

Wall Ties and Restraint Fixings

Frame Cramps

Frame cramps are an ideal solution where a restraint is required between masonry and in-situ structures. They can be fixed to a range of materials including concrete, steelwork and masonry. Frame cramps referenced **_P_** have a plain shank, while those referenced **_D_** feature an integral drip for use across a cavity.

SDB

Ancon SDB Frame Cramps used as cavity wall ties exceed the requirements of a Type 2 tie to PD 6697 for cavities up to 300mm. They have a 7mm diameter hole to suit a range of fixings. Ancon M6 single expansion bolts are recommended for fixing to concrete and M6 set screws or SDTSS-38-5PT self-drilling screws for fixing to steelwork. Frame cramps can be fixed to masonry with suitable plugs and screws or resin anchors. Poor substrates will limit the capacity of fixings and site testing is advisable in such applications. All fixings should be used in conjunction with a DIN washer.

SDV

Ancon SDV Frame Cramps have an 8mm x 30mm vertical slot that allows vertical fixing position adjustment where required. Their load capacity is limited when fixed in the top of the slot therefore they are not recommended for applications where tension is a consideration.

Ancon HiT - Hammer-in Tie

The Ancon HiT fixes masonry to concrete, dense blocks ($\geq 7\text{N/mm}^2$), non-perforated brick or hard stone. It can reduce the variety of tie lengths required on site and speed the rate of construction.

The HiT is available in a standard length of 310mm that is bent on site with a special installation tool to suit all cavities up to 150mm. Unlike conventional frame cramps it does not require a mechanical fixing, but is hammered into a plug.

The Ancon HiT meets the requirements of PD 6697 as a Type 2 tie. A neoprene 'O' ring must be installed on the tie to prevent moisture crossing the cavity.



Ancon Hammer-in Tie (310mm)

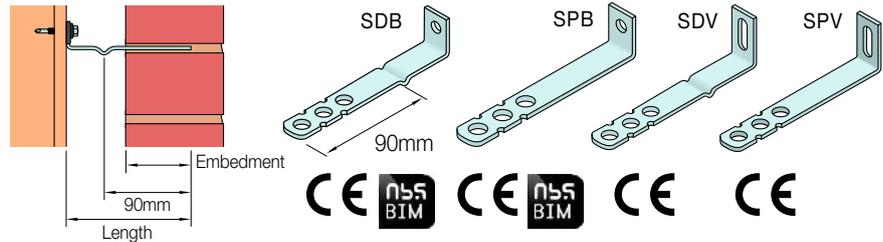


Recommended Tie Lengths and Fixing Centres for SDB Frame Cramps

Cavity Width (mm)	Length of Wall Tie (mm)	Recommended Spacing (mm)	
		Type 1	Type 2
20-44*	100	750 x 450	900 x 450
45-69	125	750 x 450	900 x 450
70-94	150	750 x 450	900 x 450
95-119	175	900 x 450	900 x 450
120-144	200	900 x 450	900 x 450
145-168	225	900 x 450	900 x 450
170-194	250	750 x 450	900 x 450
195-219	275	750 x 450	900 x 450
220-244	300	750 x 450	900 x 450

Note: *Due to limited length of tie a water drip would not be provided.

Centres shown achieve equivalent tie type performances to PD 6697: 2010 6.2.2.5 Table 12. See page 5 for details.



SDB Frame Cramp Fixed to Steel with Self-Drilling Screw

Isolation

Ancon isolation sleeves and pads are supplied blank for use with self-drilling screws to isolate stainless steel frame cramps from mild steel. Self-adhesive isolation pads are also available for **_B_** (20 x 30mm) and **_V_** (25 x 50mm) referenced frame cramps.



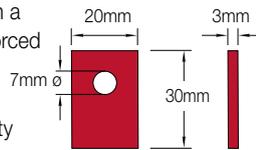
Isolation Sleeve



Adhesive Isolation Pad

Thermal Breaks

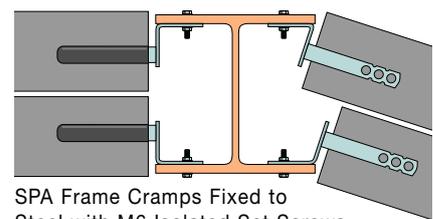
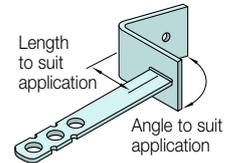
Ancon Frame Cramps can now be supplied with Thermal Breaks to be located between the upstand and the structural frame. They are manufactured from a durable fibre-reinforced thermoset plastic which has a thermal conductivity of just 0.3 W/mK.



Frame Cramp Thermal Break

SPA

Where masonry is in line with a column flange, frame cramps can be supplied with an offset angle section instead of an upstand. This angle allows the mechanical fixing to be suitably located. These ties are referenced SPA. They feature a 7mm hole as standard and can be used with a debonding sleeve if required at a movement joint. The thickness, size and shape of the angle section are designed to suit each application. Contact Ancon's Technical Department for more information.



SPA Frame Cramps Fixed to Steel with M6 Isolated Set Screws

Pre-Fixing Aids

The practice of pre-fixing frame cramps in advance of masonry can accelerate the speed of construction and provides an opportunity to check that wall restraints have been located correctly and are securely fixed.

Ancon Gauge Tape

(Pre-fix Patent 2 256 223)

Gauge Tape illustrates the standard 225mm brick/block gauge and the fixing position of frame cramps. It is applied directly to the structural frame (steel, concrete, timber or masonry) to facilitate the pre-fixing of frame cramps and to maintain accurate masonry coursing.

Ancon ISO-TW Washer

The ISO-TW washer enables Ancon slot-ended frame cramps to be vertically adjusted within the 30mm range of the slot to suit the exact location of mortar joints without affecting the integrity of the fixing. In addition, this washer prevents bi-metallic corrosion by separating the frame cramp from the structural frame and fixing screw.



Ancon ISO-TW and Gauge Tape