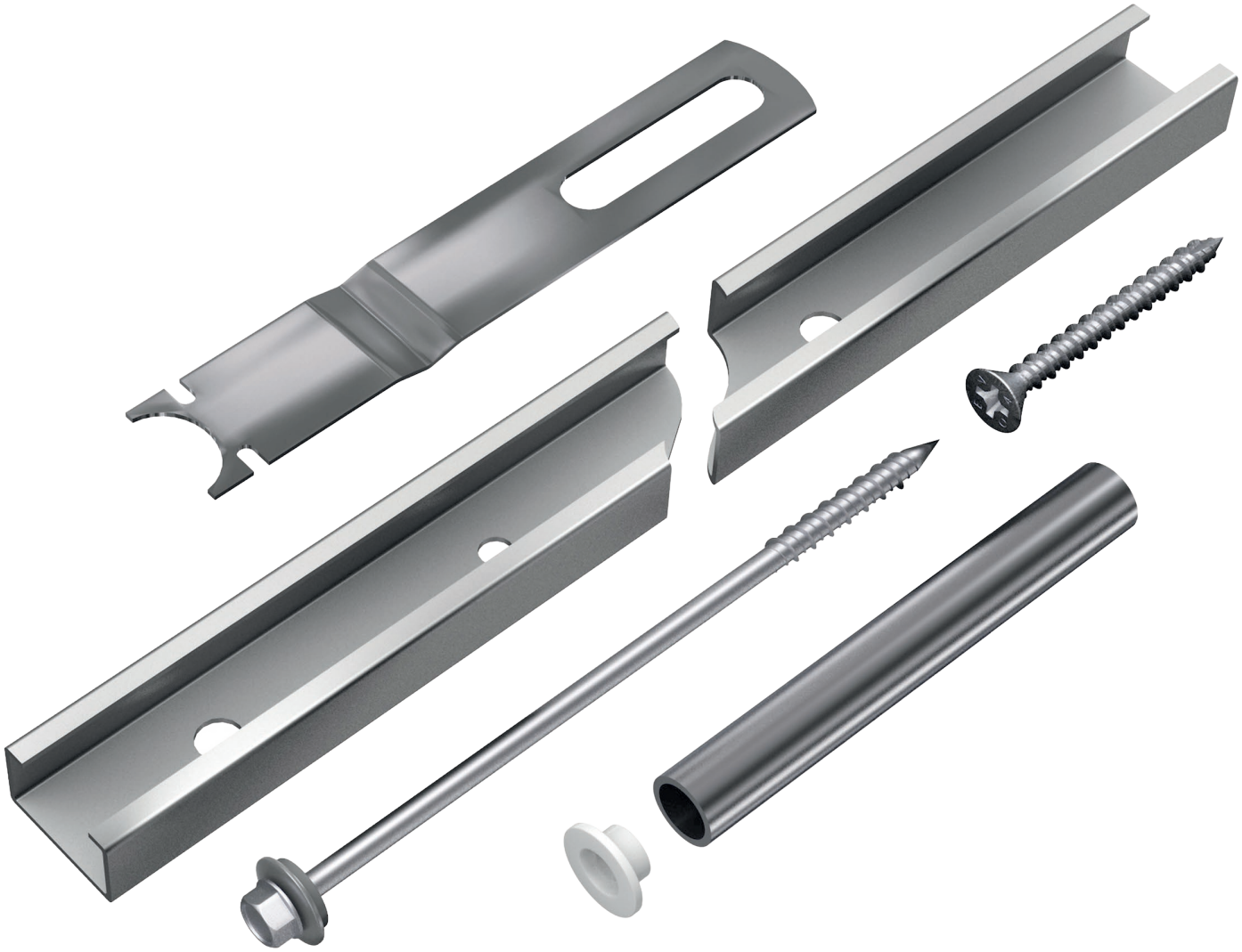
TECTIES
THE TANGLE FREE TIE COMPANY

DATASHEET/DECLARATION OF PERFORMANCE

TTCH 25/14 CHANNEL SYSTEM FOR STEEL & CONCRETE

TEC/DD/1008



Check that you are using the most up to date version of this product information, **scan the QR code.**

CCPI
ASSESSED PRODUCT INFORMATION
016170257/0828
TTCH 25/14 CHANNEL SYSTEM

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DATASHEET/DECLARATION OF PERFORMANCE

TTCH 25/14 CHANNEL SYSTEM FOR STEEL & CONCRETE

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The Tecties 25/14 channel system is designed to tie brickwork to steel columns or concrete structures.

