

Specialized Factory for Steel Products
SIGMA Factory for Steel Products



BLOCKWORK ACCESSORIES CATALOGUE

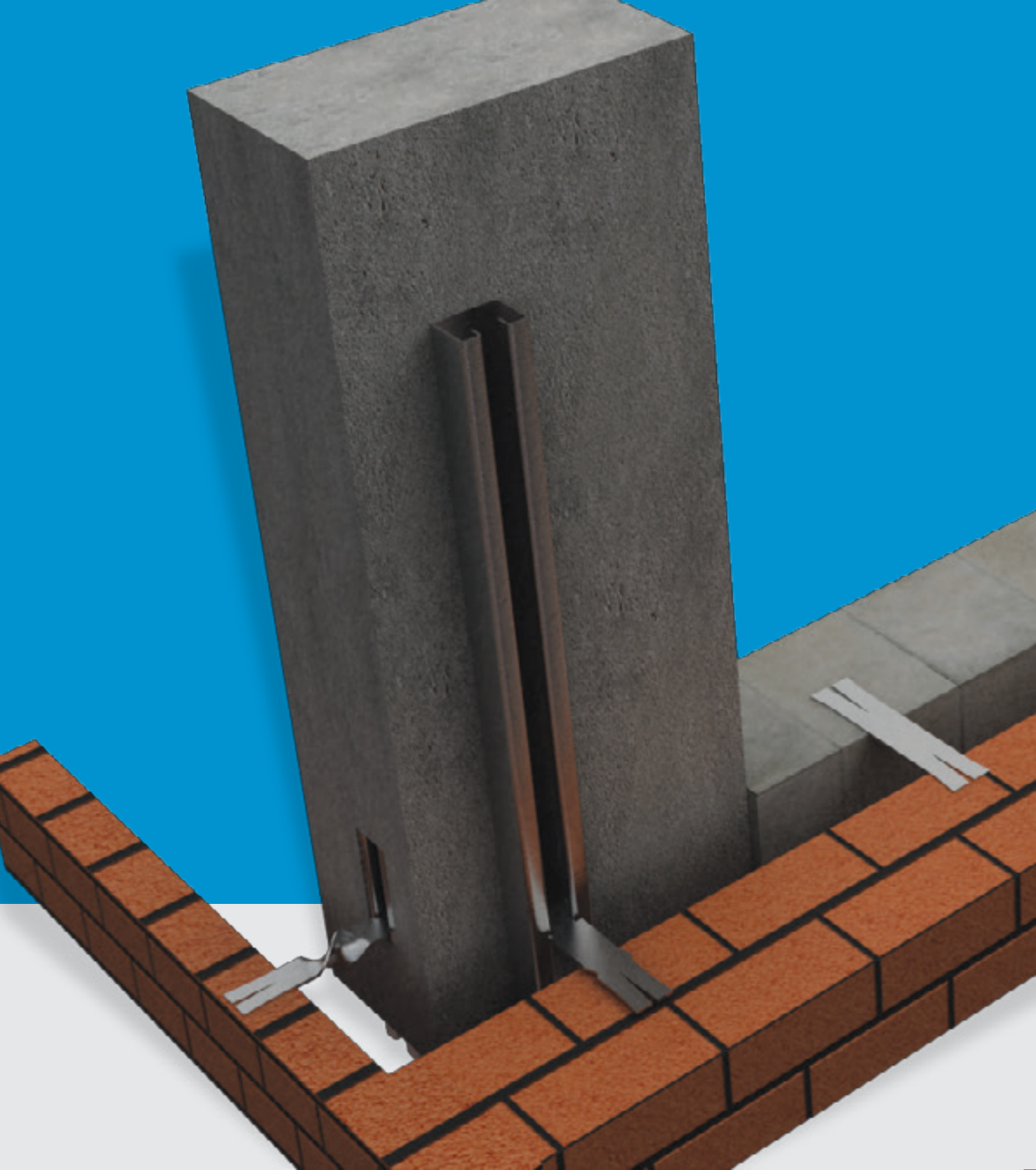


www.ikkgroup.com

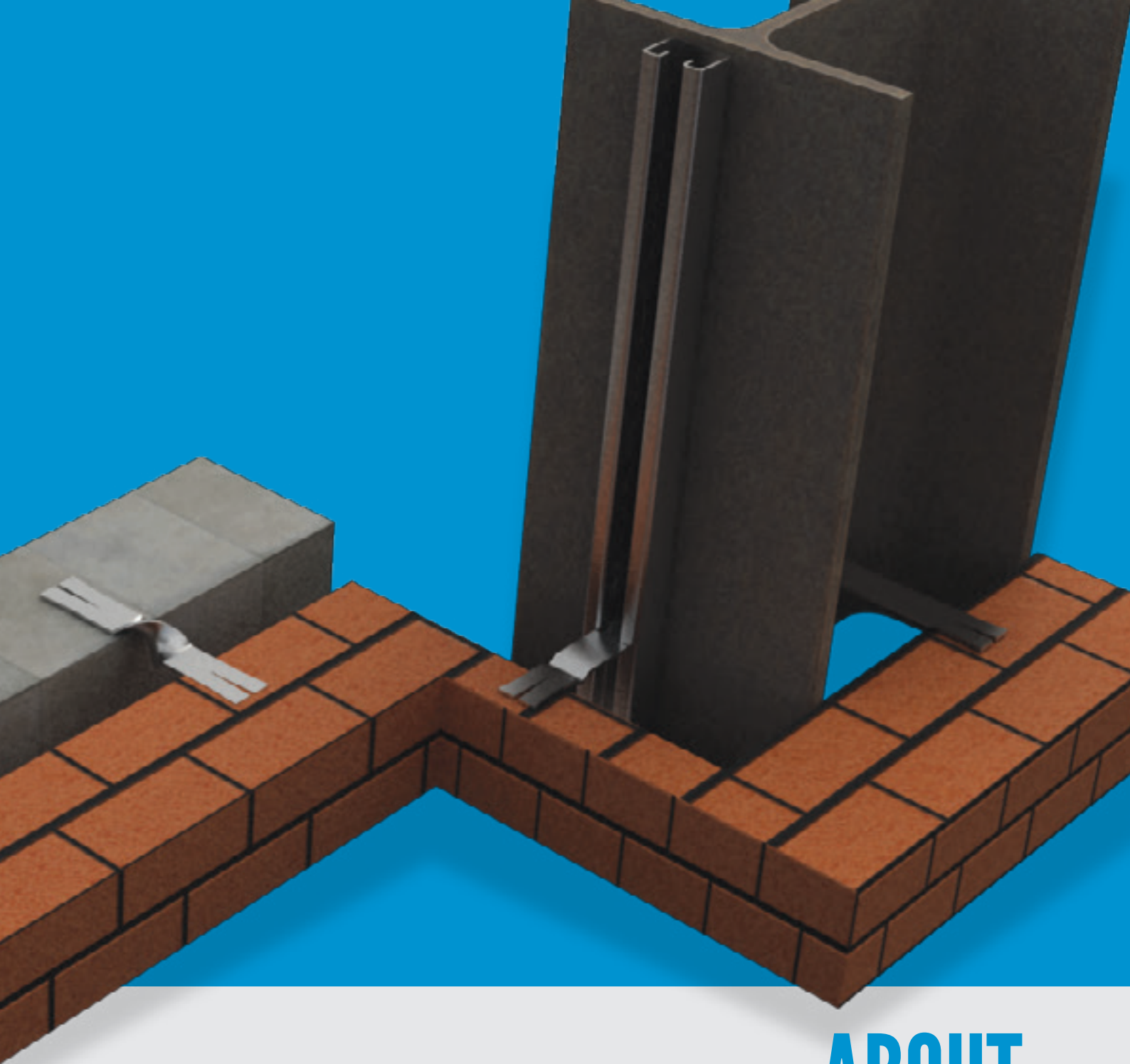
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Blockwork Accessories Catalogue

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**ABOUT
SFSP**

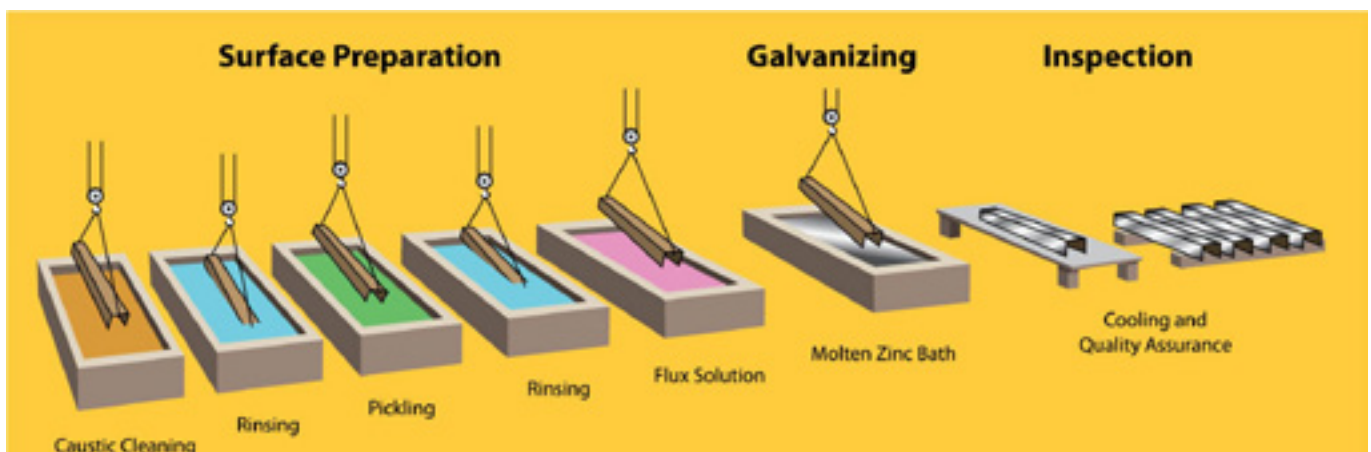
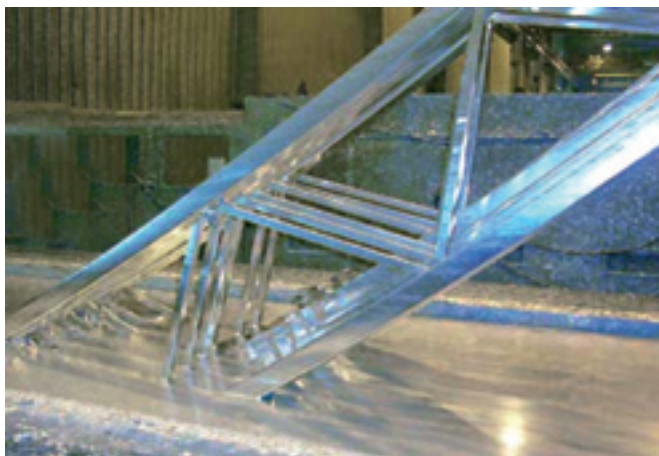
Specialized/Sigma Factory for Steel Products (SFSP) was first established in KSA in 1989 and has been expanding ever since through a variety of products and through its geographical presence. Production at the factory is observed using modern practices of manufacturing methods in the steel construction industry with a definite compliance to international standards of fabrication.

SFSP has manufacturing facilities in KSA, UAE, Egypt, and Lebanon. SFSP adapts quickly and easily to market demands and requirements. The factory is operating a top of the line production machinery, fully automated with highest technology to ensure quality and maintain speed with delicacy.

Quality at SFSP is uncompromised; the factories have been able to acquire ISO 9001: 2015 Quality Management System, ISO 14001:2015 Environmental Management certified factory, and OHSAS 18001:2015 Occupational, Health and Safety Management factory.

HOT-DIP GALVANIZATION

SFSP has an in-house state of the art Hot-Dip Galvanization facility, which permits a full control of the quality of its finished products, offering better services to its clients globally.





Specialized Factory for Steel Products Co. Ltd

www.sfsp-ikk.com

Specialized Factory for Steel Products Co., Ltd, which is part of Isam Khairi Kabbani Group of companies is a leading fabricator of steel construction products serving the kingdom of Saudi Arabia since 1989.

The factory operates under TQM ISO modules, using the latest modern technology in the steel fabrication and manufacturing industry in conformity with International standards for safety and in compliance with the environmental regulations in the Kingdom.

The factory has inaugurated its new manufacturing facilities which is located in the 3rd Industrial Area of Jeddah with a total built facilities of 37,000 squared meters.



The facilities include two manufacturing areas, a hot dip galvanization advanced section, warehousing areas and administrative building. The project is an advanced environmental low emissions factory built with a definite consideration of the safety of its workers and visitors.





Specialized Factory for Steel Products Co. Ltd
Sigma Factory for Steel Products
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TECHNICAL SERVICES

A crucial factor in the job of a factory is to provide continuous technical services and consultations. That's why SFSP has invested in a professional team of researchers and specialists.

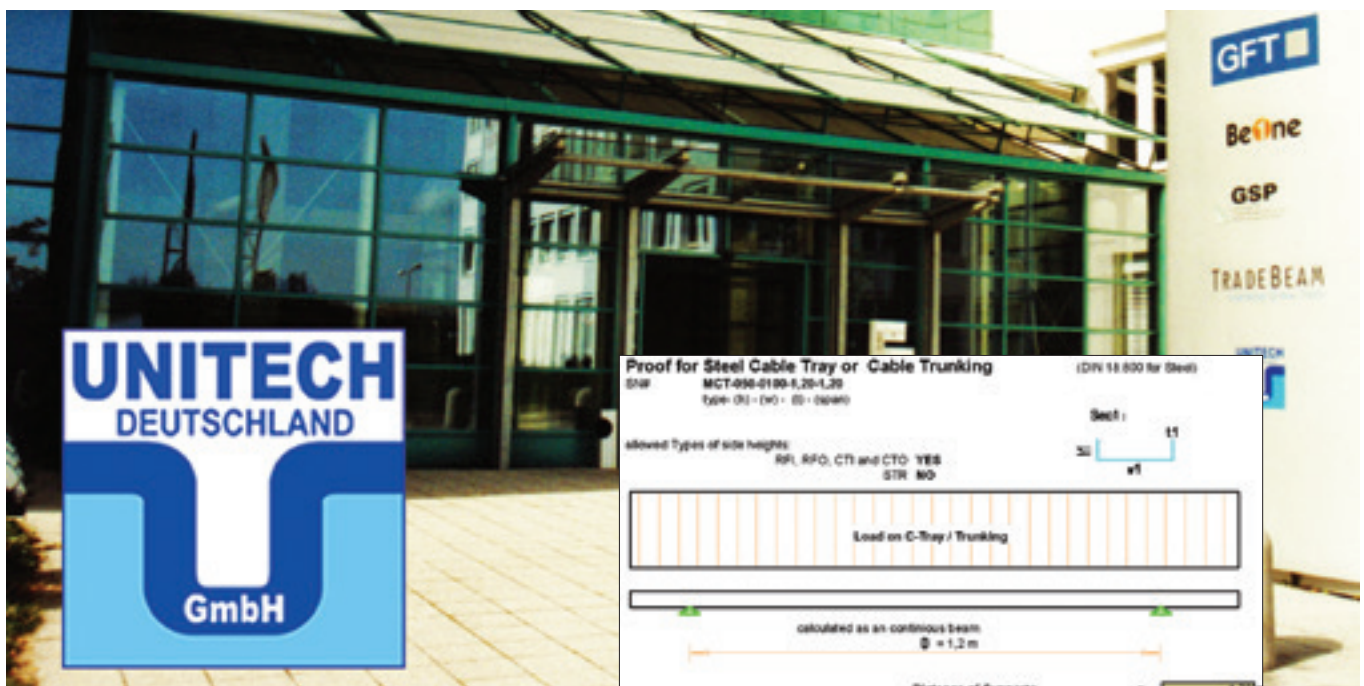
SFSP has recruited brilliant graduates and experienced engineers having the appropriate know on the on latest technology changes and development in the steel building materials industry.

The product range is developed and updated according to the relevant standards of fabrication across markets, whilst the business processes are evaluated to achieve maximum efficiency.

SFSP R&D Core Objectives

- Carry out responsibilities effectively in a safe and healthy work environment.
- Develop and implement research programs relevant to the products and solutions introduced and ensure that the results are communicated clearly in-house and among the clients , concisely and accurately.

DESIGN AND ENGINEERING OFFICE - GERMANY



Unitech Deutschland GmbH is the design and engineering office of Unitech for Building and Construction Materials and is situated in Stuttgart, Germany.

Proof for Steel Cable Tray or Cable Trunking

(DIN 18 050 for Steel)

SNR

MCT-090-0190-1,20-1,20

Type: (R) - (W) - (B) - (S) - (S) - (S)

allowed Types of side heights:

RFL, RFO, CFI and CTO: YES

STR: NO

Sec 1:

Load on C-Tray / Trunking

calculated as an continuous beam

$\Phi = 1,2 \text{ m}$

Distance of Supports

Load on Cable Tray

S =	1,20
L =	1,74
	0,32

Cable Tray

Sec 1:

W =	1,00
S =	0,32
L =	1,76

** Center Load only possible for $W \leq 200 \text{ mm}$!!

SN	Mechanical Properties	Equations	Figures	unit
1	Type of materials used	$S = 18 \text{ mm}$	S 235 JR02	
2	Allow. 0.2 Yield Stress up to 50°C	$R_{0.2} = R_{0.2} / 1,1$	21,82	N/mm ²
3	Allow. Shear Stress		12,80	N/mm ²
4	Allow. Deflection	$S / 200 =$	0,36	mm
5	Modulus of Elasticity		21.000	N/mm ²

Applied Loads

1	Distance of Supports	S =	120,00	cm
2	Self Weight Cable	$W_c =$	1,74	N/mm
3	Self Weight Cable Tray	$W_{tr} =$	0,32	N/mm
4	Self Weight	$W_{tr} = W_c + W_{tr}$	1,76	N/mm

SOCIAL RESPONSIBILITY

Being socially responsible is a part of who we are and how we do our business. We aim to provide useful products and services, to provide jobs and development opportunities for our communities, and to gain satisfaction through meaningful work.

We make a difference by acting on the values and principles of our societies and we inspire others to do so. At SFSP, we anticipate and reduce threats caused by environmental changes or natural disasters, and we are well adapted to significant social changes.

We contribute to a more sustainable society by means of value and support to our consumers, supply chains, and stakeholders. We are keen to identify ways they can improve our impacts on the people and places we work and live in, and thereby become more valuable and valued members of society.

- Organizational governance: We promote accountability and transparency at all levels, thus, promoting responsibility
- Human care: We treat individuals with respect; and make efforts to help members of vulnerable groups
- Labor practices: We provide just, safe and favorable conditions to workers
- Environment: At SFSP, we identify and improve environmental impacts of our operations, including the resource use of natural resources and waste disposal.



- Fair operating practices: Practicing accountability and fairness in dealings with other businesses

At SFSP, we are committed to continuous improvement ongoing learning, process review and innovative thinking that foster new initiatives; and better practices. Our environmental programs evolve to meet today's changing needs while; protecting resources for future generations.

