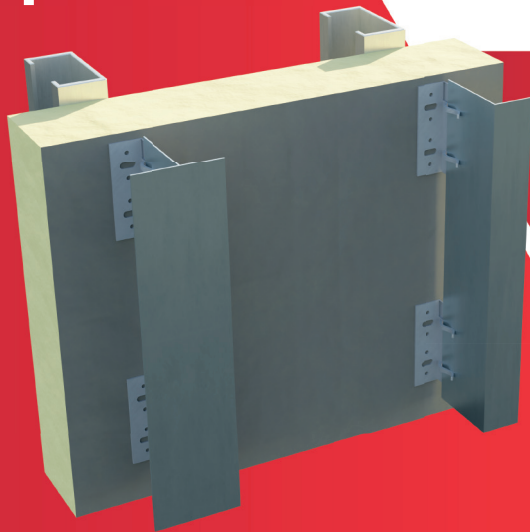
**RANGE FROM: 32mm to 100mm**



PULL OUT VALUES FOR STEEL THICKNESS

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	13.4kN

# 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](mailto: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

#### BMTSBWHT

FOR LIGHT STEEL

WITH 16mm WASHER



RANGE FROM: 5.5mm - 80mm to 225mm

#### A2BMHT

FOR LIGHT STEEL

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

WITH 16mm WASHER



RANGE FROM: 5.5mm - 105mm to 150mm

 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

WITH 16mm WASHER



RANGE FROM: 5.5mm - 105mm to 150mm

 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	1,695kN	2,006kN	2,885kN	4,255kN	5,740kN	6,360kN

#### 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 16mm WASHER



RANGE FROM: 5.5mm - 80mm to 200mm



PULL OUT VALUES FOR STEEL THICKNESS

STEEL THICKNESS	1.2mm	1.6mm	2.0mm	2.5mm	3.0mm	4.0mm
DIA. 5.5mm	1,659N	1,006N	2,885N	4,225N	5,740N	6,360N

#### TSBWHT

FOR HEAVY STEEL

WITH 16mm WASHER



RANGE FROM: 5.5mm - 85mm to 260mm

 PULL OUT VALUES FOR STEEL	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:

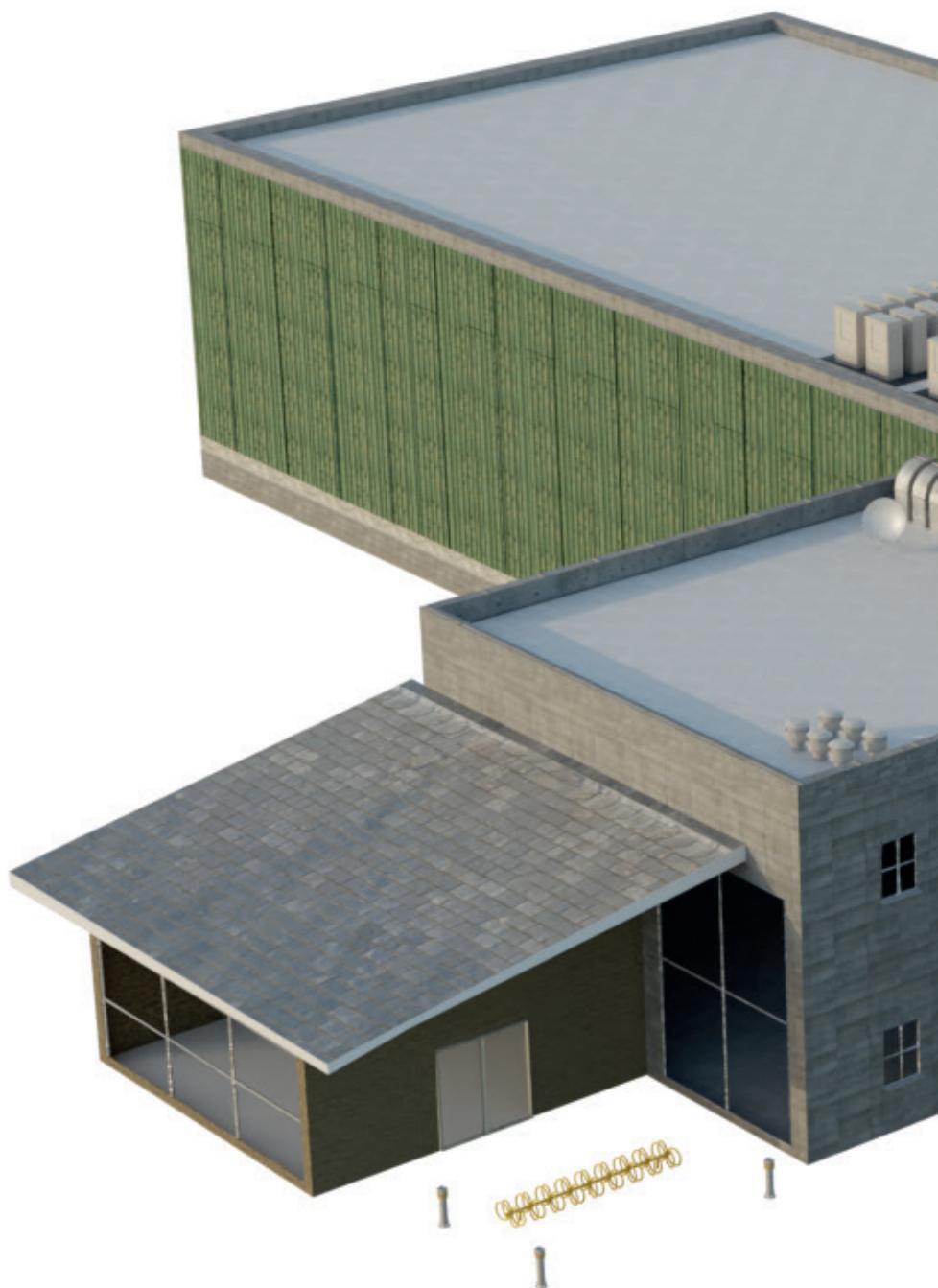
Fibrous Cement Screws  
(A2SSDH/TSBWHT6.3-XX-GP)