The main components of the system comprise of:

- **25/14 Channel** - Stainless Steel Grade 304
- **Channel tie** - Stainless Steel Grade 304
- **High Thread Bi Metal TEK screws and washers** - Stainless Steel Grade 304 for SFS
- **Multi Fix Stainless Steel Screws** - for fixing to concrete
- **Compression sleeves** - Stainless Steel Grade 304

* Grade 316 available on request.

It is recommended that stainless steel screws are used. Carbon Steel screws are available on request.

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TECTIES 25/14 CHANNEL

25/14 channel is available in lengths of 2700mm. It features pre-punched holes at close centres to ensure a fixing position is always located near the end, even when it is cut on site. The channel has a 16mm opening to easily accommodate a drive socket and washer for the High thread stainless steel tek screws and concrete screws dependent on the application.

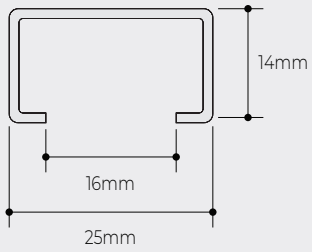
Tecties 25/14 channel features alternate 5.3mm and 9.5mm diameter holes to accept different fixings.

The smaller diameter holes should be used when fixing to steel.

The larger diameter holes are to accommodate fixings for concrete.

***Note**. Using the incorrect screw hole and fixing screw invalidates the system performance.

Stainless Steel Grade 316 available on request.



Handling and storage

Precautions for safe handling:

Handle product only after first reading and understanding manufacturers safety precautions and recommendations. Avoid inhalation of dust particles and any sharp edges by using the correct PPE.

Wash hands thoroughly after use and before eating or drinking.

Conditions for safe storage:

Store products away from incompatible materials, ideally in a cool, dry area. The use of timber battens between materials and the ground will allow better ventilation and help prevent any corrosion.

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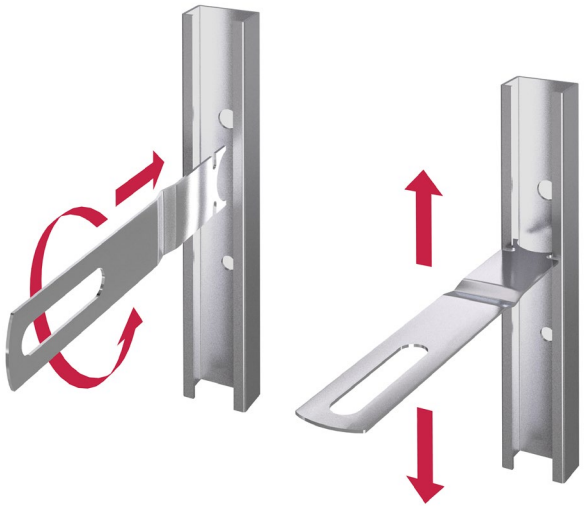
CHANNEL TIES

Tecties TTCH Wall Ties

Tecties TTCH wall ties are available in various lengths to suit open cavities from 35mm to 334mm (see selection table). They are located in the channel by rotating through 90 and can be easily moved to the required position where they are built into the masonry bed joint. See tables for correct tie references and fixing centres.

The 25/14 Channel Ties are supplied in standard lengths from 100mm to 375mm projections, complete with V Drip. Tecties recommend a 62.5mm embedment into masonry. The minimum requirement would be 55mm.



Open Cavity (mm)	Tie Length (mm)	Tecties TTCH Tie Reference	Box Quantities
35-59	100	TTCH/100	250
60-84	125	TTCH/125	250
85-109	150	TTCH/150	250
110-134	175	TTCH/175	250
135-159	200	TTCH/200	250
160-184	225	TTCH/225	250
185-209	250	TTCH/250	100
210-234	275	TTCH/275	100
235-259	300	TTCH/300	100
260-284	325	TTCH/325	100
285-309	350	TTCH/350	100
310-334	375	TTCH/375	100

Drawings would be required to check wind speeds on site to recommend vertical spacing (mm).