HEALTH AND SAFETY

The Factory Management regard the health and safety of the employees, clients and all others that may be affected by their operations to be of a major importance.

In support of this, the management promotes health and safety throughout the Factory's operations and endeavour to engender a positive attitude in all employees towards the prevention of accidents and maintenance of healthy working arrangements.

The Factory satisfies the requirements of the Health, Safety and related legislation by setting out the responsibilities of all levels of staff and the arrangements for carrying out those responsibilities and in particular do what is reasonably practicable to:

1. Maintains safe & healthy working conditions.

2. Ensures that all facilities and equipment are safe and properly maintained.
3. Provides products that can be applied and used safely and without risk to health.
4. Provides and maintain working procedures, that are safe and without risk to health, throughout the its operations in respect of:
 - The use, handling, storage, transports and disposal of materials and substances.
 - The use of factory equipment.
 - Potential emergency situations, including first aid, fire and escape of substances.
5. Ensure the competence of employees.

The factory is an OHSAS 18001:2007 Occupational, Health and Safety Management certified Factory.



ENVIRONMENTAL AWARENESS

SFSP is committed to the following:

- Compliance with all statutory and regulatory requirements related to its activities, products and services and the environmental aspects.
- Identifying quality and environmental objectives by review and audit of the processes both in-house and on-site.
- Formally setting objectives based on the results of the process reviews and their significance in relation to their impact on the environment and the continual improvement of the quality and environmental management system.
- Implementing management programs to achieve these objectives.
- Investing in a well-trained and motivated workforce.
- Working closely with suppliers and customers to ensure mutual understanding and benefits of the environmental aspects consideration.
- Reviewing our policy and objectives as part of the Management Review Process.
- Communicating this policy to all persons working for or on behalf of the organization.
- Preventing and minimizing Pollution to the environment.



SFSP operates under environmental management system certification BS EN ISO 14001:2004 and maintain it through registration and annual review.



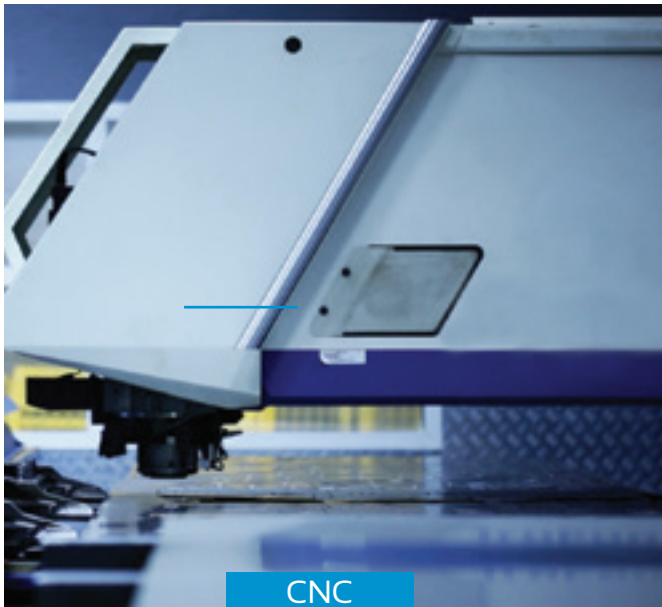
SFSP facilities are equipped with the most technologically advanced machinery amongst are Laser Cut Machines, Robot Bending Sets, Welding Robot Sets, sophisticated Cable Management Production Lines, as well as Specialized Industrial Sections for its Hot Dip Galvanization facilities.



CNC MACHINES



WELDING
ROBOT
SETS



CNC
PUNCHING



FIBER LASER
CUT



ROBOTIC
BENDING
CELL

SFSP CERTIFICATION

ISO 14001 Certified
(Environment Management System)

ISO 18001 Certified
(Health & Safety Management system)



ISO 9001 certified
(Quality Management System)





CERTIFICATE

Issued to:
Applicant:
Isam Kabbani Trading Est. (Unitech)
Rashidiya
Dubai, United Arab Emirates

Manufacturer/Licensee:
Sigma Factory for Steel Products (SFSP)
Saiih Shuaib 3, 4R/A, Dubai Industrial City,
Dubai, United Arab Emirates

Product : Cable management system
Trade name : SFSP
Types : IE-CT-X-10, IE-CT-X-12, IE-CT-X-15, IE-CT-X-20

The product and any acceptable variation thereto is specified in the Annex to this certificate and the documents therein referred to.

DEKRA hereby declares that the above-mentioned product has been certified on the basis of:

- a type test according to the standard BS EN 61537:2007 based on IEC 61537:2006
- an inspection of the production location according to CENELEC Operational Document CIG 021
- a certification agreement with the number 2156954

DEKRA hereby grants the right to use the KEMA-KEUR BS certification mark.

The KEMA-KEUR BS certification mark may be applied to the product as specified in this certificate for the duration of the KEMA-KEUR BS certification agreement and under the conditions of the KEMA-KEUR BS certification agreement.

This certificate is issued on: 3 February, 2014 and expires upon withdrawal of one of the above mentioned standards.

Certificate number: 2156954.02

DEKRA Certification B.V.

drs. G.J. Zoetbrood
Managing Director

H.R.M. Barends
Certification Manager

© Integral publication of this certificate is allowed

ACCREDITED BY THE
DUTCH ACCREDITATION
COUNCIL



CERTIFICATE OF COMPLIANCE

Certificate Number 20160816-E483358
Report Reference E483358-20160816
Issue Date 2016-AUGUST-16


Issued to: Sigma Factory for Steel Products
 Saih Shuaib 3, 4 R/A Dubai Industrial City
 Opposite DEWA Substation
 Dubai UNITED ARAB EMIRATES

This is to certify that representative samples of CABLE TRAYS
 Steel Channel Cable Tray, Ventilated, Heavy Duty (HCT),
 Very Heavy Duty (VCT) cable trays.

Have been investigated by UL in accordance with the
 Standard(s) indicated on this Certificate.

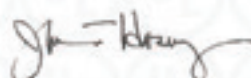
Standard(s) for Safety: ANSI/NFPA 70, "National Electrical Code" (NEC)
Additional Information: See the ULC Online Certification Directory at www.ulc.ca
 for additional information

Only those products bearing the ULC Listing Mark should be considered as being covered by ULC's
 Listing and Follow-Up Service.

The ULC Listing Mark generally includes the following elements: the symbol ULC in a circle:  with
 the word "LISTED"; a control number (may be alphanumeric) assigned by ULC; and the product
 category name (product identifier) as indicated in the appropriate ULC Directory.

To confirm the status, validate the above information via the online directory.

Look for the ULC Listing Mark on the product.



Joseph Husey, General Manager, Director of Sales - Canada
 UNDERWRITERS LABORATORIES OF CANADA INC.

Any information and documentation involving ULC Mark services are provided on behalf of Underwriters Laboratories of Canada Inc. (ULC) or any authorized
 licensee of ULC. For questions, please contact a local ULC Customer Service Representative at <http://ulc.ca/about-us/contact-us/>



CERTIFICATE OF COMPLIANCE

Certificate Number 20170811-R38825
Report Reference R38825-20170811
Issue Date 2017-AUGUST-11

Issued to: Sigma Factory for Steel Products
Saii Shuaib 3, 4 R/A Dubai Industrial City
Opposite DEWA Substation
Dubai UNITED ARAB EMIRATES

**This is to certify that
representative samples of**

CHUTE-TYPE FIRE DOORS

Chute-type fire door and frame assembly of the insulated type, rated up to and including 2 hr, 450°F Temperature Rise Rating.

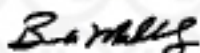
Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety:
Additional Information:

ANSI/UL 10B, Fire Tests of Door Assemblies
See the UL Online Certifications Directory at
www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's Certification and Follow-Up Service.

Look for the UL Certification Mark on the product.



Bruce Mahrenholz, Director North American Certification Program
UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at <http://ul.com/aboutul/locations/>.



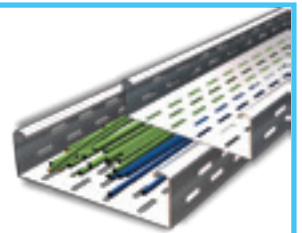


SFSP PRODUCTS

SFSP produces a variety of products ranging from cable management systems; cable trays, cable ladders, basket trays, trunkings and support systems, to mechanical cladding fixations, steel lintels and block work accessories, Plaster beads, expanded metal and block work reinforcement, strut channel systems, pipe clamps & hangers, gypsum profiles as well as garbage and linen chutes. With the introduction of new machines and the enhancement of production methods, SFSP continues to develop its production methods systematically as well as thoroughly. Its design office in Stuttgart, Germany provides a comprehensive design and calculation case studies, enabling the factory to have the safety factors required for the usage of its products.

Cable Trays & Accessories

Cable Trays are designed to meet most requirements of cable and electrical wire installations and comply to local and international standards of fabrications and finishes.



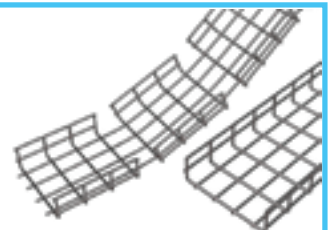
Cable Ladders (Welded & Swaged)

Cable Ladders of different side heights are available upon request.



Basket Trays & Accessories

SFSP's Basket Tray systems make connections fast and simple with limited need for tools. Its design allows for continuous airflow, and prevents heating up of cables. SFSP's Basket Tray comes in a full range of sizes and is made with high-strength welded steel wires.



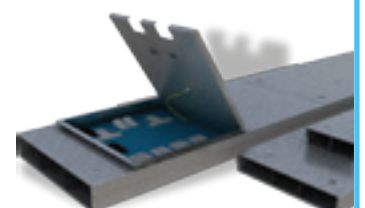
Cable Trunkings

Cable Trunkings and Accessories are offered in a comprehensive range. Mill galvanized, hot-dip galvanized, and powder coated are the various finishes produced in our factories.



Underfloor Trunking

Underfloor Trunking Systems solutions incorporate a range of products for the distribution of power and data services, it is a coordinated set of containments that protect, segregate, contain, and route cables within a given environment.



Cable Management Support Systems

Cable Support Systems are well designed to provide necessary support for cable trays, cable ladders and trunkings. Cable supports are manufactured according to common standards from high quality raw materials.



C-Channel Strut Systems

SFSP's Metal Framing Systems provide an economical solution for electrical, mechanical and industrial supports with a wide variety of applications in the construction industry.

Applications: - Pipe and Conduit Supports - Tunnel Pipe Stanchions - Racks and Shelvings - Wall Framings.



Expanded Metals, Plasterers' Beads

Expanded Metals help the formation of joints, protection of corners and resistance against cracks, chips and impact damage.

Block Ladder Reinforcement

SFSP ladder and truss types are used for the reinforcement of brick and block masonry to give improved tensile strength to walls subjected to lateral loading e.g. wind and seismic. SFSP block reinforcements reduces the risk of cracking either at stress concentration around opening.

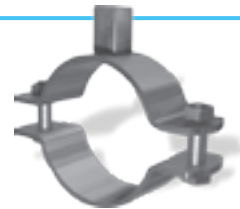
Steel Lintels & Block Work Accessories

Steel Lintels provide a combination of strength and light weight, resulting in efficient load bearing performance and increased productivity on site. They are characterized by their ease of installation in addition to time as well as money saving.



Pipe Clamps & Hangers

Pipe Clamps and Hangers from SFSP used in the support of pipes and equipments are manufactured according to the highest standards of fabrication. A diversified choice of Pipe Hangers, Pipe Clamps, EMT Straps, Omega Clamps, Beam Clamps, J and U-Bolts and Threaded Accessories.



Marble & Granite Fixings

Stangle Cladding Fixation includes design, calculation and production of several types of mechanical fixings and accessories used for cladding purposes. Stainless and galvanized steel are among the various materials used in the fabrication.



Dry Wall & Ceiling Profiles

SFSP provides a complete product range for dry wall and ceiling constructions. Studs, Runners, Furring Channels, Ceiling Channels and Wall Angles are among the range of products produced to service the dry wall installers.



Garbage & Linen Chutes

Chutes from SFSP are very convenient, simple and low cost method of controlling and disposing of refuse and linen. Chutes meet the most stringent requirements of environmental health and safety. Chutes are used as original equipment in new buildings, such as : Hotels, Hospitals, High Rises and Residential Towers.





SFSP Products are solely distributed by UNITECH for Building and Construction Materials

All Products Manufactured by SFSP are Solely Distributed by SFSP Sister Companies in the Following Countries

KSA

Isam Kabbani & Partners for Building and Construction Materials Co., Ltd.

شركة عصام قباني وشركاه لمواد الأبنية والتعمير المحدودة

BAHRAIN

Isam Kabbani Trading Est.

مؤسسة عصام قباني التجارية

UAE

Issam Kabbani Trading Est.

مؤسسة عصام قباني للتجارة

KUWAIT

Hassan Kabbani for General Contracting Est.

مؤسسة حسان قباني للمقاولات العامة للمباني

OMAN

Isam Kabbani & Partners Trading Co.

شركة عصام قباني وشركاه للتجارة

EGYPT

UNITECH Egypt for Building Materials

شركة يونيتك مصر لمواد البناء

JORDAN

Jordan Build Co. for Building & Construction Materials

شركة بناء الأردن لمواد الإنشاء والتعمير والكهرباء

LEBANON

UNITECH ME s.a.r.l

شركة يونيتك ميدل إيست ش.م.م

SFSP CUSTOMER SERVICE CALL CENTER

KSA

+966 13 8590097, Ext. 3214

UAE

+971 4 8181925, Ext. 4269



IKK

Group of Companies

The IKK Group is a major business institution, serving most of the Arab World in the industrial, construction and trading fields, as well as in specialized maintenance and services.

Today, the IKK Group of Companies is a pioneer in waterproofing, weatherproofing, building material supplies, UPVC and CPVC and high density polyethylene pipes and fittings and several other products for the construction industry.

The Group is also represented in the sanitary products, steel production, kitchen manufacturing, telecommunications, food, decoration, re-insurance and real estate business domain.

Composed of 60 companies, the IKK Group operates through almost 200 divisions, branches and outlets; it is spread over 12 countries, covering all major cities in the region and employing around 13,000 employees.

Our vision is to maintain and improve our leading position as a contractor whose reputation is built on the ability to completely satisfy customers by providing high quality services. As specialists in their respective fields, our teams of professionals are dedicated to a standard of excellence for quality and performance, through continuous development, which will set standards in our industry.

We are simply providing solutions for a future of success.

Our mission is to provide our part of the Arab World with local and reliable services in a variety of sectors and products.

To create employment to thousands of personnel and in-house training for hundreds of young Arab graduates in crucial sectors to the benefit of the IKK Group, the graduates themselves and their own communities.

To set a good example of our basic business philosophy: "Hire well, train well, pay well and treat well."

UNITECH

ISAM KABBANI & PARTNERS FOR BUILDING & CONSTRUCTION MATERIALS

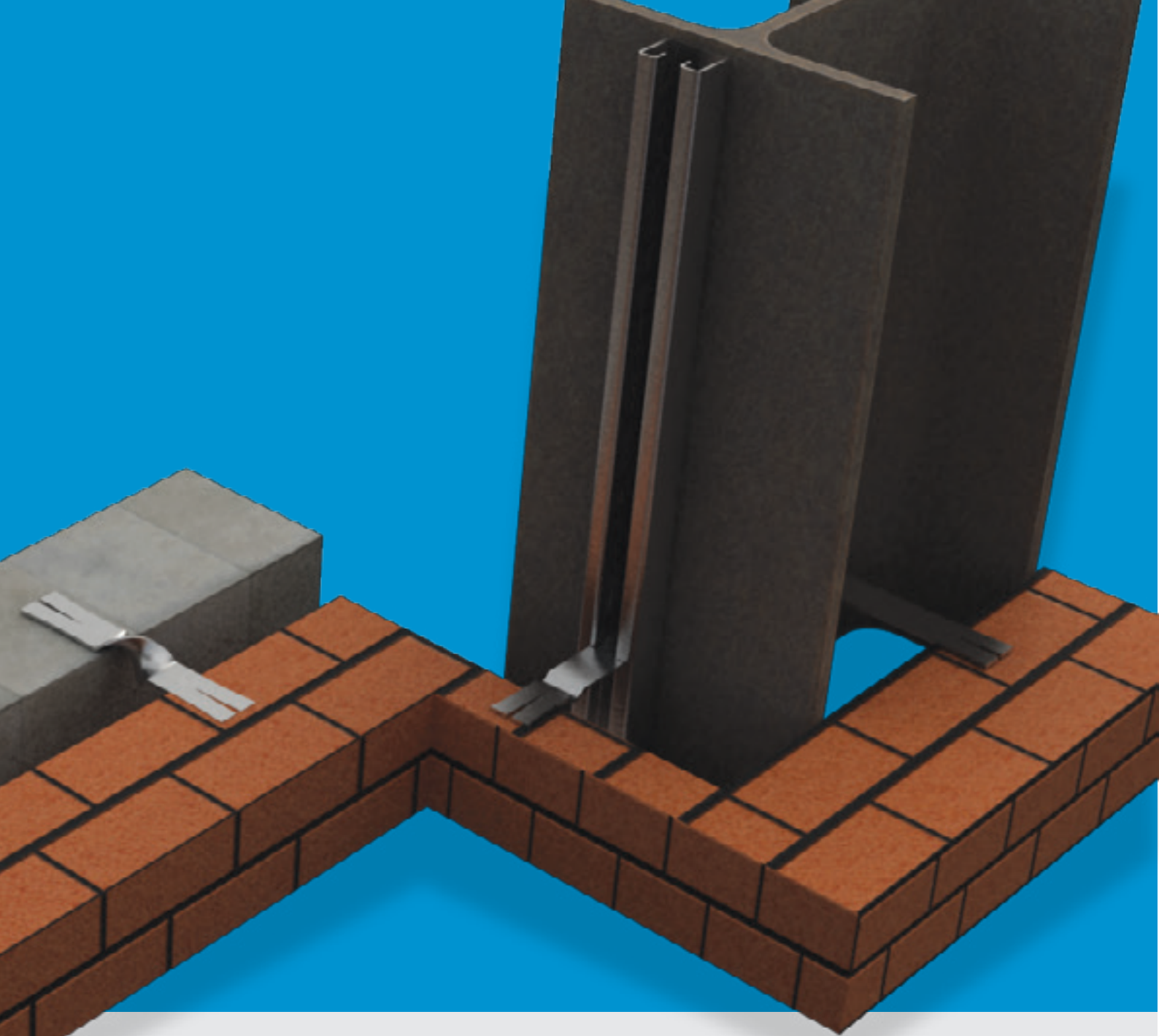
Isam Kabbani & Partners for buildings & construction materials co. Ltd (UNITECH) which is part of the IKK group of companies is recognized and acknowledged for the quality and reliability of its products and services as well as for the commitment, professionalism and experience of its employees.

