



# Xpa Wall Ties & Restraint Fixings

## Frame Cramps

### Applications:

Xpa Frame Cramps are designed to connect the masonry to new or existing vertical structures.

### Installation:

The 6mm hole (standard) or 6x18mm slot (optional) in the upstand section is provided for attaching the frame cramp to the vertical structure. The other end is embedded in the masonry. Frame cramps are installed using shot fired nails or screws with plastic plugs. Xpa recommends the following fixings:

- DN 27 shot fired nails with yellow cartridges
- Rawlplug Hammer-in fixing M6 x 40 or M6 x 60
- Rawlplug through bolt M6 x 60

### Standard Sizes:

- Length: 150mm & 200mm
- Width x Thickness: 25mm -30mm x 2mm
- Upstand: 30mm

Other sizes can be supplied to order as per the table below. Custom designs are available on request.

Length mm	Width mm	Thickness mm	Upstand mm
75	20 up to 50	1.5/2.0/2.5/3.0	30 up to 50
100	20 up to 50	1.5/2.0/2.5/3.0	30 up to 50
125	20 up to 50	1.5/2.0/2.5/3.0	30 up to 50
150	20 up to 50	1.5/2.0/2.5/3.0	30 up to 50
175	20 up to 50	1.5/2.0/2.5/3.0	30 up to 50
200	20 up to 50	1.5/2.0/2.5/3.0	30 up to 50
225	20 up to 50	1.5/2.0/2.5/3.0	30 up to 50
250	20 up to 50	1.5/2.0/2.5/3.0	30 up to 50

### Material & Finish:

Mild Steel: Electro-galvanized or hot dip galvanized.

Stainless Steel: Grade 304 (A2).

### Types of Frame Cramps:



F/P



SPB

## Movement Ties

### Applications:

Xpa Movement Ties are designed to restrain masonry against wind loads, allowing a horizontal expansion or contraction. Movement ties are used where masonry is connected to steel work and in long span masonry where movement joints are required.

### Installation:

Movement ties are placed over the brick or block work where movement is required. The de-bonding sleeve is installed with a gap of 10mm at the end to allow for expansion or contraction. The L- Shape SPB ties are installed using shot fired nails or screws with plastic plugs. Xpa recommends the following fixings:

- DN 27 shot fired nails with yellow cartridges.
- Rawlplug Hammer-in fixing M6 x 40 or M6 x 60.

### Standard Sizes:

- Length: 250mm
- Width x Thickness: 25mm x 2mm

Other sizes can be supplied to order as per the table below. Custom designs are available on request.

Length mm	Width mm	Thickness mm
75	25 up to 30	1.5/2.0/2.5
100	25 up to 30	1.5/2.0/2.5
125	25 up to 30	1.5/2.0/2.5
150	25 up to 30	1.5/2.0/2.5
175	25 up to 30	1.5/2.0/2.5
200	25 up to 30	1.5/2.0/2.5
225	25 up to 30	1.5/2.0/2.5
250	25 up to 30	1.5/2.0/2.5

### Material & Finish:

Mild Steel: Electro-galvanized or hot dip galvanized.

Stainless Steel: Grade 304 (A2).

### Types of Movement Ties:



SPB+Sleeve  
(with slot)



PPS+Sleeve



Sleeve  
(size to fit tie)

## Cavity Ties

### Applications:

**Xpa Cavity Ties** are designed to secure two masonry leaves of a cavity wall, allowing them to act as one unit.

### Installation:

**Xpa Cavity Ties** are embedded in the inner and outer leaves between masonry units. Where a drip is provided, it should point downwards to prevent the moisture from crossing between the wall leaves.

### Standard Sizes:

Strip Ties (CT1 & SPS):

- Length: 200mm
- Width x Thickness: 25mm x 2mm

Double Triangle Wire Ties:

- Length: 150/200/250/300mm
- Wire diameter: 3mm

Other sizes can be supplied to order as per the table below. Custom designs are available on request.

Length mm	Width mm	Thickness mm
75	25 up to 30	1.5/2.0/2.5
100	25 up to 30	1.5/2.0/2.5
125	25 up to 30	1.5/2.0/2.5
150	25 up to 30	1.5/2.0/2.5
175	25 up to 30	1.5/2.0/2.5
200	25 up to 30	1.5/2.0/2.5
225	25 up to 30	1.5/2.0/2.5
250	25 up to 30	1.5/2.0/2.5

### Material & Finish:

Mild Steel: Electro-galvanized or hot dip galvanized.

Stainless Steel: Grade 304 (A2).

### Types of Cavity Ties:



CT1



SPS



Double Triangle

### Spacing of Cavity Ties:

**Xpa Cavity Ties** are placed as shown in the table below depending on the leaf thickness and cavity width:

Leaf thick. mm	Cavity width mm	Spacing of Ties	Ties/m <sup>2</sup> No.
Less than 90	50-75	450 mm	5.0
90 or more	50-150	900 mm	2.5

### Recommended Length of Cavity Ties:

**Xpa Cavity Ties** are selected as shown in the table below depending on the cavity width:

Cavity, mm	Tie Length, mm
<50	150
50-75	200
76-100	225
101-125	250
126-150	275
150-175	300

### Embedment Length:

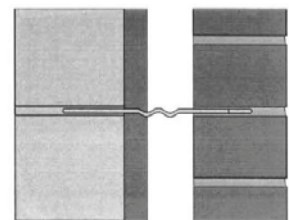
**Xpa** recommends a minimum embedment of 62mm in each leaf.