Recommended Wall Tie and Fixing Screw Vertical Centres, based on 25/14 Channel at 600mm Horizontal Centres

Tie Type	Insulation Thickness[1] (mm)	Vertical Tie Spacing (mm)	Vertical Fixing Spacing (mm)
1	Max 220	300	225
2	Max 220	450	337.5
3	Max 220	450	337.5/450*
4	Max 220	450	337.5/450*

Notes: Centres shown achieve equivalent tie type performances to PD 6697:2019. Table 12 (M2 Mortar).

*Check 337.5mm centres for insulation thickness greater than 114mm.

Packaging Material Widely Recycled	Cardboard Box **Widely Recyclable - Check with your local council guidelines** Please visit the Environmental Commitment page **here**
Storage	Boxes of stainless steel wall ties to be stored indoors, Individual wall ties can be stored outdoors provided they are protected from contamination. Regular checks should be carried out to ensure packaging remains intact, ties remain clean, and there are no signs of corrosion, damage, or foreign material that could affect product quality or performance.
Safe Handling	Please visit the Handling Safety Information page **here**
Fire Rating	Euroclass A1

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SCREWS

Steel

Fixing Screws

High Thread Stainless Steel Tek Screws are available to accommodate a combined backing board and insulation thickness of up to 300mm and a steel thickness from 1.2mm to 4mm.

Tecties High thread Bi-metal tek screws (supplied with washers) feature a shaped drill tip of hardened steel that allows installation without pre-drilling.

High Thread Stainless Steel Tek Screws

Screw Length
Screw lengths available to accommodate insulation/backing material thicknesses of 30-300mm. Please contact the TecTies sales office for more information.

Concrete

CFS Concrete fixings screws

CFS Concrete fixings screws are available to accommodate an insulation thickness of up to 300mm. A 6mm pilot hole is required. A Tecties stainless steel compression sleeve the same depth as the insulation is required with semi rigid insulation. See tables for screw references, technical specifications and fixing centres.

CFS Concrete fixings screws are also available for fixing the channel directly back to concrete where no insulation is present, for further information please contact us.

Note: concrete strength increases with age and care should be taken when fixing CFS Concrete fixings screws into older concrete. For further information and technical queries please contact the office.

When using carbon steel concrete fixings you also require a nylon top hat/ shoulder washer to separate the carbon steel fixing from the stainless steel compression sleeve.

* For fixing channel directly back to concrete where no insulation is present. Shoulder washer & compression sleeve not required, standard M8 nylon washer supplied to be used between screw and channel.

Box quantities available on request.

CFS Concrete fixings screws

Screw Length	Masonry and concrete fixing information
Screw lengths available to accommodate insulation/ backing material thicknesses of 0-300mm. Please contact the TecTies sales office for more information.	Using a PGM® Approved “Special Drive System” (SOS™) drill bit (for masonry/ concrete) with a certified diameter of 6.0mm in conjunction with an appropriate SOS™ chucked Rotary Hammer Drill (110V corded such as Bosch GBH 3-28, or, 18V cordless such as Bosch GB18V-20); drill a pilot hole into the masonry substate through the compression sleeve so that: (a) The pilot hole is drilled perpendicularly (within± 5.0° of normal) to the substrate, and, (b) The pilot hole is drilled to the minimum embedment depth as defined in ETA-13/0634 with a 5.0mm further drilling length to provide relief for fines and silts to rest in (without influencing the fixing).

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COMPRESSION SLEEVES

Compression sleeves are designed to ensure that the stability of the insulation is maintained by preventing the channel deflecting or compressing the insulation.

Product Details

Head style	Circular
Shank Material	Stainless Steel
Material Grade	Grade 304* *also available A4 (Grade 316) on request
Coating	None
External Diameter	10mm

Stainless Steeel Compression Sleeves - Products for avoidance of the negative effects of insulation deformation