Isam Kabbani & partners for buildings & construction materials co. Ltd (UNITECH) core values are to offer value products and services to its clients, to work closely with them in a lasting business partnership that provides an outstanding performance.

A partnership based on trust, harmony, and a hard to beat services and solutions.

Our Factories have acquired, in addition to ISO 9001:2008 Quality Management System, the ISO 14001:2004 Environmental Management System.

Our care for the environment has been translated via Isam Kabbani & partners for buildings & construction materials co. Ltd (UNITECH)'s membership in the US Green Building Council as a Golden Member.



BLOCKWORK ACCESSORIES



www.sfsp-ikk.com

BLOCK WORK ACCESSORIES

SFSP manufactures Block Work Accessories in accordance with:
- BS EN 845-1:2013+A1:2016

Relevant Standards
- BS 1243:1978

Finishing
- Galvanized Steel according to BS EN 10346:2015
- Hot Dipped Galvanized according to BS EN ISO 1461:2009
- Stainless Steel according to BS EN 10088-2:2014

Materials

- **Hot rolled steel** S235JR as per EN 10025 / ASTM A-1011 CS Type B (formerly ASTM A569 or ASTM A570)
- **Cold rolled steel** DC01 as per EN 10130:2006 / ASTM A1008 CS Type B (formerly ASTM A-36) and then:

Manufacture Specifications:

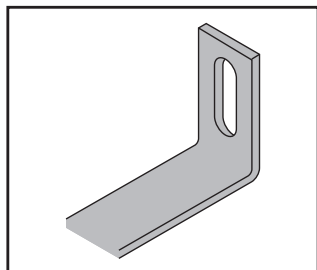
- Steel Lintels - manufactured to BS 5977: Part 2 :1983 / BS EN 845-2:2013+A1:2016.
- Wall Ties - manufactured to BS EN 845-1:2003 (Formerly BS 1234).
- Block Reinforcement Ladder and Truss - manufactured as per ASTM A82 / ASTM A951 / BS EN 845-2:2013+A1:2016.



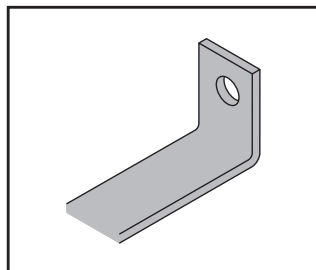
CRAMPS AND TIES

Head End Options

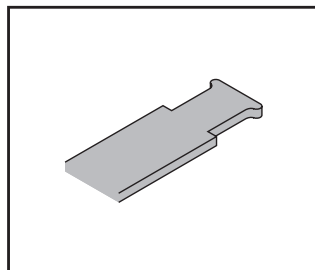
These ends have been manufactured to fit standard channel sections that is preset into concrete or surface fixed to any inner skin or structural ground



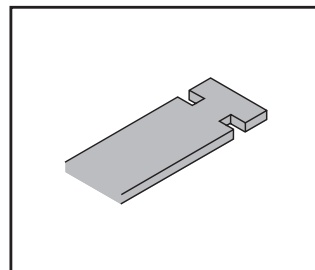
L-Angle Slotted



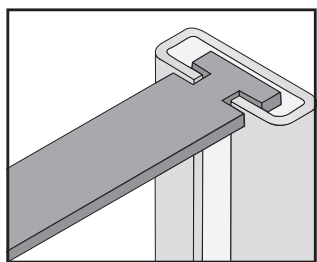
L-Angle Hole



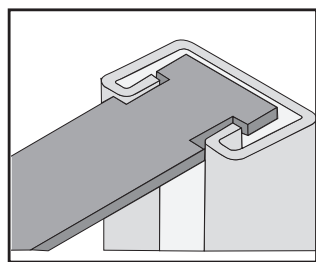
Plain



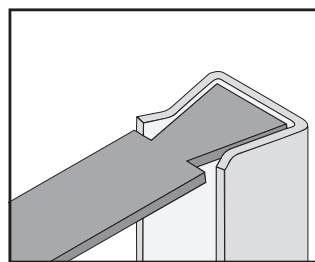
Plain



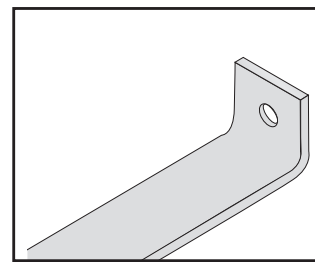
RCH / SCH Channel
REF: -/-/36



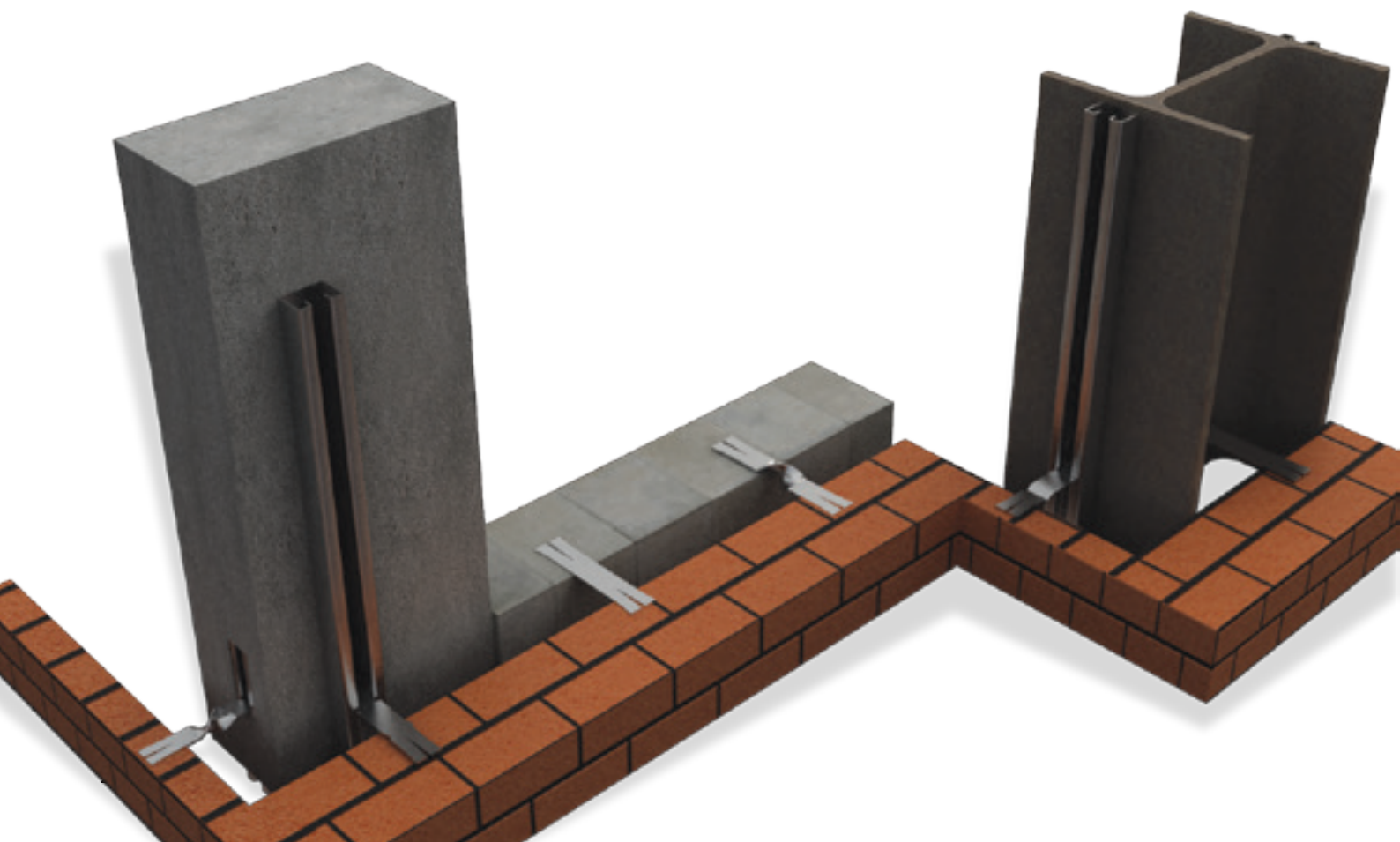
CCH Channel
REF: -/-/10



DCH Channel
REF: -/-/30

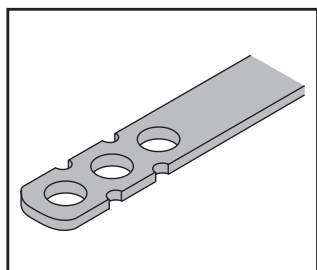


Bolt Screw Fixing
REF: -/-/50

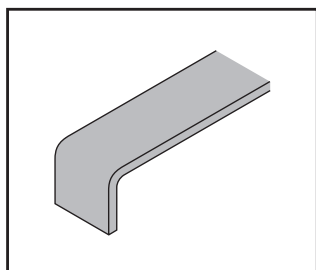


Tail End Options

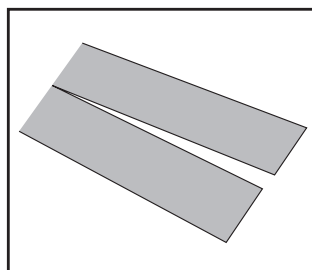
The most common method of anchoring a tie to a slab facing, is by means of a round dowel into a drilled hole, split tangs on the tie may also be used. For bonding into brickwork the "Fishtailed" end is the traditional.



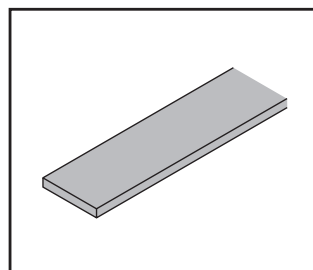
3 Holes



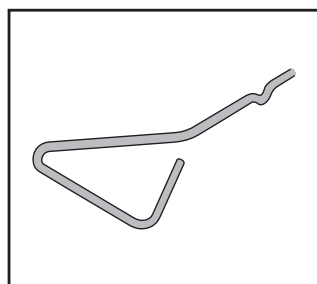
Turned Down



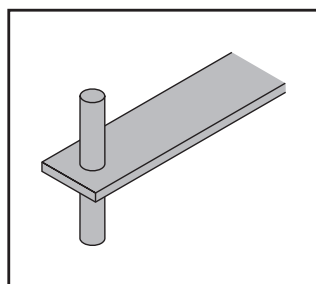
Split Tie



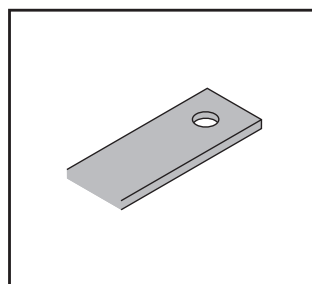
Plain



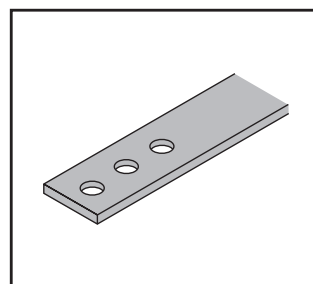
Returned Z



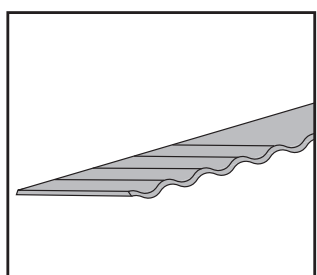
Plain with pin



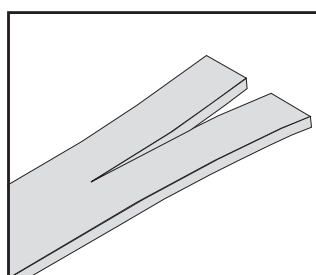
Plain 1 Hole



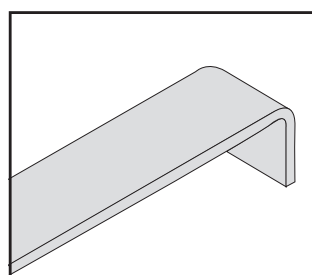
Plain 3 Holes



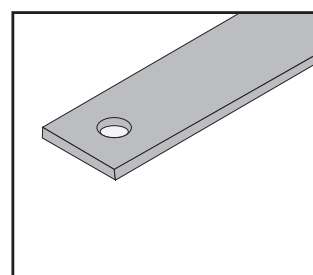
Corrugated



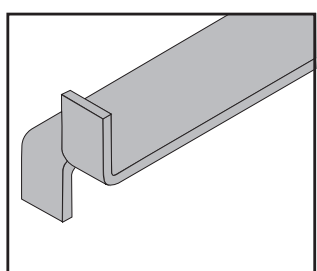
Fishtailed
REF: -/-/99



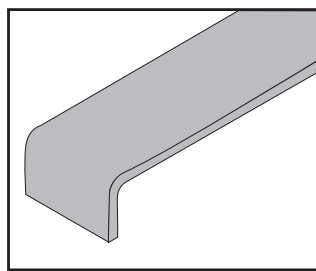
Turned Down
REF: -/-/88



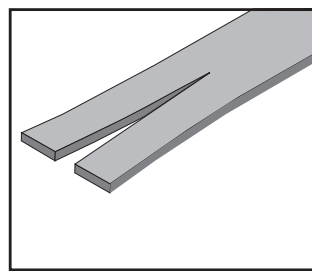
Dowel
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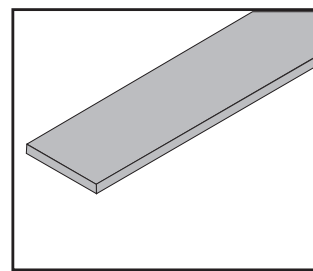
Split Tang
REF: S/-/



Turned Down
REF: T/-/



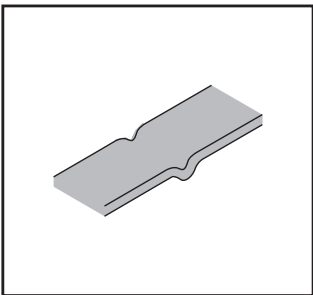
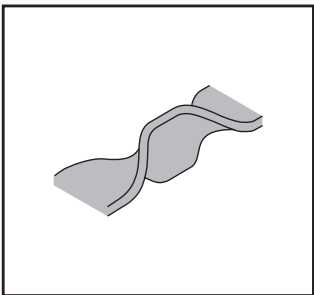
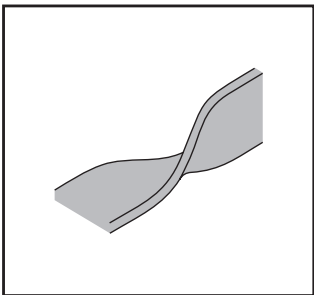
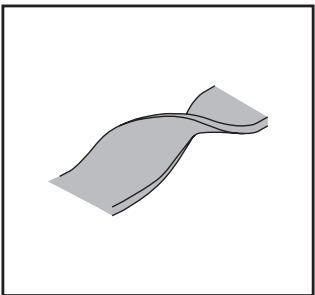
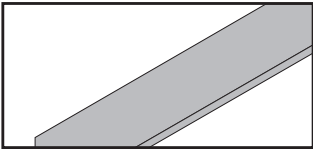
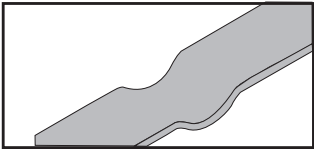
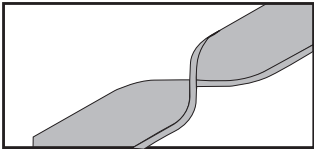
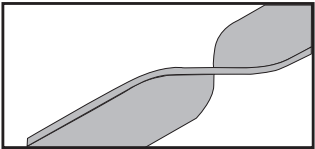
Fishtailed
REF: B/-/

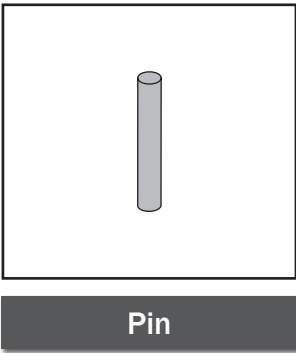
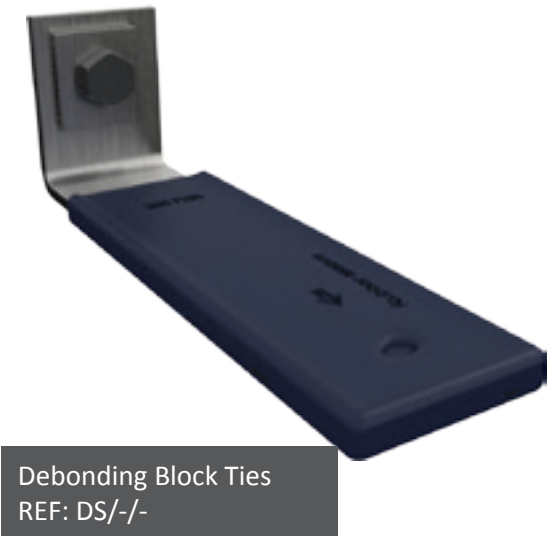


Plain
REF: P/-/

Shank Options

Shanks may be plain or may include a drip to stop the passage of moisture across

			
Drip	Double Twist	Half Twist	Full Twist
			
Plain REF: -/P/-	Dimpled REF: -/D/-	Full Twist REF: -/F/-	Half Twist REF: -/H/-

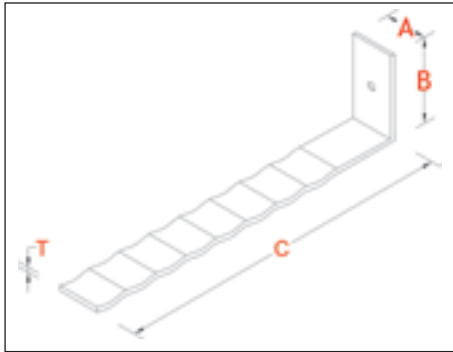


Frame Cramps and Channel Ties

Frame cramps with a single 7mm diameter hole or an 8mm x 30mm vertical slot can be fixed to concrete, steelwork or masonry. M6 Single Expansion bolts are recommended for fixing to concrete, setscrews or self-drilling screws for steelwork, and suitable plugs and screws for fixing to masonry. Poor substrates will limit the capacity of frame cramps and site treating is advisable in some cases. The performance will also be determined by the position of the fixing. Channel ties fixed to steelwork or concrete at the lowest point of slot will have a safe working load of approximately 1kN. The capacity will reduce as the fixing is moved further away from the bend and greater movement shall be expected than with other wall ties.