### Insulation Retaining Clip:

The insulation retaining clip can be used on the full range of **Xpa** wall ties. The positive "CLICK" action will allow a positive fit.



Clip



Cavity Wall with Clip & Tie

## Head Restraint Ties

### Applications:

**Xpa Head Restraint Ties** are designed to connect the free standing wall to the overhead structure. The sliding tie is fixed to the overhead structure to arrest side movements. Shrinkage or thermal movement of the wall can be absorbed by the vertical movement of the sliding tie.

### Installation:

**Xpa Head Restraint Ties** are provided with 6mm hole or 6mm x18mm slot for attachment to the overhead structure. The other end is held between the brick or block work courses. Overhead restraints ties are installed using galvanized or stainless steel expansion bolts depending on the type of restraint.

**Xpa** recommends the following fixings:

- Rawlplug Through bolt M8x95 or M8x115 (galvanized or stainless steel).

### Standard Sizes:

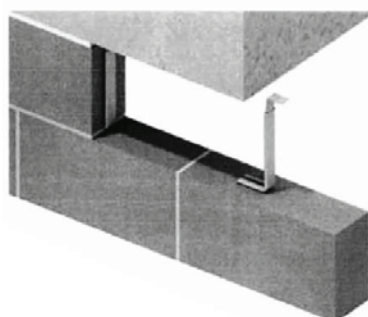
- Height x Width: 200 x 30mm
- Neck: 50mm
- Toe: 75mm
- Thickness: 3mm

Other sizes can be supplied to order.

### Material & Finish:

Mild Steel: Electro-galvanized or hot dip galvanized.  
Stainless Steel: Grade 304 (A2).

### Types of Head Restraint Ties:



Typical Head Restraint Detail

## Anchor Plates

### Applications:

**Xpa Anchor Plates** are available as a simple and economical head restraint system. Anchor plates are used to attach structural members to concrete elements. Anchor plates and angles can be used to frame openings in concrete walls or as shelf angles.

### Installation:

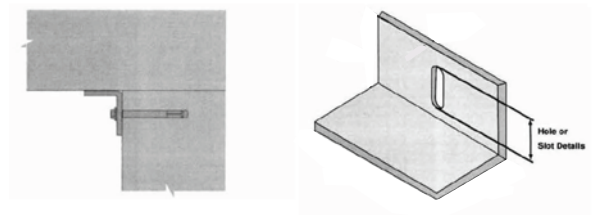
**Xpa Anchor Plates** are provided with holes or slots as required and installed using Rawlplug Through bolts to suit.

### Sizes:

Sizes and fixing details are as per request.

### Material & Finish:

Mild Steel: Electro-galvanized or hot dip galvanized.  
Stainless Steel: Grade 304 (A2).



Head Restraint Angle

### **Xpa Wall Ties & Restraint Fixings**

Xpa manufactures a full range of wall ties in galvanized and stainless steel, covering lateral, cavity and overhead restraint conditions. Items shown in this brochure indicate standard products. Xpa can offer a wide range of special sizes and configurations for specific requirements. The selection and position of wall ties depends on many factors including the type and height of a building, location, cavity size and material to be restrained.

Wall ties should be placed evenly over the area of the wall at every second or third course. Length of ties depends on wall thickness, cavity and joint dimensions. For spacing of cavity ties refer to the table under **Xpa Cavity Ties**.

Cavity ties should be built into each leaf with a minimum embedment of 50mm. However an embedment of 62mm is recommended to allow for site tolerances. Drip features on wall ties should be placed at the center of an open cavity, pointing downwards.

Bending of the installed wall ties should be avoided at all times as this affects the performance of the tie and weakens the embedment in the inner leaf.

#### **Storage:**

**Xpa Wall Ties & Restraint Fixings** should be stored above ground on palettes and protected from the elements with tarpaulin or polyethylene sheeting.

#### **Health & Safety**

There are no direct health and safety hazards associated with **Xpa Wall Ties & Restraint Fixings** under normal conditions. Use of protective gloves is recommended to avoid injury during handling and installation. Refer to the Safety Data Sheet for more details.

#### **Other Xpa products:**

- Dowel bars for concrete joints
- Masonry joint reinforcement – ladder and truss types
- Expanded metal products for plastering and blockwork
- Steel lintels
- Form Rib permanent formwork for concrete

Rev 01 – July 2018



All copyright, trademarks and unregistered design rights for the products detailed in this brochure are the property of Emirates Specialities Co. Product details may change without prior notice.

#### **Emirates Specialities Co. L.L.C.**

PO Box 6156, Sharjah,  
United Arab Emirates  
Tel: +971 6 542 0220  
Fax: +971 6 542 1211  
E-mail: sharjah@esco.ae