Tecties TTSCS Reference	Nominal Dimensions, dnom x Lnom (mm)
TTSCS030	10.0 x 30.0 mm
TTSCS035	10.0 x 35.0 mm
TTSCS040	10.0 x 40.0 mm
TTSCS050	10.0 x 50.0 mm
TTSCS060	10.0 x 60.0 mm
TTSCS075	10.0 x 75.0 mm
TTSCS080	10.0 x 80.0 mm
TTSCS090	10.0 x 90.0 mm
TTSCS100	10.0 x 100.0 mm
TTSCS110	10.0 x 110.0 mm
TTSCS120	10.0 x 120.0 mm
TTSCS125	10.0 x 125.0 mm
TTSCS130	10.0 x 130.0 mm
TTSCS135	10.0 x 135.0 mm
TTSCS140	10.0 x 140.0 mm
TTSCS150	10.0 x 150.0 mm
TTSCS160	10.0 x 160.0 mm
TTSCS170	10.0 x 170.0 mm
TTSCS175	10.0 x 175.0 mm
TTSCS180	10.0 x 180.0 mm
TTSCS190	10.0 x 190.0 mm
TTSCS200	10.0 x 200.0 mm
TTSCS220	10.0 x 220.0 mm
TTSCS230	10.0 x 230.0 mm
TTSCS240	10.0 x 240.0 mm
TTSCS250	10.0 x 250.0 mm
TTSCS260	10.0 x 260.0 mm
TTSCS270	10.0 x 270.0 mm
TTSCS280	10.0 x 280.0 mm
TTSCS290	10.0 x 290.0 mm
TTSCS300	10.0 x 300.0 mm

NB: Length of Compression Sleeve should correspond with thickness of insulation being used on contact.

NOTE: The results expressed in this document are determined from empirical testing. Specifiers, end-users and other third parties should make their own decision(s) on what safety factors to use relevant to their design(s)/ application(s). This document is provided, strictly: without prejudice, without recourse, without liability, non-assumpsit, no assured value, errors and omissions excepted, subject to change without notice and all rights reserved.

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TTCH 25/14 CHANNEL SYSTEM FOR STEEL & CONCRETE