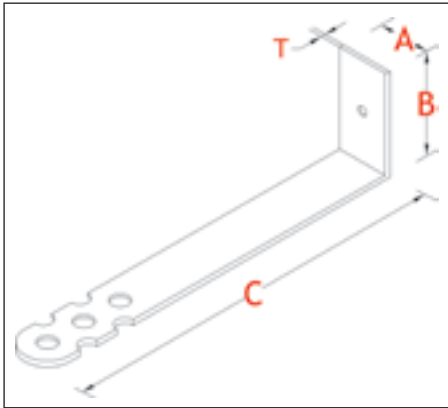
Block Ties Frame Cramps

Block Tie Corrugated with Bolt Screw Fixing



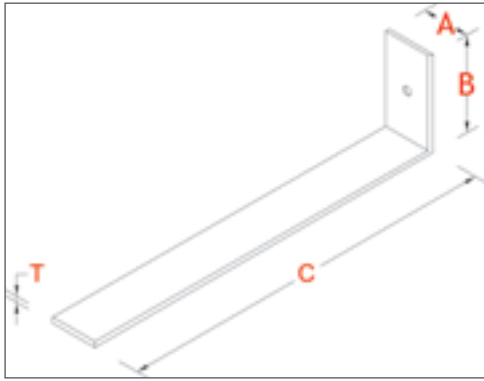
Item Number	Description	Dimensions B x A x C x T (mm)	Material
SOBTL_F_00051209	Corrugated Block Tie	30x50x150x1.50	MS (Mild Steel)
SOBTL_F_00055995	Corrugated Block Tie	30x50x150x2.00	MS (Mild Steel)
SOBTL_F_00072009	Corrugated Block Tie	30x50x200x2.00	MS (Mild Steel)
SOBTL_F_00061881	Corrugated Block Tie	25x30x150x1.50	SS A4 (Stainless Steel)
SOBTL_F_00061887	Corrugated Block Tie	25x30x150x2.00	SS A4 (Stainless Steel)
SOBTL_F_00051745	Corrugated Block Tie	25x30x200x2.00	SS A4 (Stainless Steel)
SOBTL_F_00040664	Corrugated Block Tie	25x40x150x2.00	SS A4 (Stainless Steel)
SOBTL_F_00041620	Corrugated Block Tie	30x50x150x1.50	SS A4 (Stainless Steel)
SOBTL_F_00060949	Corrugated Block Tie	30x50x150x2.00	SS A4 (Stainless Steel)
SOBTL_F_00058065	Corrugated Block Tie	30x50x200x2.00	SS A4 (Stainless Steel)
SOBTL_F_00098679	Corrugated Block Tie	50x50x200x2.00	SS A4 (Stainless Steel)
SOBTL_F_00083037	Corrugated Block Tie	25x30x200x1.80	Galvanized
SOBTL_F_00067533	Corrugated Block Tie	20x75x200x1.50	Galvanized
SOBTL_F_00040658	Corrugated Block Tie	25x30x150x2.00	Galvanized
SOBTL_F_00075863	Corrugated Block Tie	25x30x200x1.50	Galvanized
SOBTL_F_00051751	Corrugated Block Tie	25x30x200x2.00	Galvanized
SOBTL_F_00047456	Corrugated Block Tie	30x50x150x1.50	Galvanized
SOBTL_F_00054173	Corrugated Block Tie	30x50x150x3.00	Galvanized
SOBTL_F_00040646	Corrugated Block Tie	30x50x200x1.50	Galvanized
SOBTL_F_00070591	Corrugated Block Tie	30x50x200x2.00	Galvanized
SOBTL_F_00047470	Corrugated Block Tie	38x50x200x1.50	Galvanized
SOBTL_F_00040652	Corrugated Block Tie	40x50x150x3.00	Galvanized

Three-Hole Block Tie



Item Number	Description	Dimensions B x A x C x T (mm)	Material
SOBTL_F_00041440	Three - Hole Block Tie	30x50x150x1.50	Galvanized
SOBTL_F_00100265	Three - Hole Block Tie	20x30x150x3.00	Galvanized
SOBTL_F_00100277	Three - Hole Block Tie	20x30x250x3.00	Galvanized
SOBTL_F_00066019	Three - Hole Block Tie	20x30x255x3.00	Galvanized
SOBTL_F_00041352	Three - Hole Block Tie	25x30x150x1.50	Galvanized
SOBTL_F_00081473	Three - Hole Block Tie	25x30x200x1.50	Galvanized
SOBTL_F_00062449	Three - Hole Block Tie	25x30x200x1.80	Galvanized
SOBTL_F_00041382	Three - Hole Block Tie	25x30x200x2.00	Galvanized
SOBTL_F_00078877	Three - Hole Block Tie	30x40x200x1.50	Galvanized
SOBTL_F_00082981	Three - Hole Block Tie	30x40x200x2.00	Galvanized
SOBTL_F_00041418	Three - Hole Block Tie	30x40x300x2.00	Galvanized
SOBTL_F_00058771	Three - Hole Block Tie	25x30x200x2.00	SS A4 (Stainless Steel)
SOBTL_F_00062455	Three - Hole Block Tie	30x50x150x1.50	SS A4 (Stainless Steel)
SOBTL_F_00076763	Three - Hole Block Tie	30x50x200x1.50	SS A4 (Stainless Steel)
SOBTL_F_00108093	Three - Hole Block Tie	20x30x150x3.00	SS A6 (Stainless Steel)
SOBTL_F_00108099	Three - Hole Block Tie	20x30x250x3.00	SS A6 (Stainless Steel)
SOBTL_F_00100233	Three - Hole Block Tie	20x30x255x3.00	SS A6 (Stainless Steel)
SOBTL_F_00103203	Three - Hole Block Tie	25x30x200x2.00	SS A6 (Stainless Steel)

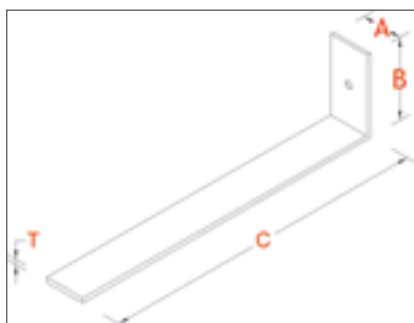
Block Tie Plain



Item Number	Description	Dimensions A x B x C x T (mm)	Material
SOBTL_F_00054089	Block Tie Plain	27x80x150x2.00	Galvanized
SOBTL_F_00066031	Block Tie Plain	20x30x150x3.00	Galvanized
SOBTL_F_00087065	Block Tie Plain	20x30x200x3.00	Galvanized
SOBTL_F_00100271	Block Tie Plain	20x30x250x3.00	Galvanized
SOBTL_F_00066025	Block Tie Plain	20x30x255x3.00	Galvanized
SOBTL_F_00063351	Block Tie Plain	25x20x175x2.00	Galvanized
SOBTL_F_00092561	Block Tie Plain	25x30x100x1.50	Galvanized
SOBTL_F_00074445	Block Tie Plain	25x30x150x1.50	Galvanized
SOBTL_F_00083007	Block Tie Plain	25x30x150x1.80	Galvanized
SOBTL_F_00055601	Block Tie Plain	25x30x150x3.00	Galvanized
SOBTL_F_00075813	Block Tie Plain	25x30x175x2.00	Galvanized
SOBTL_F_00040462	Block Tie Plain	25x30x200x1.80	Galvanized
SOBTL_F_00060781	Block Tie Plain	25x30x200x2.00	Galvanized
SOBTL_F_00056241	Block Tie Plain	25x50x120x1.80	Galvanized
SOBTL_F_00060861	Block Tie Plain	25x50x200x1.50	Galvanized
SOBTL_F_00094155	Block Tie Plain	25x50x250x1.80	Galvanized
SOBTL_F_00071285	Block Tie Plain	27x30x120x1.50	Galvanized
SOBTL_F_00079703	Block Tie Plain	27x40x120x2.00	Galvanized
SOBTL_F_00048196	Block Tie Plain	27x45x125x1.50	Galvanized
SOBTL_F_00076497	Block Tie Plain	27x45x125x2.00	Galvanized
SOBTL_F_00082997	Block Tie Plain	27x45x140x2.00	Galvanized
SOBTL_F_00091779	Block Tie Plain	27x50x125x2.00	Galvanized
SOBTL_F_00040698	Block Tie Plain	27x50x150x1.50	Galvanized

Item Number	Description	Dimensions A x B x C x T (mm)	Material
SOBTL_F_00110627	Block Tie Plain	27x50x150x2.00	Galvanized
SOBTL_F_00104327	Block Tie Plain	27x80x150x2.00	Galvanized
SOBTL_F_00040520	Block Tie Plain	30x40x150x2.00	Galvanized
SOBTL_F_00089299	Block Tie Plain	30x40x200x2.00	Galvanized
SOBTL_F_00060813	Block Tie Plain	30x50x190x1.50	Galvanized
SOBTL_F_00076757	Block Tie Plain	30x50x200x1.50	Galvanized
SOBTL_F_00058059	Block Tie Plain	30x50x80x1.20	Galvanized
SOBTL_F_00047482	Block Tie Plain	25x30x150x2.00	SS A4
SOBTL_F_00055589	Block Tie Plain	25x30x150x3.00	SS A4
SOBTL_F_00060975	Block Tie Plain	25x30x200x2.00	SS A4
SOBTL_F_00079719	Block Tie Plain	27x40x120x2.00	SS A4
SOBTL_F_00041632	Block Tie Plain	27x45x125x1.50	SS A4
SOBTL_F_00054061	Block Tie Plain	27x45x125x2.00	SS A4
SOBTL_F_00051355	Block Tie Plain	27x50x150x1.50	SS A4
SOBTL_F_00040704	Block Tie Plain	27x80x150x2.00	SS A4
SOBTL_F_00060825	Block Tie Plain	30x45x150x2.00	SS A4
SOBTL_F_00051349	Block Tie Plain	30x50x150x1.50	SS A4
SOBTL_F_00060819	Block Tie Plain	30x50x190x1.50	SS A4
SOBTL_F_00108105	Block Tie Plain	20x30x250x3.00	SS A6
SOBTL_F_00100239	Block Tie Plain	20x30x255x3.00	SS A6
SOBTL_F_00100251	Block Tie Plain	27x45x125x1.50	SS A6
SOBTL_F_00082755	Block Tie Plain	40x40x250x3.00	SS A6

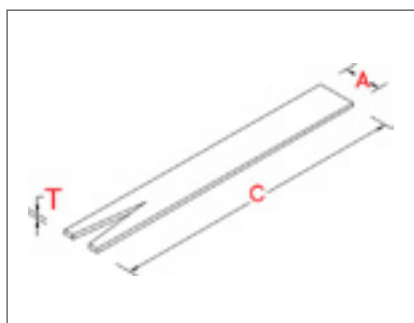
Block Tie Plain



Item Number	Description	Dimensions A x B x C x T (mm)	Material
SOBTL_F_00054089	Block Tie Plain	27x80x150x2.00	Galvanized
SOBTL_F_00066031	Block Tie Plain	20x30x150x3.00	Galvanized
SOBTL_F_00087065	Block Tie Plain	20x30x200x3.00	Galvanized
SOBTL_F_00100271	Block Tie Plain	20x30x250x3.00	Galvanized
SOBTL_F_00066025	Block Tie Plain	20x30x255x3.00	Galvanized
SOBTL_F_00063351	Block Tie Plain	25x20x175x2.00	Galvanized
SOBTL_F_00092561	Block Tie Plain	25x30x100x1.50	Galvanized
SOBTL_F_00074445	Block Tie Plain	25x30x150x1.50	Galvanized
SOBTL_F_00083007	Block Tie Plain	25x30x150x1.80	Galvanized
SOBTL_F_00055601	Block Tie Plain	25x30x150x3.00	Galvanized
SOBTL_F_00075813	Block Tie Plain	25x30x175x2.00	Galvanized
SOBTL_F_00040462	Block Tie Plain	25x30x200x1.80	Galvanized
SOBTL_F_00060781	Block Tie Plain	25x30x200x2.00	Galvanized
SOBTL_F_00056241	Block Tie Plain	25x50x120x1.80	Galvanized
SOBTL_F_00060861	Block Tie Plain	25x50x200x1.50	Galvanized
SOBTL_F_00094155	Block Tie Plain	25x50x250x1.80	Galvanized
SOBTL_F_00071285	Block Tie Plain	27x30x120x1.50	Galvanized
SOBTL_F_00079703	Block Tie Plain	27x40x120x2.00	Galvanized
SOBTL_F_00048196	Block Tie Plain	27x45x125x1.50	Galvanized
SOBTL_F_00076497	Block Tie Plain	27x45x125x2.00	Galvanized
SOBTL_F_00082997	Block Tie Plain	27x45x140x2.00	Galvanized
SOBTL_F_00091779	Block Tie Plain	27x50x125x2.00	Galvanized
SOBTL_F_00040698	Block Tie Plain	27x50x150x1.50	Galvanized
SOBTL_F_00110627	Block Tie Plain	27x50x150x2.00	Galvanized

Item Number	Description	Dimensions A x B x C x T (mm)	Material
SOBTL_F_00104327	Block Tie Plain	27x80x150x2.00	Galvanized
SOBTL_F_00094919	Block Tie Plain	27x80x150x2.00	Galvanized
SOBTL_F_00040520	Block Tie Plain	30x40x150x2.00	Galvanized
SOBTL_F_00089299	Block Tie Plain	30x40x200x2.00	Galvanized
SOBTL_F_00060813	Block Tie Plain	30x50x190x1.50	Galvanized
SOBTL_F_00076757	Block Tie Plain	30x50x200x1.50	Galvanized
SOBTL_F_00058059	Block Tie Plain	30x50x80x1.20	Galvanized
SOBTL_F_00047482	Block Tie Plain	25x30x150x2.00	SS A4
SOBTL_F_00055589	Block Tie Plain	25x30x150x3.00	SS A4
SOBTL_F_00055589	Block Tie Plain	25x30x150x3.00	SS A4
SOBTL_F_00060975	Block Tie Plain	25x30x200x2.00	SS A4
SOBTL_F_00079719	Block Tie Plain	27x40x120x2.00	SS A4
SOBTL_F_00041632	Block Tie Plain	27x45x125x1.50	SS A4
SOBTL_F_00054061	Block Tie Plain	27x45x125x2.00	SS A4
SOBTL_F_00051355	Block Tie Plain	27x50x150x1.50	SS A4
SOBTL_F_00040704	Block Tie Plain	27x80x150x2.00	SS A4
SOBTL_F_00040704	Block Tie Plain	27x80x150x2.00	SS A4
SOBTL_F_00054083	Block Tie Plain	27x80x150x2.00	SS A4
SOBTL_F_00060825	Block Tie Plain	30x45x150x2.00	SS A4
SOBTL_F_00051349	Block Tie Plain	30x50x150x1.50	SS A4
SOBTL_F_00060819	Block Tie Plain	30x50x190x1.50	SS A4
SOBTL_F_00108105	Block Tie Plain	20x30x250x3.00	SS A6
SOBTL_F_00100239	Block Tie Plain	20x30x255x3.00	SS A6
SOBTL_F_00100251	Block Tie Plain	27x45x125x1.50	SS A6
SOBTL_F_00082755	Block Tie Plain	40x40x250x3.00	SS A6

Block Tie Fish Tailed



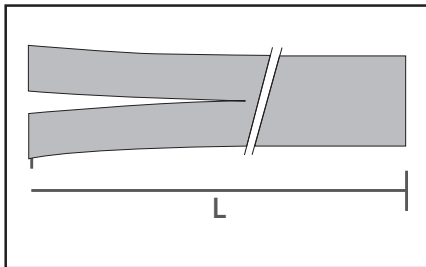
Item Number	Description	Dimensions A x C x T (mm)	Material
SOBTS_F_00105757	FishTailed	25x250x2.00	Galvanized
SOBTS_F_00042500	FishTailed	25x200x1.50	Galvanized
SOBTS_F_00083025	FishTailed	25x200x1.80	Galvanized
SOBTS_F_00059167	FishTailed	25x200x2.00	Galvanized
SOBTS_F_00075635	FishTailed	25x200x3.00	Galvanized
SOBTS_F_00075647	FishTailed	25x200x3.00	Galvanized
SOBTS_F_00083053	FishTailed	25x250x2.00	Galvanized
SOBTS_F_00087297	FishTailed	25x300x2.00	Galvanized
SOBTS_F_00060799	FishTailed	30x200x1.50	Galvanized
SOBTS_F_00040670	FishTailed	30x200x1.80	Galvanized
SOBTS_F_00070597	FishTailed	30x200x2.00	Galvanized
SOBTS_F_00073211	FishTailed	30x220x1.50	Galvanized
SOBTS_F_00042536	FishTailed	30x225x2.00	Galvanized
SOBTS_F_00056073	FishTailed	30x300x2.00	Galvanized
SOBTS_F_00047506	FishTailed	35x100x1.20	Galvanized
SOBTS_F_00076545	FishTailed	50x200x2.00	Galvanized

Item Number	Description	Dimensions A x C x T (mm)	Material
SOBTS_F_00076679	FishTailed	50x200x4.00	Galvanized
SOBTS_F_00071603	FishTailed	40x200x2.00	MS
SOBTL_F_00087877	FishTailed	50x200x3.00	SS A4
SOBTS_F_00057605	FishTailed	25x200x2.00	SS A4
SOBTS_F_00076779	FishTailed	25x200x2.50	SS A4
SOBTS_F_00075641	FishTailed	25x200x3.00	SS A4
SOBTS_F_00056649	FishTailed	25x225x2.00	SS A4
SOBTS_F_00109321	FishTailed	25x300x2.00	SS A4
SOBTS_F_00060793	FishTailed	30x200x1.50	SS A4
SOBTS_F_00058071	FishTailed	30x200x2.00	SS A4
SOBTS_F_00075819	FishTailed	30x225x2.00	SS A4
SOBTS_F_00057933	FishTailed	30x300x2.00	SS A4
SOBTS_F_00047494	FishTailed	35x100x1.20	SS A4
SOBTS_F_00105805	FishTailed	25x200x2.00	SS A6
SOBTS_F_00112815	FishTailed	30x200x2.00	SS A6
SOBTS_F_00112821	FishTailed	30x200x2.00	SS A6

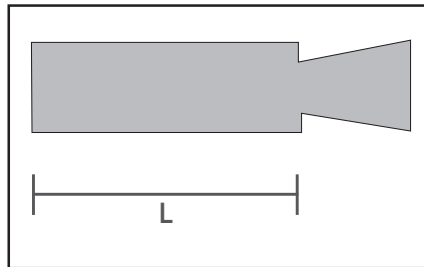
DOVE TAIL (TWA)

Reference Codes

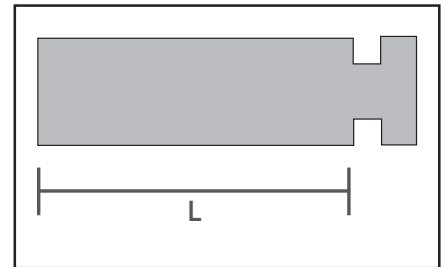
Each tie will consist of a tail element, for attachment to the facing material, a shank element, and a head element, for attachment to the structure.