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:

E: [technical@evofas.com](mailto:technical@evofas.com)

T: +44 (0)141 647 7100



# Sheeting and Cladding Fasteners

Fixing sheeting and cladding to steel and aluminium

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## 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

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## A2 Bi-Metal Stitching

(BMTSFHR/BMTSHF/A4SS)



## Carbon Steel Stitching/Halter Fixing Screws

(TSFHR/TSHF)





## 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

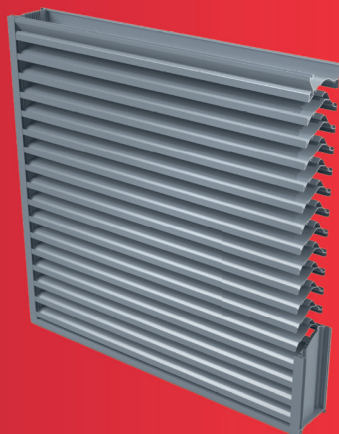
(BMWD)

### Carbon Steel Timber Tek

(TSTF)



# Applications: Louvres.

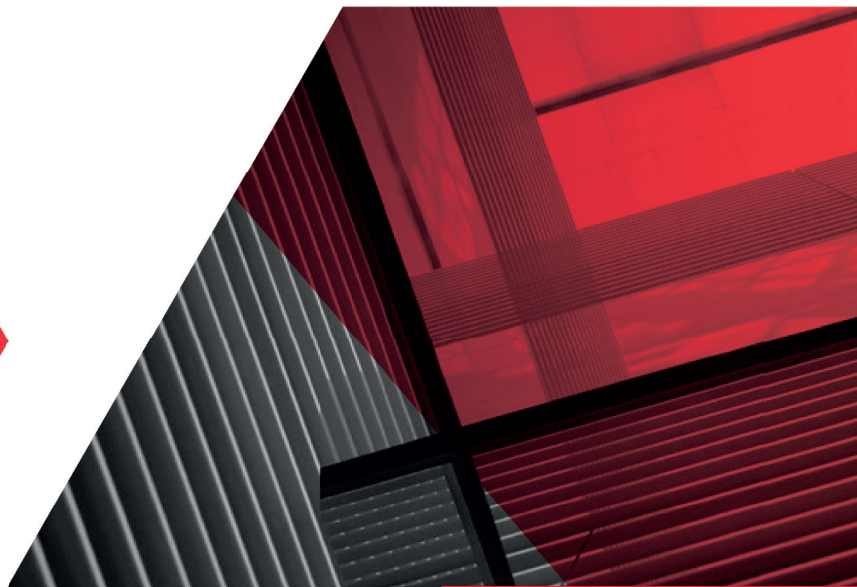


RAIN DEFENCE LOUVRES



SCREENING LOUVRES

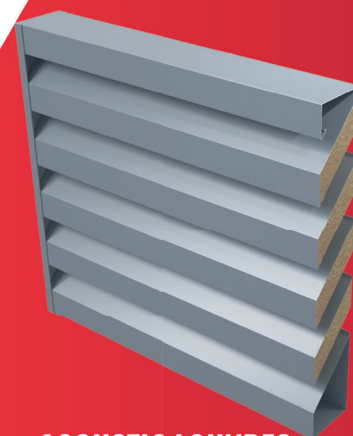
Whether the requirement is for rain defence louvres, screening louvres, ventilation louvres, or acoustic louvres, our extensive selection of fasteners ensures optimal performance and durability in securing these systems against the elements and environmental noise.



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.

E: [technical@evofas.com](mailto:technical@evofas.com)  
T: +44 (0)141 647 7100



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
- Anchor pull-out assessments
- Calculations for wind resistance
- Testing 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.