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INSTALLATION

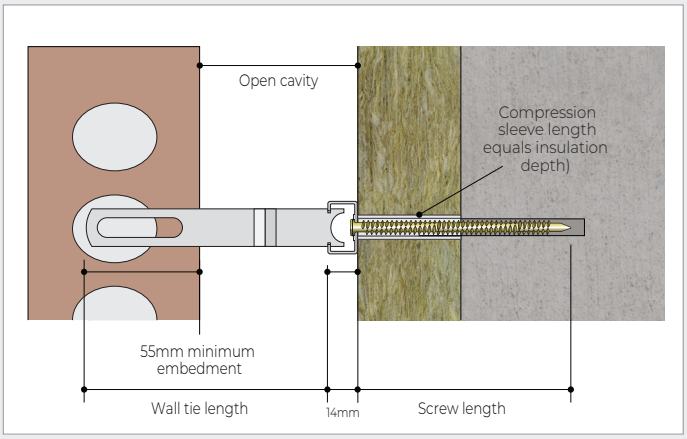
FIXING TO CONCRETE

TTCH using Semi Rigid Insulation

For an insulation depth up to 300mm

TTCH Wall Ties

Lengths: For open cavities up to 334mm

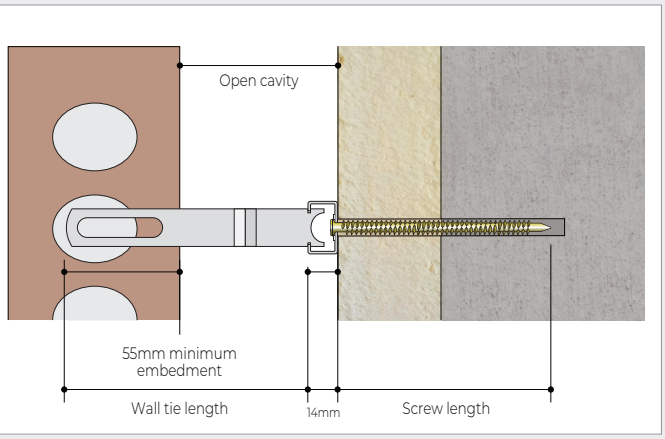


TTCH using Rigid Insulation

For an insulation depth up to 300mm

TTCH Wall Ties

Lengths: For open cavities up to 334mm



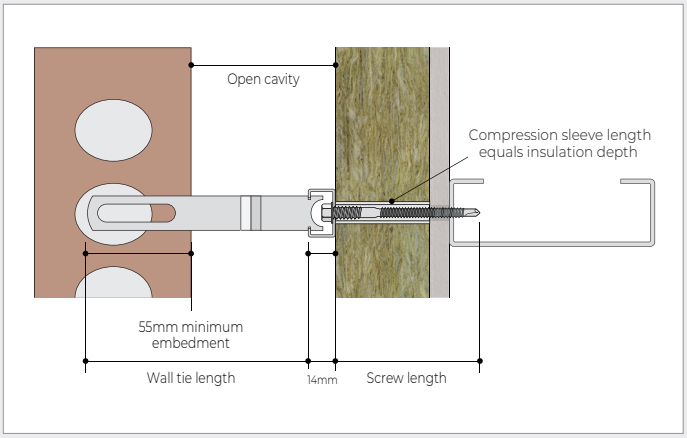
FIXING TO STEEL

TTCH using Semi Rigid Insulation

For an insulation depth up to 300mm

TTCH Wall Ties

Lengths: For open cavities up to 334mm

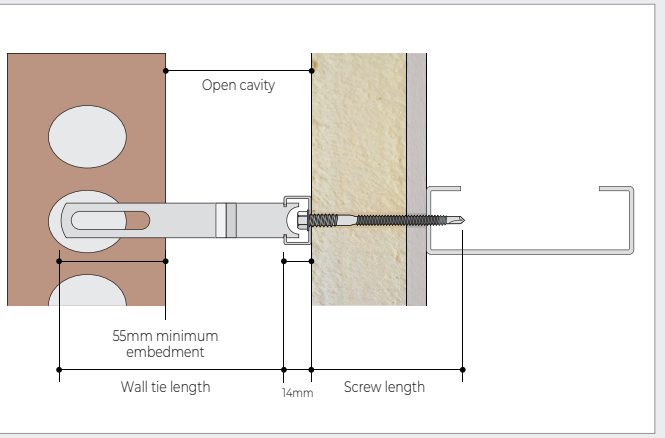


TTCH using Rigid Insulation

For an insulation depth up to 300mm

TTCH Wall Ties

Lengths: For open cavities up to 334mm



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DATASHEET/DECLARATION OF PERFORMANCE

TTCH 25/14 CHANNEL SYSTEM FOR STEEL & CONCRETE

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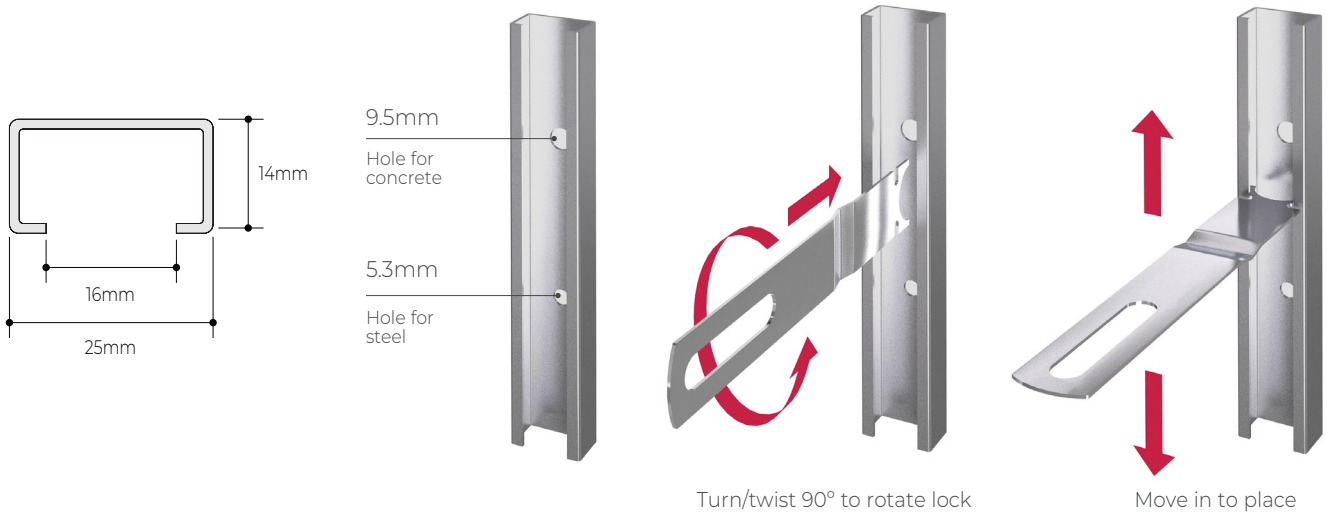
INSTALLATION (CONTINUED)