Fish Tail
REF: B/-/-



DCH -/-/30



CCH -/-/10



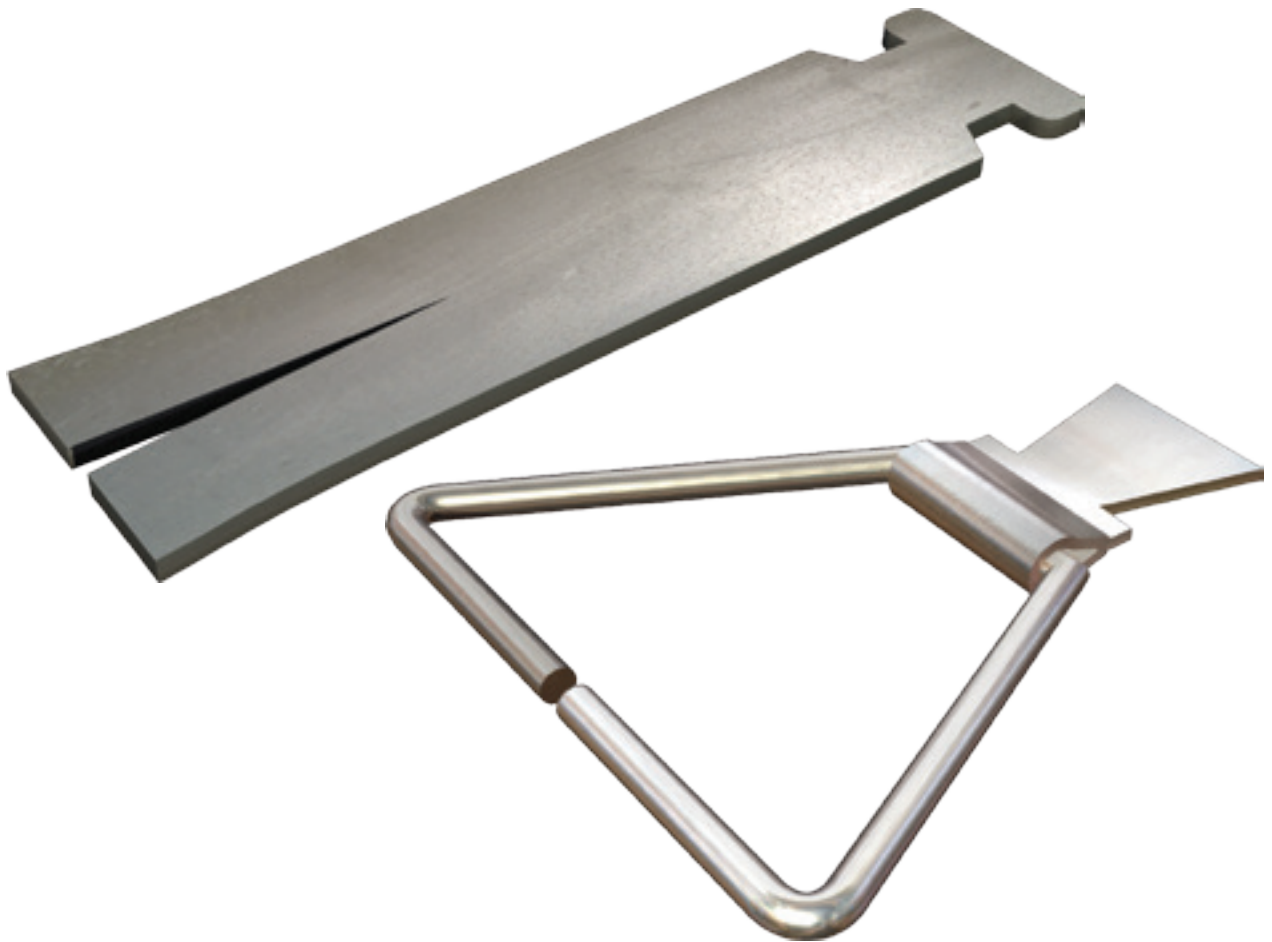
ADJUSTABLE WALL TIE (AWT)

Device for connecting a masonry leaf across a cavity to another masonry leaf or to a structural frame to resist tension and compression forces while allowing limited differential movement in the plane of the wall.

Wall ties are an important element in the stability of cavity walls. The correct selection, spacing and installation of ties is recommended to avoid damp penetration and cracking of masonry. Wall ties may only be mounted in a horizontal position and in the plane (on level) between the masonry leaves of the cavity wall once the mortar has been applied on the block work, the tie must be embedded in the mortar, cover as well is top with mortar. The tie must be extend in the mortar joints at least 90 mm in the inner leaf and at least 65 mm in the outer leaf.

Wall ties are further sub classified as asymmetrical or symmetrical.

Wall ties is for use in the external walls, suitable for flat sites where basic wind speed is up to 30 m/s.



Installation of Ties

Wall ties shall be pressed down in and surrounded by fresh mortar.

To ensure cavity wall ties are effective at tying the leaves together they should be installed as the inner leaf is constructed not simply pushed into a joint.

Ties should be installed with a slight fall to the outer leaf, never towards the inner leaf as this could provide path for moisture to cross the cavity.

The drip part of the tie should point downwards and be positioned near the Centre of the open cavity.

Installed ties should be clear of mortar droppings to allow the drip to function and prevent water from crossing to the inner leaf of masonry.

LENGTH OF TIES IN MM TO SUIT CAVITY

Tie	Reference Code	Description	Section Size (mm)	Cavity				Position of Drip (min) mm
				Length 0 - 20 (mm)	Length 15 - 45 (mm)	Length 40 - 70 (mm)	Length 65 - 70 (mm)	
	B/P/30	Brick Facing Tie	20 x 2.0 25 x 2.0	75	100	150	200	
	B/D/30	Brick Facing Tie	20 x 2.0 25 x 2.0		100	150	200	20
	B/F/30	Brick Facing Tie	20 x 2.0 25 x 2.0			150	200	30
	B/P/21	Brick Facing Tie	20 x 2.0 25 x 2.0	75	100	150	200	
	B/D/21	Brick Facing Tie	20 x 2.0 25 x 2.0		100	150	200	20
	B/F/21	Brick Facing Tie	20 x 2.0 25 x 2.0		100	150	200	30
	B/P/28	Brick Facing Tie	20 x 2.0 25 x 2.0	75	100	150	200	
	B/D/28	Brick Facing Tie	20 x 2.0 25 x 2.0		100	150	200	20
	B/F/28	Brick Facing Tie	20 x 2.0 25 x 2.0			150	200	30
	B/P/36	Brick Facing Tie	20 x 2.0 25 x 2.0	75	100	150	200	
	B/D/36	Brick Facing Tie	20 x 2.0 25 x 2.0		100	150	200	20
	B/F/36	Brick Facing Tie	20 x 2.0 25 x 2.0			150	200	30

Tie	Reference Code	Description	Section Size (mm)	Cavity				Position of Drip (min) mm
				Length 0 - 20 (mm)	Length 15 - 45 (mm)	Length 40 - 70 (mm)	Length 65 - 70 (mm)	
	B/F/36	Brick Facing Tie	20 x 2.0 25 x 2.0			150	200	30
	B/P/50	Brick Facing Tie	30 x 2.0 25 x 2.0	75	100			
	B/D/50	Brick Facing Tie	30 x 2.0 25 x 2.0		100			
	B/F/50	Brick Facing Tie	30 x 2.0 25 x 2.0					
	B/P/99	Cavity Wall Tie	30 x 2.0 25 x 2.0	150	200	250	300	
	B/D/99	Cavity Wall Tie	30 x 2.0 25 x 2.0	150	200	250	300	
	B/F/99	Cavity Wall Tie	30 x 2.0 25 x 2.0	150	200	250	300	
	C/C/30	Corrugated Strip	30 x 2.0 25 x 2.0	150	200	250	300	
	C/C/50	Corrugated Bracket	30 x 2.0 25 x 2.0	75	100	150	200	
	V/W/04	VEE Tie	ø 4,5,6	75	100	125	150	
	B/T/25	Wall Tie Anchor	30 x 2.0 25 x 2.0	75	100	125	150	
	S/S/15	Cavity Wall Tie	30 x 2.0 25 x 2.0	150	200	250	300	

CAVITY WALL TIE INFORMATION

To comply with: DIN 1053, at least 5 pieces of cavity wall ties should be used per square meter in accordance with DIN 17440, material of SS. 1.4401 or SS 1.4571. Three additional wall ties are required for the edges of building.

The distance between the ties should be maximum 500 mm vertically, and not more than 750 mm horizontally. The thickness of the wire tie depends on the height of the building and on the size of the wall cavity.

The minimum thickness is 3 mm. For walls that are higher than 12 m above ground level or where the gaps between the walls are more than 70 mm to 120 mm, a minimum of 5 wall ties with diameters of 4 mm are to be inserted.

If the gaps between the walls are more than 120 to 150 mm, a minimum of 7 wall ties with diameters of 4 mm or 5 wall ties with diameters of 5 mm are to be inserted. The length of the wall tie should be measured in such a way that the anchor is embedded 50 mm into the masonry and a further 25 mm is bent round. The thickness of the cavity and the thickness of the insulating material shall be added.

Cavity Wall Ties

Double Triangle Wall Tie, Butterfly & Three - Hole Wall Tie

Length of Tie and Embedment

Wall Ties should be of the correct length to ensure they are properly embedded in the masonry. The tie should have a minimum embedment of 50mm in each leaf but also take site tolerances into account for both cavity width and centering of the tie. For this reason, we suggest tie lengths which achieve an embedment of between 62.5mm and 75mm.

Recommended lengths to suit various cavity widths are shown for masonry-to-masonry wall ties.

Dimensional Standards

Fixed Dimensions

When Specifying ties certain set or minimum dimensions shall be followed, these are described as fixed dimensions and based on the limitations of material and the production processes.

Where a screw or bolt fixing is to be made a minimum length of 30mm is required.

Lengths

Lengths are generally measured to the extremity of the tie.

For ties fitting into channels the specified length is measured to the shoulder of the tie.

Wire Ties

A range of cavity wall ties are available manufactured in accordance with BS EN 845-1 which supersedes BS 1243. These are available in stainless steel, pre-galvanized or hot-dip galvanized steel, and to the dimensions shown.

Installation of ties

Wall ties should be pressed down in, and surrounded by, fresh mortar.

To ensure cavity wall ties are effective at tying the leaves together they should be installed as the inner leaf is constructed and not simply pushed into a joint. Ties should be installed with a slight fall to the outer leaf, never to wards the inner leaf as this could provide a path for moisture to cross the cavity. The drip part of the tie should point downwards and be positioned near the centre of the open cavity. Installed ties should be clear of mortar droppings to allow the drip to function and prevent water from crossing to the inner leaf of masonry.

BUTTERFLY TIE /TRIANGLE TIE

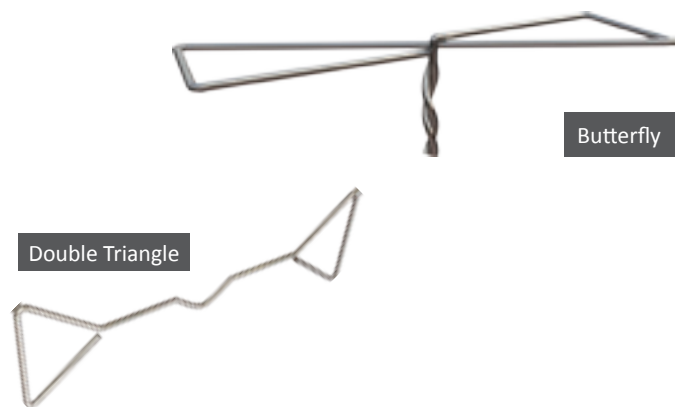
Wire Ties

A range of cavity wall ties are available manufactured in accordance with BS 123:1978. These are available in stainless steel, pre-galvanized or hot-dip galvanized steel, and to the dimensions shown.

BUTTERFLY TIE			
Item Number	Description	Dimensions (mm)	Material
SOBTS_F_00088791	Butterfly Tie	30x190x3.00	SS A4
SOBTS_F_00088797	Butterfly Tie	30x190x3.00	SS A4
SOBTS_F_00209271	Butterfly Tie	30x200x1.50	SS A4
SOWR_F_00053777	Butterfly Tie	75x200x3.00	SS A4
SOWR_F_00083659	Butterfly Tie	65x200x4.00	SS A4
SOWR_F_00186287	Butterfly Tie	75x250x3.00	SS A4
SOWR_F_00186293	Butterfly Tie	75x200x3.00	Galvanized
SOWR_F_00186695	Butterfly Tie	65x200x4.00	Galvanized
SOWR_F_00191971	Butterfly Tie	75x200x4.00	Galvanized
SOWR_F_00192599	Butterfly Tie	65x390x4.00	Galvanized
SOWR_F_00193189	Butterfly Tie	65x360x4.00	Galvanized
SOWR_F_00193195	Butterfly Tie	65x150x4.00	Galvanized
SOWR_F_00197769	Butterfly Tie	65x250x4.00	Galvanized
SOWR_F_00209821	Butterfly Tie	75x300x4.00	Galvanized

TRIANGLE TIE			
Item Number	Description	Dimensions (mm)	Material
SOWR_F_00056205	Double Triangle	50x250x4.80	Galvanized
SOWR_F_00056211	Double Triangle	65x250x4.80	Galvanized
SOWR_F_00056217	Double Triangle	65x300x4.80	Galvanized
SOWR_F_00056655	Double Triangle	50x250x4.80	Galvanized
SOWR_F_00056667	Double Triangle	65x250x4.80	Galvanized
SOWR_F_00056679	Double Triangle	65x300x4.80	Galvanized
SOWR_F_00057547	Double Triangle	65x250x4.80	Galvanized
SOWR_F_00057553	Double Triangle	65x300x4.80	Galvanized
SOWR_F_00059173	Double Triangle	120X50X5.00	Galvanized
SOWR_F_00072175	Double Triangle	80x250x4.80	Galvanized
SOWR_F_00081543	Double Triangle	65x200x4.00	Galvanized
SOWR_F_00127819	Double Triangle	75x250x4.00	Galvanized

TRIANGLE TIE			
Item Number	Description	Dimensions (mm)	Material
SOWR_F_00127825	Double Triangle	75x300x4.00	Galvanized
SOWR_F_00140557	Double Triangle	65x200x3.00	Galvanized
SOWR_F_00141359	Double Triangle	65x200x3.00	Galvanized
SOWR_F_00143965	Double Triangle	30x200x4.00	Galvanized
SOWR_F_00144499	Double Triangle	65x200x4.00	Galvanized
SOWR_F_00054103	Double Triangle	65x250x5.00	SS A4
SOWR_F_00056187	Double Triangle	65x300x4.80	SS A4
SOWR_F_00056193	Double Triangle	65x250x4.80	SS A4
SOWR_F_00056199	Double Triangle	50x250x4.80	SS A4
SOWR_F_00056661	Double Triangle	50x250x4.80	SS A4
SOWR_F_00056673	Double Triangle	65x250x4.80	SS A4
SOWR_F_00056685	Double Triangle	65x300x4.80	SS A4
SOWR_F_00057559	Double Triangle	65x250x4.80	SS A4
SOWR_F_00059179	Double Triangle	120X50X5.00	SS A4
SOWR_F_00064501	Double Triangle	65x200x4.00	SS A4
SOWR_F_00072169	Double Triangle	80x250x5.00	SS A4
SOWR_F_00086815	Double Triangle	65x150x4.00	SS A4
SOWR_F_00098931	Double Triangle	65x250x4.00	SS A4
SOWR_F_00196385	Double Triangle	65x200x3.00	SS A4



ARRANGEMENT OF ADDITIONAL TIE CRAMPS

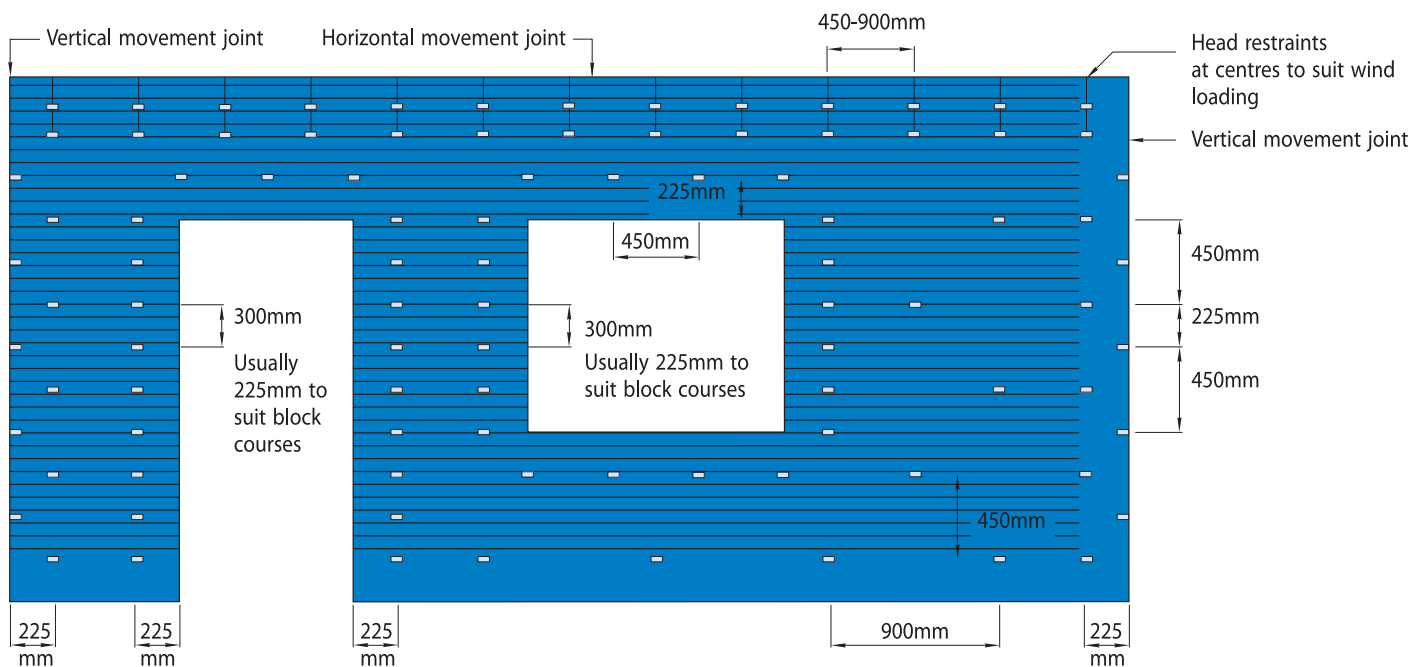
For walls in which both leaves are 90mm or thicker, ties should be used at not less than 2.5 per square meter (900mm horizontal and 450mm vertical centers). This spacing may be varied by building regulations.

Ties should be evenly distributed over the wall area, except around openings, and should be preferable staggers.