# WARRANTY INFORMATION

Evolution is proud to provide an industry-leading warranty<sup>1</sup> on our **EvoShield®** and **Bi-Metal™** fasteners with periods up to:

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

<sup>1</sup>Subject to terms and conditions.

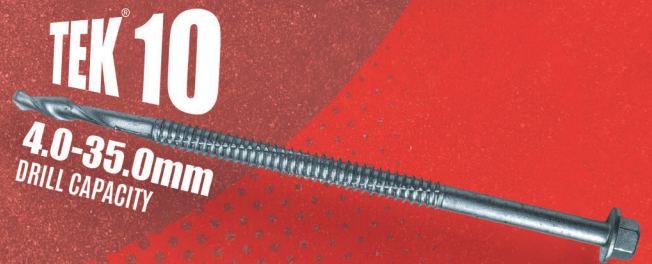
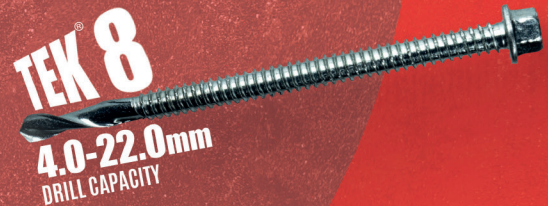
## CORROSIVITY CATEGORIES

### Atmospheric Corrosivity Categories and Examples of Typical Environments

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

**evolution**  
WE HAVE THE SOLUTION.

# TEK<sup>®</sup> SCREWS



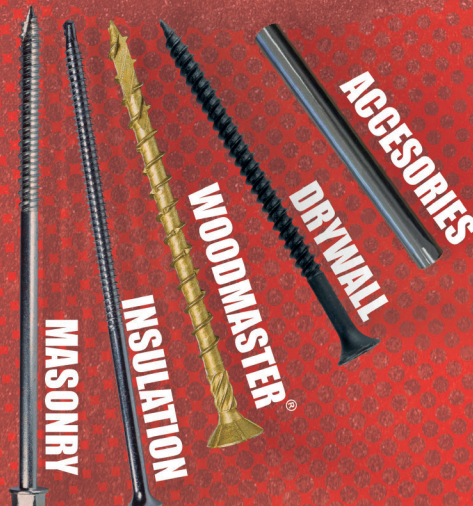
ALSO AVAILABLE IN  
**STAINLESS**  
STEEL

OUR OTHER  
RANGES:

SEE THE FULL RANGE IN  
OUR PRODUCT GUIDE:



OR CHECK OUT OUR  
SMALLER FOCUSED GUIDES:



[www.evofas.com](http://www.evofas.com)





**PARADIGME.**  
Specialised Fixings Systems

## **Paradigme Ltd**

Bramhall Moor Technology  
Park Pepper Road  
Hazel Grove  
SK7 5SA

**Call:** +44 (0) 161 470 2857

**Email:** [sales@paradigme.co.uk](mailto:sales@paradigme.co.uk)

**Visit:** [www.paradigme.co.uk](http://www.paradigme.co.uk)

# evolution

We Have the **Solution.**

## **Evolution Fasteners Ltd**

Clyde Gateway Trade Park  
Dalmarnock Road  
Rutherglen  
G73 1AN

**Call:** +44 (0)141 647 7100

**Email:** [sales@evofas.com](mailto:sales@evofas.com)

**Visit:** [www.evofas.com](http://www.evofas.com)

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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