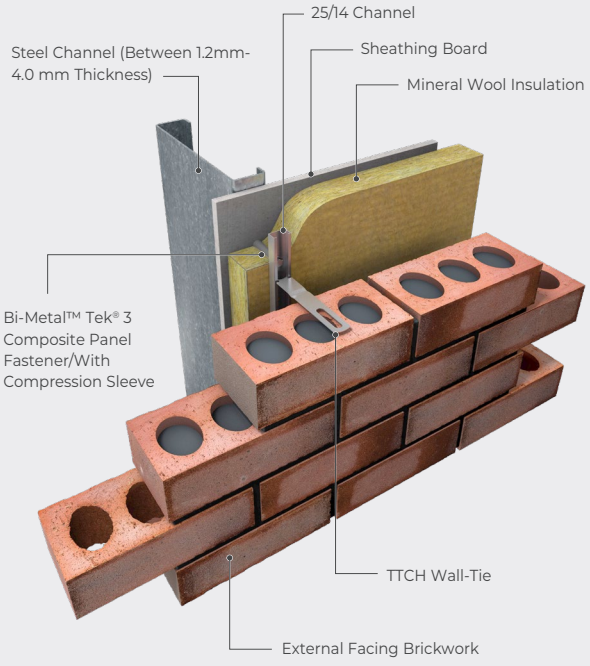


Tecties 25/14 channel features alternate 5.3mm and 9.5mm diameter holes to accept different fixings. The smaller diameter holes should be used when fixing to steel. The larger diameter holes are to accommodate fixings for concrete.

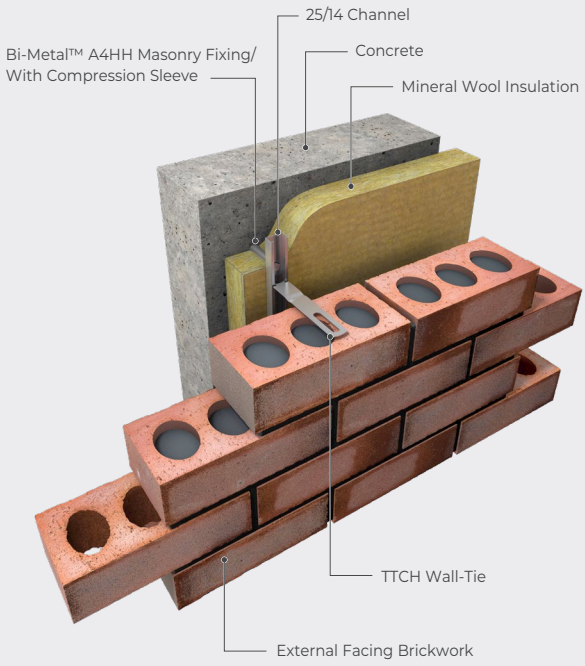
Note: Using the incorrect hole and fixing screw combination invalidates the system performance.

Recommended embedment 62.5mm, minimum 55mm.