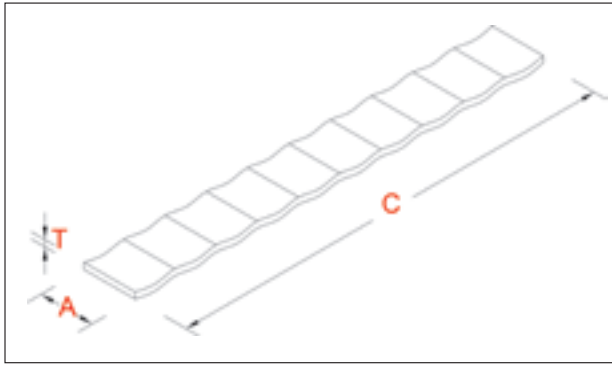
At vertical edges of an opening, unreturned or unbounded edges, and vertical expansion joints, additional ties should be used. Such ties should be located at 300 mm vertical centers, positioned not more than 225 mm from the edge.

3 pieces wall ties per meter, additional ties should be installed:

- At edge (corner)
- Along expansion joints
- At opening
- At the upper end

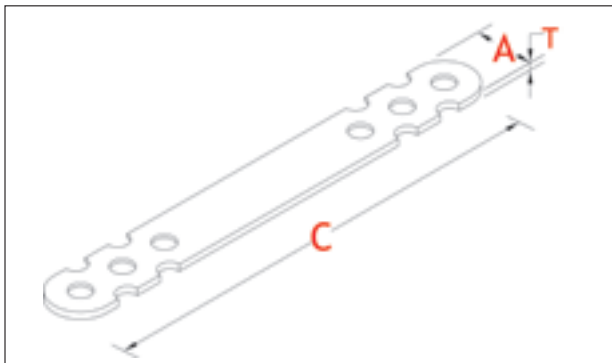


Cavity Tie Corrugated



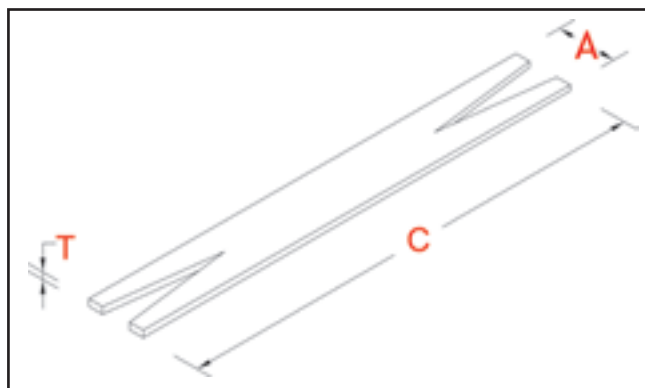
Item Number	Description	Dimensions A x C x T (mm)	Material
SOBTS_F_00054161	Cavity Tie Corrugated	25x200x2.00	Galvanized
SOBTS_F_00072153	Cavity Tie Corrugated	25x200x3.00	Galvanized
SOBTS_F_00070927	Cavity Tie Corrugated	30x200x1.50	Galvanized
SOBTS_F_00054167	Cavity Tie Corrugated	25x200x2.00	AA S4
SOBTS_F_00047488	Cavity Tie Corrugated	30x200x1.50	AA S4
SOBTS_F_00093737	Cavity Tie Corrugated	30x250x2.00	AA S4
SOBTS_F_00105763	Cavity Tie Corrugated	40x250x2.00	AA S4
SOBTS_F_00041650	Cavity Tie Corrugated	25x200x3.00	AA S6
SOBTS_F_00041638	Cavity Tie Corrugated	25x200x3.00	AA S6

Cavity Tie With 3Holes



Item Number	Description	Dimensions A x C x T (mm)	Material
SOBTS_F_00082303	Cavity Tie with 3 Holes	20x200x3.00	Galvanized
SOBTS_F_00082291	Cavity Tie with 3 Holes	20x255x3.00	Galvanized
SOBTS_F_00082297	Cavity Tie with 3 Holes	20x255x3.00	Galvanized
SOBTS_F_00078577	Cavity Tie with 3 Holes	25x200x1.80	Galvanized
SOBTS_F_00047500	Cavity Tie with 3 Holes	25x200x2.00	Galvanized
SOBTS_F_00095639	Cavity Tie with 3 Holes	25x250x2.00	Galvanized
SOBTS_F_00112385	Cavity Tie with 3 Holes	30x300x1.50	Galvanized
SOBTS_F_00077039	Cavity Tie with 3 Holes	30x300x1.50	Mild Steel
SOBTS_F_00058777	Cavity Tie with 3 Holes	25x200x2.00	AA S4

Cavity Tie Fish Tailed



Item Number	Description	Dimensions A x C x T (mm)	Material	Item Number	Description	Dimensions A x C x T (mm)	Material
SOBTS_F_00105757	Cavity Tie Fish Tailed	25x250x2.00	Galvanized	SOBTL_F_00087877	Cavity Tie Fish Tailed	50x200x3.00	AA S4
SOBTS_F_00042500	Cavity Tie Fish Tailed	25x200x1.50	Galvanized	SOBTS_F_00057605	Cavity Tie Fish Tailed	25x200x2.00	AA S4
SOBTS_F_00083025	Cavity Tie Fish Tailed	25x200x1.80	Galvanized	SOBTS_F_00076779	Cavity Tie Fish Tailed	25x200x2.50	AA S4
SOBTS_F_00059167	Cavity Tie Fish Tailed	25x200x2.00	Galvanized	SOBTS_F_00075641	Cavity Tie Fish Tailed	25x200x3.00	AA S4
SOBTS_F_00075635	Cavity Tie Fish Tailed	25x200x3.00	Galvanized	SOBTS_F_00056649	Cavity Tie Fish Tailed	25x225x2.00	AA S4
SOBTS_F_00075647	Cavity Tie Fish Tailed	25x200x3.00	Galvanized	SOBTS_F_00109321	Cavity Tie Fish Tailed	25x300x2.00	AA S4
SOBTS_F_00083053	Cavity Tie Fish Tailed	25x250x2.00	Galvanized	SOBTS_F_00060793	Cavity Tie Fish Tailed	30x200x1.50	AA S4
SOBTS_F_00087297	Cavity Tie Fish Tailed	25x300x2.00	Galvanized	SOBTS_F_00058071	Cavity Tie Fish Tailed	30x200x2.00	AA S4
SOBTS_F_00060799	Cavity Tie Fish Tailed	30x200x1.50	Galvanized	SOBTS_F_00075819	Cavity Tie Fish Tailed	30x225x2.00	AA S4
SOBTS_F_00040670	Cavity Tie Fish Tailed	30x200x1.80	Galvanized	SOBTS_F_00057933	Cavity Tie Fish Tailed	30x300x2.00	AA S4
SOBTS_F_00070597	Cavity Tie Fish Tailed	30x200x2.00	Galvanized	SOBTS_F_00047494	Cavity Tie Fish Tailed	35x100x1.20	AA S4
SOBTS_F_00073211	Cavity Tie Fish Tailed	30x220x1.50	Galvanized	SOBTS_F_00105805	Cavity Tie Fish Tailed	25x200x2.00	AA S4
SOBTS_F_00042536	Cavity Tie Fish Tailed	30x225x2.00	Galvanized	SOBTS_F_00112815	Cavity Tie Fish Tailed	30x200x2.00	AA S4
SOBTS_F_00056073	Cavity Tie Fish Tailed	30x300x2.00	Galvanized	SOBTS_F_00112821	Cavity Tie Fish Tailed	30x200x2.00	AA S4
SOBTS_F_00047506	Cavity Tie Fish Tailed	35x100x1.20	Galvanized				
SOBTS_F_00076545	Cavity Tie Fish Tailed	50x200x2.00	Galvanized				
SOBTS_F_00076679	Cavity Tie Fish Tailed	50x200x4.00	Galvanized				
SOBTS_F_00071603	Cavity Tie Fish Tailed	40x200x2.00	Mild Steel				

DEBONDING CAVITY BLOCK TIE

Specifications:

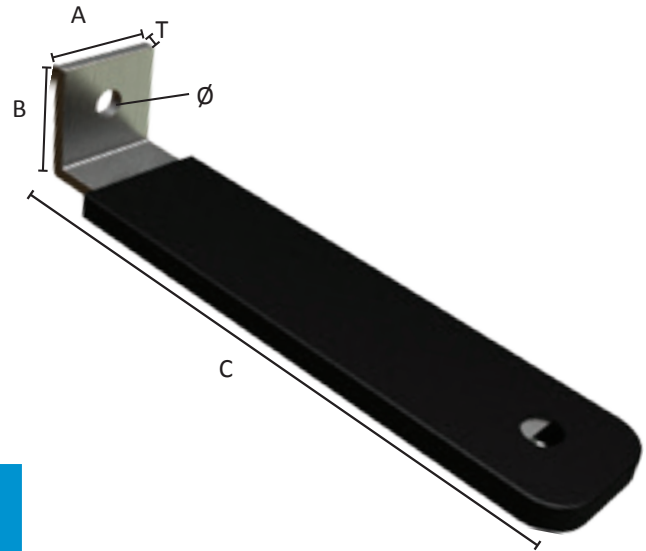
Unitech Debonding Block Tie are manufactured from the following:

A. Galvanized Steel Sheet: BS 2989, ASTM A 653M, Commercial Steel, Z 180 zinc coating.

B. Stainless Steel Sheet: ASTM A 666, Type 304/Type 316.



Rubber Sleeve



Item Number	Description	Dimensions AxBxCxT (mm)	Material
SOBTL_F_00144677	Debonding Cavity	25x30x300x1.50	Galvanized
SOBTL_F_00144689	Debonding Cavity	25x30x300x3.00	Galvanized
SOBTL_F_00144701	Debonding Cavity	25x30x75x1.50	Galvanized
SOBTL_F_00144713	Debonding Cavity	25x30x75x3.00	Galvanized
SOBTL_F_00144733	Debonding Cavity	30x40x300x1.50	Galvanized
SOBTL_F_00144769	Debonding Cavity	30x40x300x3.00	Galvanized
SOBTL_F_00144903	Debonding Cavity	30x40x75x1.50	Galvanized
SOBTL_F_00144915	Debonding Cavity	30x40x75x3.00	Galvanized
SOBTS_F_00144933	Debonding Cavity	25x150x1.50	Galvanized
SOBTS_F_00144927	Debonding Cavity	25x300x1.50	Galvanized
SOBTS_F_00144945	Debonding Cavity	25x300x3.00	Galvanized
SOBTL_F_00144683	Debonding Cavity	25x30x300x1.50	AA S4
SOBTL_F_00144695	Debonding Cavity	25x30x300x3.00	AA S4
SOBTL_F_00144707	Debonding Cavity	25x30x75x1.50	AA S4
SOBTL_F_00144719	Debonding Cavity	25x30x75x3.00	AA S4
SOBTL_F_00144755	Debonding Cavity	30x40x300x1.50	AA S4
SOBTL_F_00144783	Debonding Cavity	30x40x300x3.00	AA S4
SOBTL_F_00144909	Debonding Cavity	30x40x75x1.50	AA S4
SOBTL_F_00144921	Debonding Cavity	30x40x75x3.00	AA S4

DEBONDING CONTROL JOINTS FLAT TIE

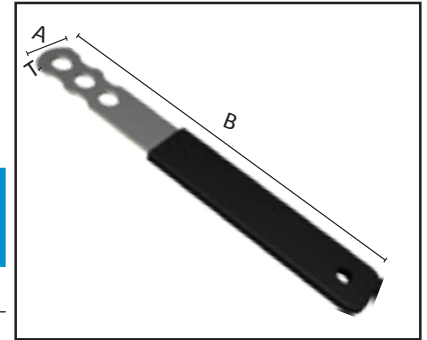
Specifications:

SFSP Debonding Control Joints Tie are manufactured from the following:

A. Galvanized Steel Sheet: BS 2989, ASTM A 653M, Commercial Steel, Z 180 zinc coating.

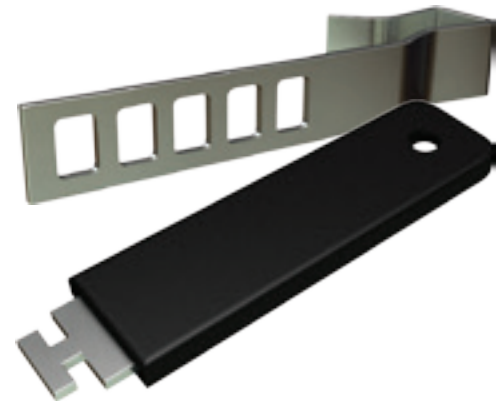
B. Stainless Steel Sheet: ASTM A 666, Type 304/Type 316.

Item Number	Description	Dimensions AxBxT (mm)	Material
SOBTS_F_00144933	Debonding Control Joint Flat Tie	25x150x1.5	GI (Galvanized Steel)
SOBTS_F_00144927	Debonding Control Joint Flat Tie	25x300x1.5	GI (Galvanized Steel)
SOBTS_F_00260705	Debonding Control Joint Flat Tie	25x150x3.0	GI (Galvanized Steel)
SOBTS_F_00144945	Debonding Control Joint Flat Tie	25x300x3.0	GI (Galvanized Steel)
SOBTS_F_00207939	Debonding Control Joint Flat Tie	30x150x1.5	GI (Galvanized Steel)
SOBTS_F_00260711	Debonding Control Joint Flat Tie	30x300x1.5	GI (Galvanized Steel)
SOBTS_F_00260717	Debonding Control Joint Flat Tie	30x150x3.0	GI (Galvanized Steel)
SOBTS_F_00144957	Debonding Control Joint Flat Tie	25x150x1.5	SS A2/A4 (Stainless Steel)
SOBTS_F_00144939	Debonding Control Joint Flat Tie	25x300x1.5	SS A2/A4 (Stainless Steel)
SOBTS_F_00260731	Debonding Control Joint Flat Tie	25x150x3.0	SS A2/A4 (Stainless Steel)
SOBTS_F_00144951	Debonding Control Joint Flat Tie	25x300x3.0	SS A2/A4 (Stainless Steel)
SOBTS_F_00207939	Debonding Control Joint Flat Tie	30x150x1.5	SS A2/A4 (Stainless Steel)
SOBTS_F_00260737	Debonding Control Joint Flat Tie	30x300x1.5	SS A2/A4 (Stainless Steel)
SOBTS_F_00260743	Debonding Control Joint Flat Tie	30x150x3.0	SS A2/A4 (Stainless Steel)
SOBTS_F_00260749	Debonding Control Joint Flat Tie	30x300x3.0	SS A2/A4 (Stainless Steel)



HAMMER-ON SECTION

Available in five sizes to accommodate a steel thickness from 7mm to 25mm, this fixing is simply hammered onto the flange. It can be utilized either on a column with a tie or on a beam with an internal head restraint.



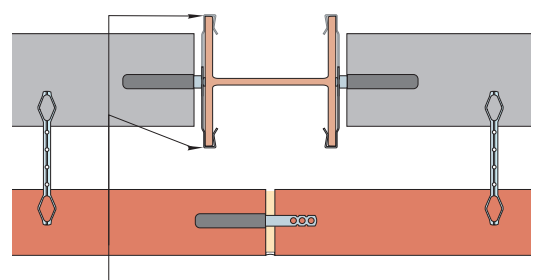
The Hammer-On Section resists load in one direction only and should be installed on alternate sides of the flange.

Hammer-On Ties should be installed at 225mm vertical centres and Hammer-On Head Restraints at 450mm horizontal centres. The wall tie or head restraint should be positioned central to the masonry leaf when located in one of the five fixing slots.

Hammer-On Tie (Debonded HOS-TIE, pictured above, supplied complete with Hammer-On Section)

Hammer-On Ties can resist a load of 900N. When fixed at 225mm vertical centres, staggered on alternate sides of the column flange (effective centres 450mm on each side) the service load will be 2kN per metre in either direction.

Hammer-On Ties installed to alternate sides of the column at 225mm vertical centres



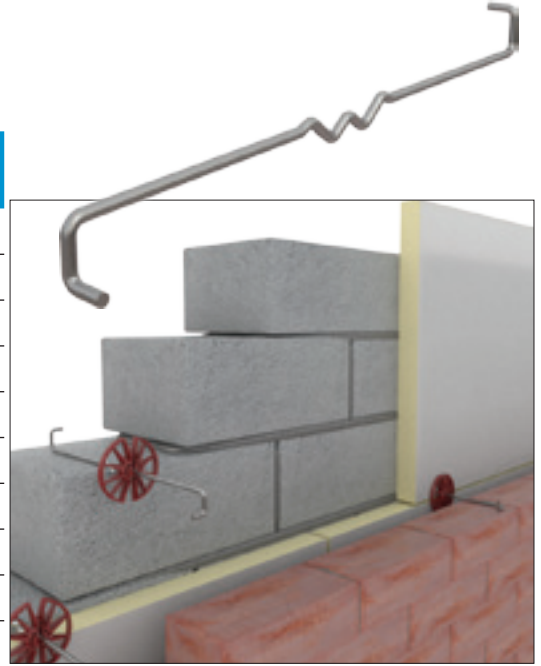
R2-TYPE WIRE TIE

Stainless steel wall tie manufactured in accordance with BS EN 845-1

- Diameter = 4mm, 5mm

Other sizes can be manufactured upon request

Item Number	Description	Dimensions (mm)	Material
SOWR_F_00125253	Wire Tie -Tie Drip	65x150x5.00	GI (Galvanized Steel)
SOWR_F_00145343	Wire Tie -Tie Drip	65x200x5.00	GI (Galvanized Steel)
SOWR_F_00145355	Wire Tie -Tie Drip	65x200x4.00	GI (Galvanized Steel)
SOWR_F_00145361	Wire Tie -Tie Drip	65x250x4.00	GI (Galvanized Steel)
SOWR_F_00145381	Wire Tie -Tie Drip	65x300x4.00	GI (Galvanized Steel)
SOWR_F_00142105	Wire Tie -Tie Drip	50x200x4.00	SS A4 (Stainless Steel)
SOWR_F_00145337	Wire Tie -Tie Drip	65x150x5.00	SS A4 (Stainless Steel)
SOWR_F_00145349	Wire Tie -Tie Drip	65x200x5.00	SS A4 (Stainless Steel)
SOWR_F_00145375	Wire Tie -Tie Drip	65x250x4.0	SS A4 (Stainless Steel)
SOWR_F_00145387	Wire Tie -Tie Drip	65x300x4.00	SS A4 (Stainless Steel)



Z- TYPE WIRE TIE

-“Z” Wire Tie is used for tying masonry to masonry (Composite Wall Only).

-Not used in walls with air space and or insulation.

- Diameter = 4mm, 5mm

Other sizes can be manufactured upon request

Item Number	Description	Dimensions (mm)	Material
SOWR_F_00125211	Z-Type Wire Tie	65x200x3.00	GI (Galvanized Steel)
SOWR_F_00125253	Z-Type Wire Tie	50x100x5.00	GI (Galvanized Steel)
SOWR_F_00133003	Z-Type Wire Tie	65x200x4.0	GI (Galvanized Steel)



CEILING TYPE

Adjustable Head Restraint (AHR)

Head Restraints

Head Restraints provide the necessary restraint to the top of masonry walls. They allow for vertical movement to accommodate shrinkage or thermal movement of the wall or structural frame, while restraining wind loads.

Internal Head Restraint

The Internal Head is used for restraining the top of internal walls or the top of the inner leaf of a cavity wall.

The opening at the front of the channel stem is sealed to prevent mortar ingress and to ensure that vertical movement can take place between the block work and the structure.

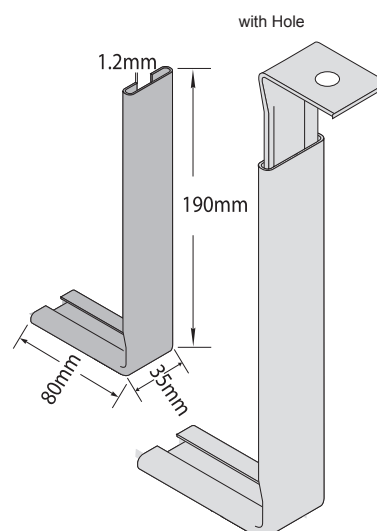
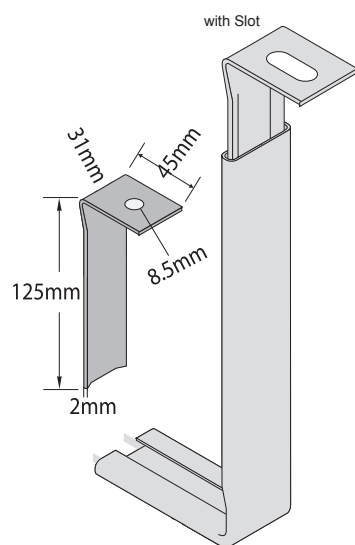
The base of the stem must be built within a bed joint with the centre of the stem no closer than 50mm from the edge of the block.

The vertical joint should be filled with mortar each side of the stem.

The maximum joint between the top of the block work and the underside of the frame is not normally greater than 25mm.

The standard of head restraint will suit a 215mm high block and can resist a load of 1.5kN*.

Where the gap at the top increases from 25mm to 50mm, the working load is reduced from 1.5kN to 1.0kN.

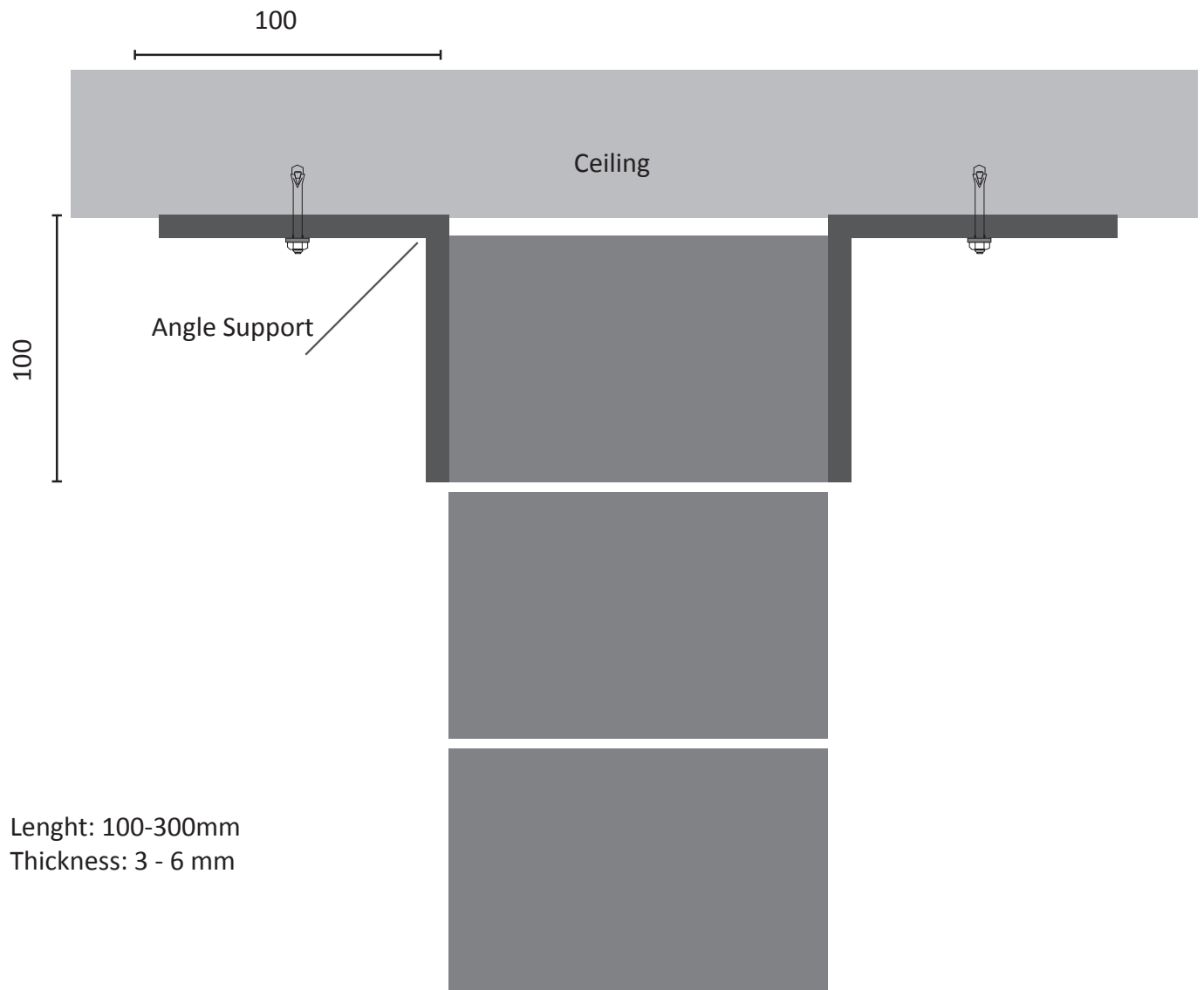


Item Number	Description	Dimensions (mm)	Material
SOL_F_00072159	Adjustable Head Restraint	30x110x200x1.20	GI (Galvanized Steel)
SOL_F_00063427	Adjustable Head Restraint	30x140x200x1.20	GI (Galvanized Steel)
SOL_F_00100983	Adjustable Head Restraint	30x40x200x1.20	GI (Galvanized Steel)
SOL_F_00051377	Adjustable Head Restraint	30x80x150x1.20	GI (Galvanized Steel)
SOL_F_00083071	Adjustable Head Restraint	30x80x150x1.20	GI (Galvanized Steel)
SOL_F_00048182	Adjustable Head Restraint	30x80x190x1.20	GI (Galvanized Steel)
SOL_F_00094205	Adjustable Head Restraint	30x80x200x1.20	GI (Galvanized Steel)
SOL_F_00079697	Adjustable Head Restraint	30x90x200x1.20	GI (Galvanized Steel)
SOL_F_00083609	Adjustable Head Restraint	30x95x200x1.20	GI (Galvanized Steel)
SOL_F_00065897	Adjustable Head Restraint	30x95x200x1.50	GI (Galvanized Steel)
SOS_F_00092555	Adjustable Head Restraint	30x200x1.20	GI (Galvanized Steel)
SOL_F_00040714	Adjustable Head Restraint	30x110x200x1.20	SS A4 (Stainless Steel)
SOL_F_00054055	Adjustable Head Restraint	30x140x200x1.20	SS A4 (Stainless Steel)
SOL_F_00060839	Adjustable Head Restraint	30x80x150x1.20	SS A4 (Stainless Steel)
SOL_F_00041626	Adjustable Head Restraint	30x80x190x1.20	SS A4 (Stainless Steel)
SOL_F_00094221	Adjustable Head Restraint	30x80x200x1.20	SS A4 (Stainless Steel)
SOL_F_00079713	Adjustable Head Restraint	30x90x200x1.20	SS A4 (Stainless Steel)
SOL_F_00100245	Adjustable Head Restraint	30x80x190x1.20	SS A4 (Stainless Steel)
GNA_F_00066003	Adjustable Head Restraint	50X22X110X60X3.0	Hot Dip Galvanized
GNA_F_00092567	Adjustable Head Restraint with Sleeve	25x30x100x1.5-30x200x1.2	GI (Galvanized Steel)
GNA_F_00079729	Adjustable Head Restraint with Sleeve	27x40x120x2-30x200x90x1.2	GI (Galvanized Steel)
GNA_F_00053073	Adjustable Head Restraint with Sleeve	27x45x125x1.5-30x80x190x1.2	GI (Galvanized Steel)
GNA_F_00083077	Adjustable Head Restraint with Sleeve	27x45x125x2-30x80x150x1.2	GI (Galvanized Steel)
GNA_F_00072165	Adjustable Head Restraint with Sleeve	27x80x150x2-30x100x200x1.2	GI (Galvanized Steel)
GNA_F_00104333	Adjustable Head Restraint with Sleeve	27x80x150x2-30x140x200x1.2	GI (Galvanized Steel)
GNA_F_00053553	Adjustable Head Restraint with Sleeve	30X40X200X1.2-30X50X150X1.5	GI (Galvanized Steel)
GNA_F_00076503	Adjustable Head Restraint with Sleeve	27X45X125X2 30X80X190X1.2	GI (Galvanized Steel)
GNA_F_00094211	Adjustable Head Restraint with Sleeve	27X45X125X2 30X80X200X1.2	GI (Galvanized Steel)
GNA_F_00091785	Adjustable Head Restraint with Sleeve	27X50X125 30X80X190X1.2MM	GI (Galvanized Steel)
GNA_F_00079725	Adjustable Head Restraint with Sleeve	27x40x120x2-30x200x90x1.2	SS A4 (Stainless Steel)
GNA_F_00060845	Adjustable Head Restraint with Sleeve	30x80x150x1.2 tie 30x45x150x2.0	SS A4 (Stainless Steel)
GNA_F_00048206	Adjustable Head Restraint with Sleeve	27x45x125x1.5-30x80x190x1.2	SS A2 (Stainless Steel)
GNA_F_00041898	Adjustable Head Restraint with Sleeve	30X80X190X1.2-27X45X125X1.5	SS A2 (Stainless Steel)
GNA_F_00076487	Adjustable Head Restraint with Sleeve	27X45X125X2 - 30X80X190X1.2	SS A2 (Stainless Steel)
GNA_F_00095661	Adjustable Head Restraint with Sleeve	30X200X140X1.2-27X45X125X2.0	SS A2 (Stainless Steel)
GNA_F_00054095	Adjustable Head Restraint with Sleeve	30X200X110X1.2-27X80X150X2.0	SS A2 (Stainless Steel)
GNA_F_00094227	Adjustable Head Restraint with Sleeve	30X200X80X1.2-27X45X125X2.0	SS A2 (Stainless Steel)
GNA_F_00093689	Adjustable Head Restraint with Sleeve	30X200X110X1.2-27X80X150X2.0	GI (Galvanized Steel)
GNA_F_00054099	Adjustable Head Restraint with Sleeve	30X200X110X1.2MM-27X80X150X2.0	Hot Dip Galvanized

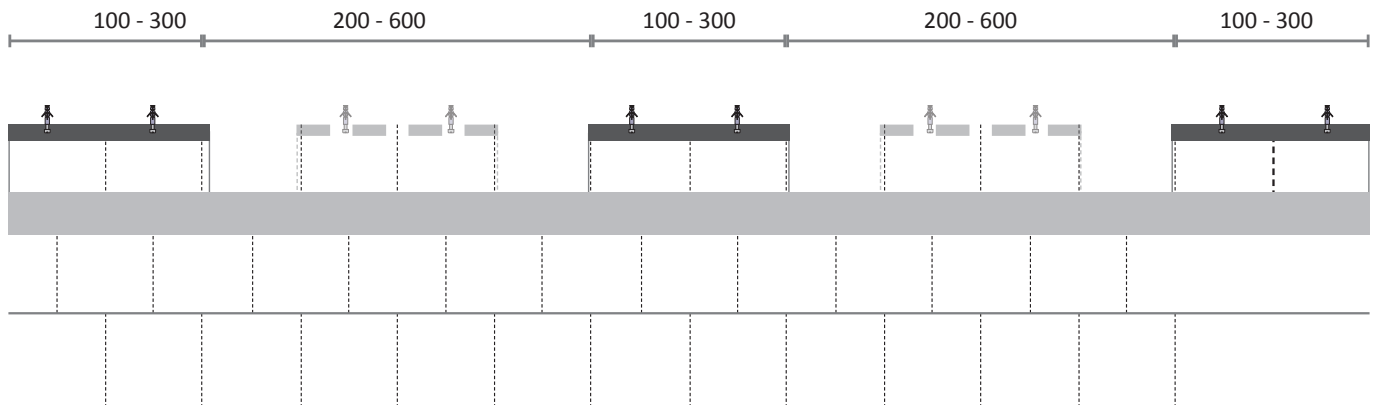
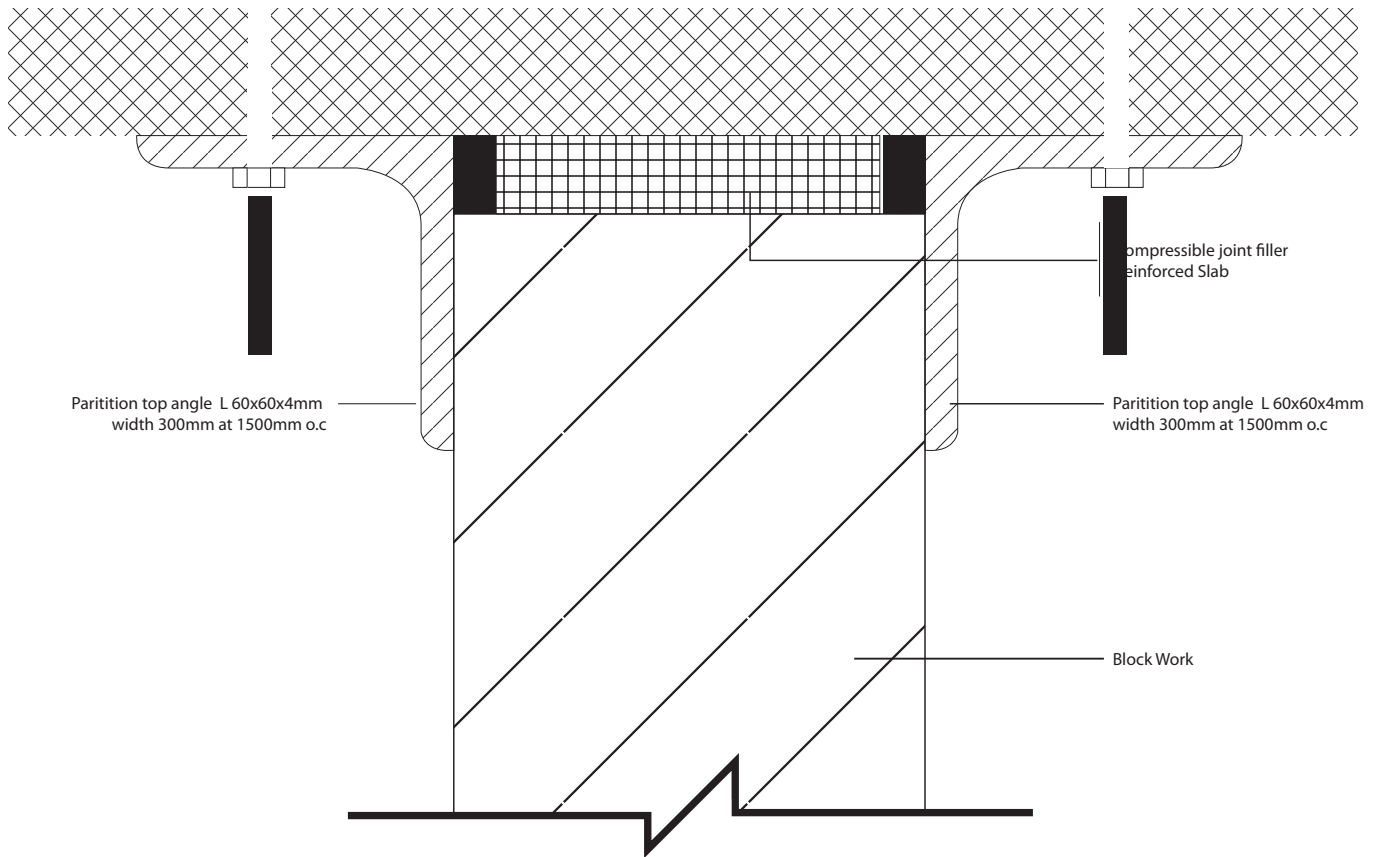
Partition Top Angle (PTA)

Angle Support

- Partition Top angle prevents a horizontal movement of the masonry wall.
- Supports the horizontal force on top of the block work due to human impact or wind pressure.
- To be fixed on both sides of the wall.
- To be fixed with 2x M6 Screw with plastic anchor.
- Provides support while preventing a solid connection between the wall and the ceiling.



Item Number	Description	Dimensions (mm)	Material
SOBTL_F_00083013	Block Tie	25x75x200x1.80	GI (Galvanized Steel)
SOBTL_F_00075869	Block Tie	30x75x250x2.00	GI (Galvanized Steel)
SOBTL_F_00047512	Block Tie	30x75x250x2.00	SS A4 (Stainless Steel)



PARTITION TOP ROD ANCHORS (PTRA)

Partition Top Anchors have been developed to provide lateral shear resistance at the upper limit of masonry walls. They permit vertical deflection of the slab above, without transferring compressive loads to the masonry wall below. Partition Top Anchors are suitable for construction using steel.

Partition Top Anchors Tube with expansion filler is placed over rod anchor, which has been attached to concrete or steel by any of the methods illustrated.