STEEL



CONCRETE



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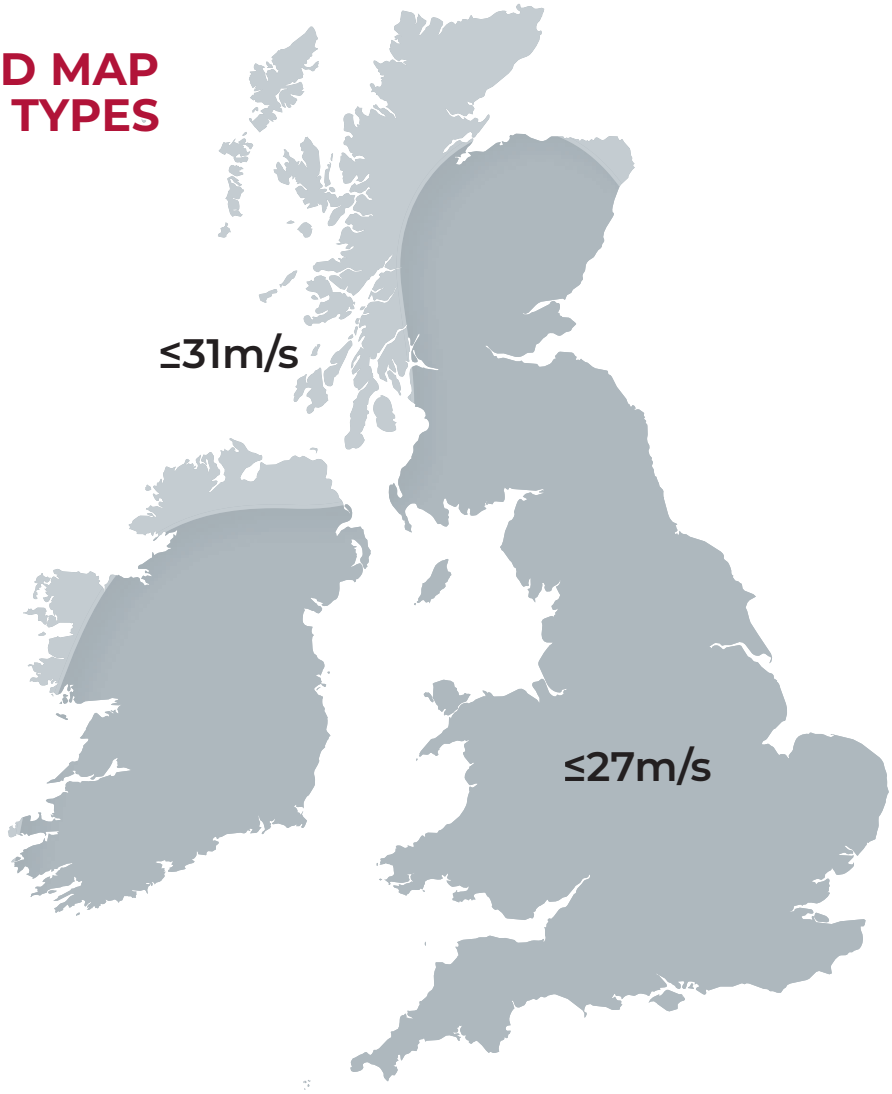
WIND SPEED MAP & WALL TIE TYPES

Wind Speed Map

from BS EN 1991-1-4: 2005



Wall Tie Types

Required Wall Tie Type	Application	Maximum Building Height (m)	Geographical Location
Type 4	Light duty tie,suitable for box-form domestic dwellings	10	Suitable for flat sites in towns/cities where basic wind speed does not exceed 27m/s and altitude is not more than 150m above sea level
Type 3	Basic wall ties, suitable for residential and small commercial buildings	15	Suitable for flat sites where basic wind speed is up to 27m/s and altitude is not more than 150m above sea level
Type 2	General purpose tie, suitable for residential and small commercial buildings	15	Suitable for flat sites where basic wind speed is up to 31m/s and altitude is not more than 150m above sea level
Type 1	Heavy duty tie, suitable for most building types	Any height	Suitable for most sites. However, for relatively small or unusually shaped buildings in vulnerable areas, tie provision should be calculated

Notes: Refer to PD 6697: 2019 and BS EN 1991-1-4: 2005 for complete information.
For information on the certified management systems and standards see Tecties.co.uk

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DECLARATION OF PERFORMANCE

TecTies Ltd hereby declares that 25/14 the Channel Ties TTCH are in conformity with the provisions of **ZA Annex of EN 845—1 : 2013+A1:2016**

Intended Use
Asymmetrical and Movement Tolerant Shear Ties for use with 25/14 channel to connect a new masonry leaf to an existing structure.

Suitable for
See table below

Notified Bodies
Lucideon Limited, Queens Road, Penkhull, Stoke on Trent ST4 7LQ **Tel.** +44 (0)1782 764428

Notified Body Number 1289

Underwritten by TZUS – Prague

Notified Body Number 1020

The system of assessment and verification of constancy of performance for this construction product conforms to **System 3**