Materials:

ASTM A 1008 (cold- rolled)

ASTM A1011 (Hot-rolled)

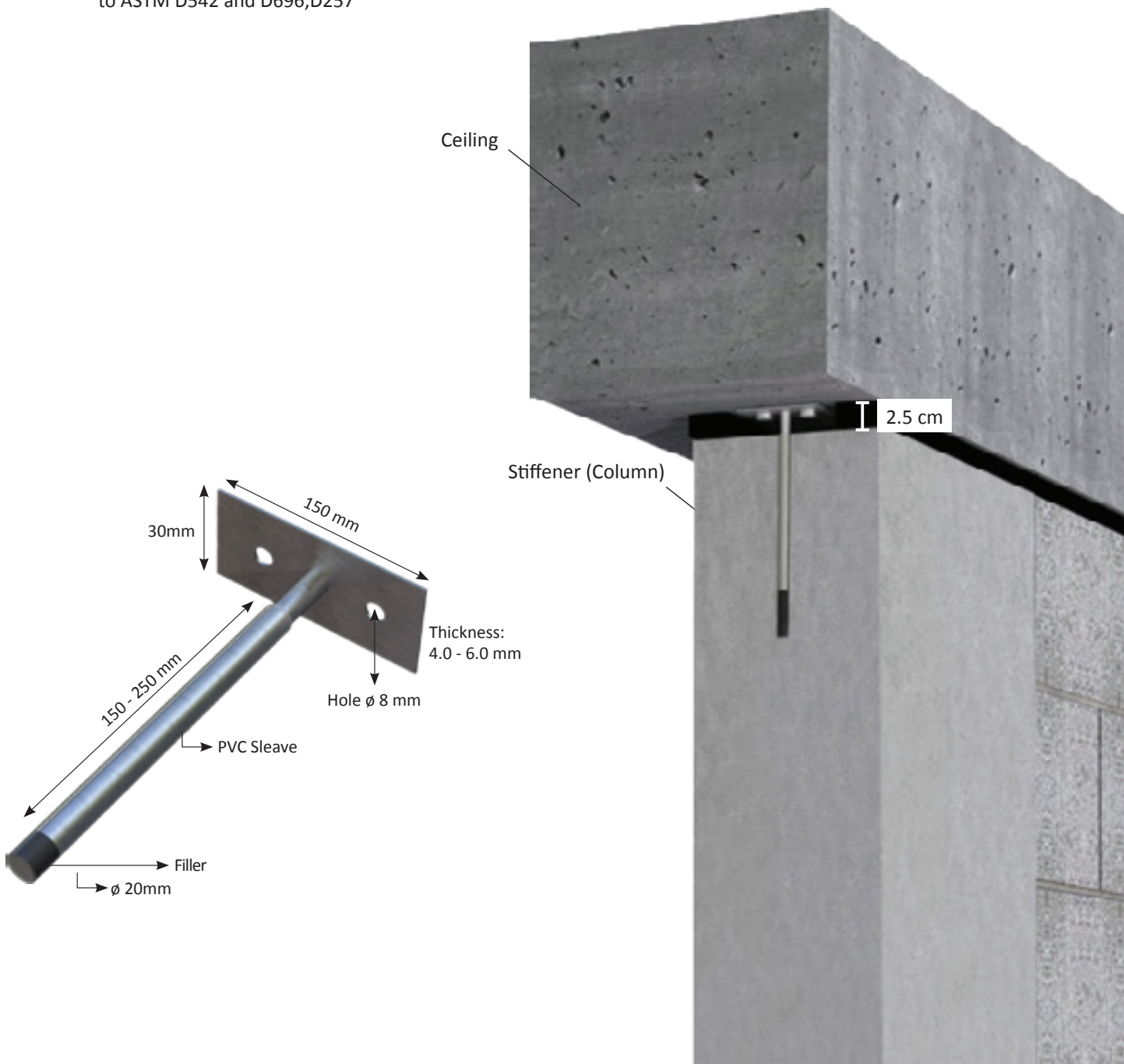
Finishes:

Hot Dip Galvanized –ASTM A153

ROD

Hot-Dip Galvanized ASTM A153

Plastic Tube : Manufactured from UPVC according to ASTM D542 and D696,D257

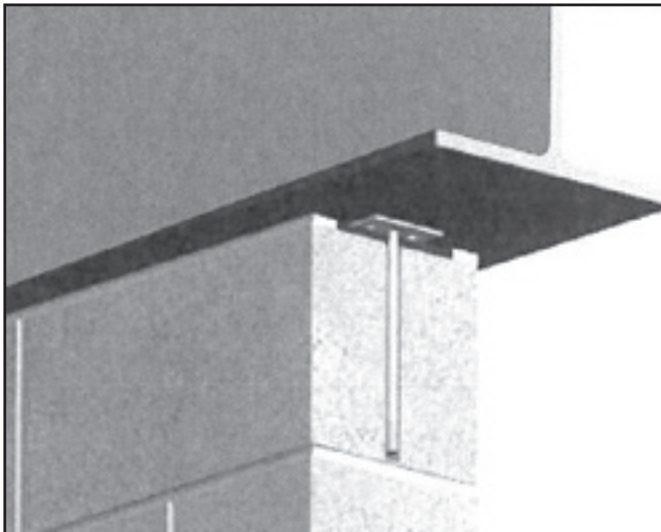
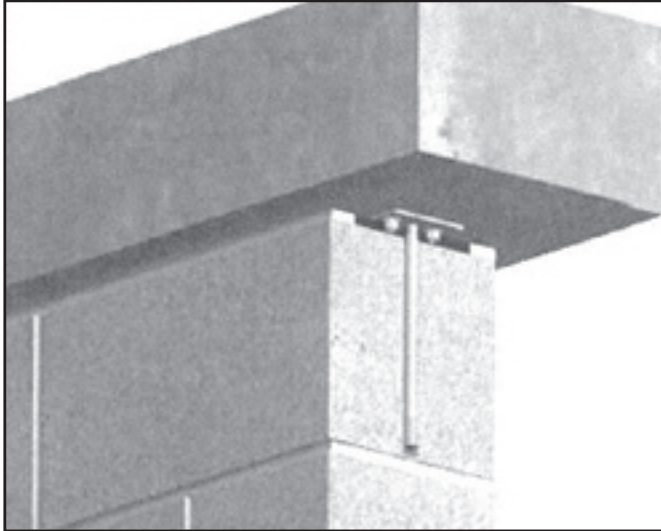


Partition Top Anchors have been developed to provide lateral shear resistance at the upper limit of masonry walls.

They permit vertical deflection of the slab above, without transferring compressive loads to the masonry wall below.

PTA are suitable for construction using steel or concrete.

PTA Tube with expansion filler is placed over rod anchor, which has been attached to concrete or steel by any of the methods illustrated.



Finishes:

Sheet Metal:

Hot-Dip Galvanized - ASTM A153/A153M-B2 class B (sheet metal ties and anchors hot-dip galvanized after fabrication)

Sheet Metal (Stainless Steel):

ASTM A167 - AISI Type 304 Stainless Steel (sheet metal ties and anchors) (type 316 available on special order)

Rod:

Hot-Dip Galvanized - ASTM A153/A153M-B2 Stainless Steel Type 304 - ASTM A582/A582MPTA Tube: Manufactured from Clear Butyrate.

Dimensions:

- Rod 9.5 mm length 150mm Other diameters and gauges available
- Plate 50 x 75mm thickness 2.5mm



SURE - TIE FOR STEEL

Sure-Tie quickly and accurately pierces insulation and/or wallboard to abut steel/studs in brick veneer applications.

- One-piece design provides superior strength.
- 12-24 Self Driller.
- Accommodates 1/2" and 5/8" wall board and various thicknesses of insulation.
- Silver-Gray Climaseal® finish resulted in 0% red rust at 1000 hours exposure to ASTM B-117 salt spray testing.



Triangle Wire Tie



Seismic Wire Tie



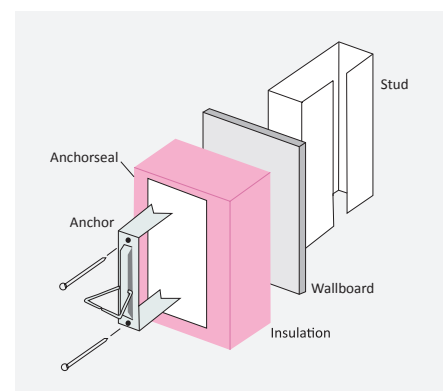
Single Wire Tie



Seismic Anchor System



Stud Anchor



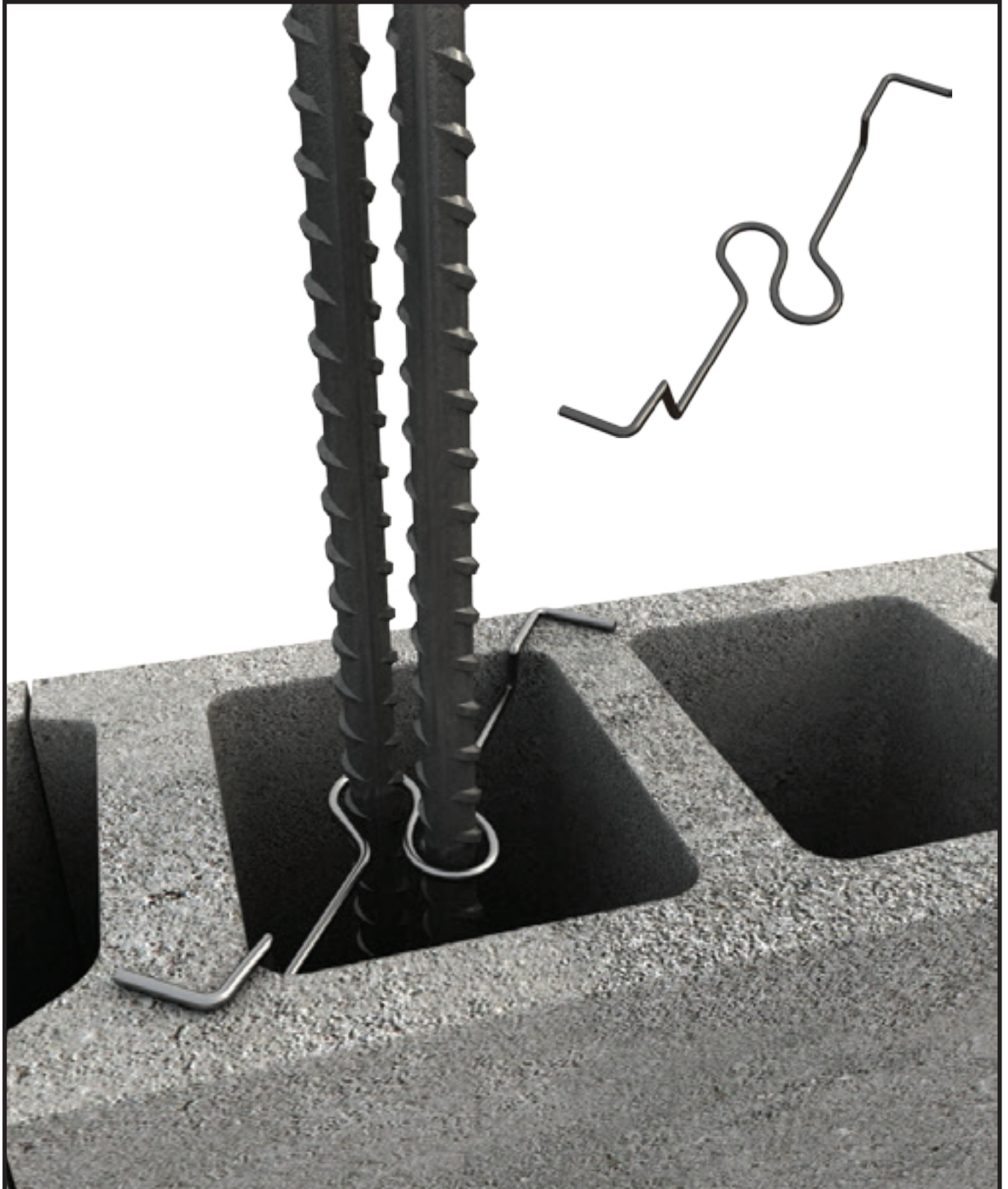
REBAR POSITIONERS

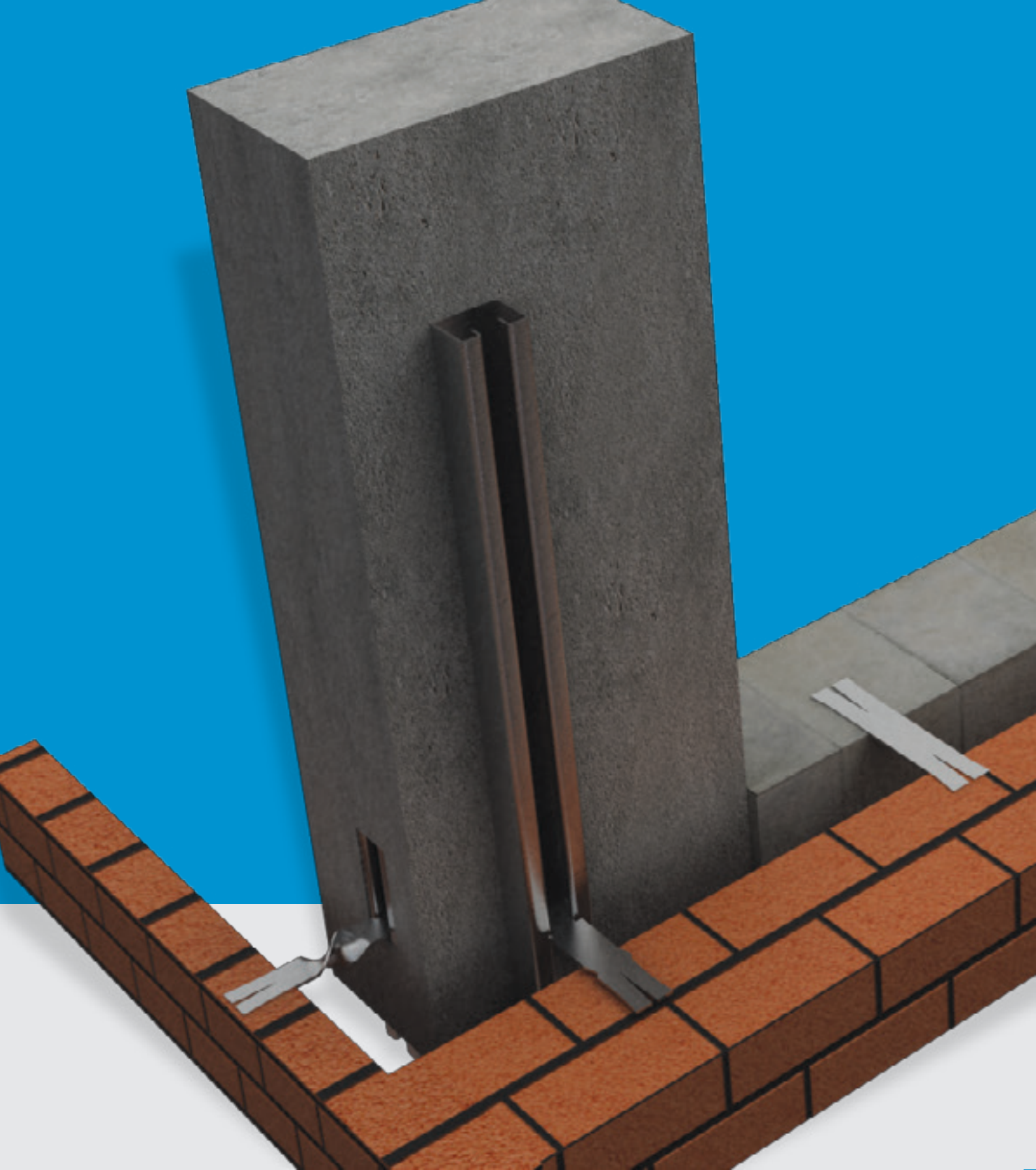
Rebar Positioners

RB Rebar Positioners are for positioning and stabilizing rebar installed into concrete block cores in reinforced masonry.

TWIN Rebar Positioners

TWIN Rebar Positioners are similar to the standard RB model but with double loops to hold 4 rebars.





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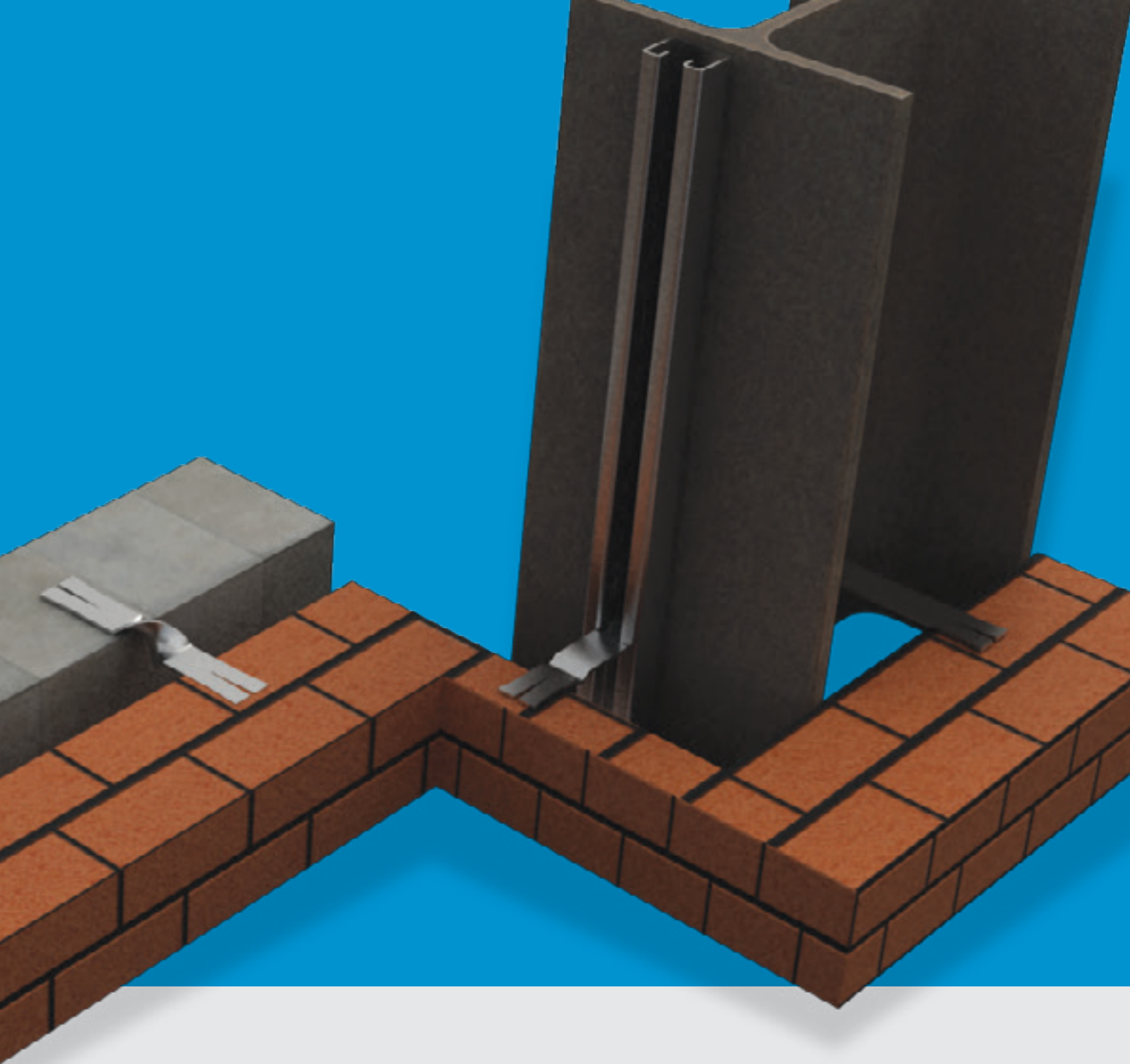
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