TTCH Essential Characteristics

	Size: 100mm to 225mm	Size: 250mm to 300mm
Compressive Load Capacity	1160N	1470N
Tensile Load Capacity	1150N (450mm centres) 2810N (225mm centres)	830N (450mm centres) 2630N (225mm centres)
Displacement at 1/3 Load – Compression	0.43mm	0.27mm
Displacement at 1/3 load – Tensile	1.38mm (450mm centres) 1.20mm (225mm centres)	1.63mm (450mm centres) 1.03mm (225mm centres)
Water Shedding Capability	Resistant	
Durability	Stainless Steel Grade 304	
Embedment Depth	Recommended 62.5mm Minimum 55mm	
Drip Function	V Drip	
Minimum Mortar Designation	(iv)	
Minimum Mortar Joint Width	10mm	
Conformity Assessment	UKCA marked	
Notified Body	Lucideon Ltd - Body No. 1289	
Tests were carried out by Lucideon Limited in accordance with BS EN 846-5:2012: Methods of Test for Ancillary Components for Masonry – Part 5: Determination of Tensile and Compressive Load Capacity and Load Displacement Characteristics of Wall Ties		

Tested with Hadley's 25/14 Channel

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TTCH Essential Characteristics (continued)

	Size: 100mm to 225mm	Size: 250mm to 300mm
Compressive Load Capacity	870N	1110N
Tensile Load Capacity	1080N (450mm centres) 2760N (225mm centres)	910N (450mm centres) 3170N (225mm centres)
Displacement at 1/3 Load – Compression	0.34mm	0.43mm
Displacement at 1/3 load – Tensile	1.56mm (450mm centres) 1.09mm (225mm centres)	1.47mm (450mm centres) 1.42mm (225mm centres)
Water Shedding Capability	Resistant	
Durability	Stainless Steel Grade 304	
Embedment Depth	Recommended 62.5mm Minimum 55mm	
Drip Function	V Drip	
Minimum Mortar Designation	(iv)	
Minimum Mortar Joint Width	10mm	
Conformity Assessment	UKCA/CE+UKNI marked	
Notified Body	Lucideon Ltd - Body No. 1289	
Underwritten by	TZUS Prague – Body No. 1020	
Tests were carried out by Lucideon Limited in accordance with BS EN 846-5:2012: Methods of Test for Ancillary Components for Masonry – Part 5: Determination of Tensile and Compressive Load Capacity and Load Displacement Characteristics of Wall Ties		

Tested with Superior Sections 25/14 Channel

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TTCH 25/14 CHANNEL SYSTEM FOR STEEL & CONCRETE

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TTCH Essential Characteristics (continued)

	Size: 325mm	Size: 350mm	Size: 375mm
Compressive Load Capacity	925.191N (450mm centres) 998.945N (225mm centres)	955.642N (450mm centres) 1356.64N (225mm centres)	682.84N (450mm centres) 979.869N (225mm centres)
Tensile Load Capacity	838.432N(450mm centres) 2332.923N(225mm centres)	817.94N(450mm centres) 2468.58N (225mm centres)	864.93N (450mm centres) 2214.13N (225mm centres)
Displacement at 1/3 Load – Compression	198.74mm (450mm centres) 699.971mm (225mm centres) Mean force @1mm displacement	355.79mm (450mm centres) 681.21mm (225mm centres) Mean force @1mm displacement	249.34mm (450mm centres) 671.62mm (225mm centres) Mean force @1mm displacement
Displacement at 1/3 load – Tensile	142.311mm (450mm centres) 163.5012mm (225mm centres) Mean force @1mm displacement	140.7mm (450mm centres) 226.87mm (225mm centres) Mean force @1mm displacement	154.54mm (450mm centres) 166.56mm (225mm centres) Mean force @1mm displacement
Water Shedding Capability	Resistant		
Durability	Stainless Steel Grade 304		
Embedment Depth	Recommended 62.5mm Minimum 55mm		
Drip Function	V Drip		
Minimum Mortar Designation	(iv)		
Minimum Mortar Joint Width	10mm		
Conformity Assessment	UKCA		
Accredited Laboratory	Evolution Laboratory		
Testing Procedure	BS EN 846-6NC Part 6: Determination of tensile and compressive load capacity and load displacement characteristics of wall ties (single end test). Ultimate tensile and compressive load capacity. Failure taken at 5mm displacement. Wall ties were installed into a steel channel which was bolted down with steel rods and nuts to a rigid steel plate. Wall ties were gripped at a 55mm and tensile and compressive force was applied until failure.		

Tested with Superior Sections 25/14 Channel

NB 375mm - Drawings would be required to check wind speeds on site.

All tested product information is available on request. Please contact us for more information.