

WALL TIES TO BS 5628-1 FOR BRICK-TO-BLOCK CONSTRUCTION

Ancon ST1 Type 1 Tie (Masonry Heavy Duty)

The Ancon ST1 is suitable for cavities from 50mm to 150mm and can be used for all types of buildings of any height, anywhere in the British Isles. The section that spans the cavity has a series of holes to provide water drips. This allows the same tie to be used in insulated cavities as well as open cavities. The ST1 has a measured dynamic stiffness of $<113\text{MN/m}^3$ that meets the performance requirement of Approved Document E for use in external masonry walls. For internal separating walls of new-build attached dwellings see HRT4.

Staifix RT2 Type 2 Tie (Masonry General Purpose)

The Staifix RT2 is a general purpose tie. It is suitable for cavities from 50mm to 125mm and can be used for domestic houses and small commercial buildings up to 15 metres in height. In many cases, Staifix RT2 wall ties can be used in buildings greater than 15 metres if shown to be adequate by calculation. For further information please contact Ancon's Technical Services Team. The Staifix RT2 has BBA approval and meets the technical requirements of the NHBC. The RT2 has a measured dynamic stiffness of $<113\text{MN/m}^3$ that meets the performance requirement of Approved Document E for use in external masonry walls. For internal separating walls of new-build attached dwellings see HRT4.

Staifix HRT4 Type 4 Tie (Masonry Light Duty)

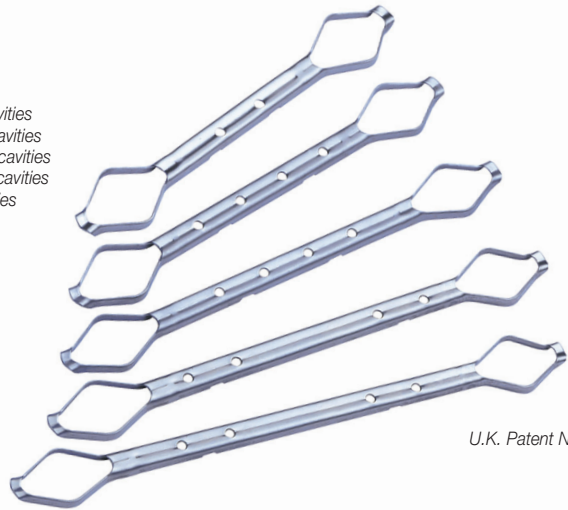
The Staifix HRT4 is suitable for cavities from 50mm to 125mm in external walls of domestic houses up to 10 metres in height. The Staifix HRT4 (200mm and 225mm) has BBA approval and all lengths meet the technical requirements of the NHBC.

Independent tests have proven the Staifix HRT4 has a measured dynamic stiffness of $<4.8\text{MN/m}^3$ at a cavity of 50-100mm and 125mm and is therefore suitable for internal separating (party) walls of new-build attached dwellings with these cavities. The HRT4 can be used with all approved robust details for cavity masonry separating walls, whether traditional or thin-joint blockwork. Use of these details eliminates the need for pre-completion sound testing.

U-value Calculations

For the accurate calculation of a wall's U-value it is important to use the correct information for the wall ties. Using the actual cross-sectional area of a tie, rather than a default value, can make a considerable difference to the calculated U-value. It is accepted that default values for stainless steel ties over-estimate the cross-sectional areas involved. The actual areas are shown in the adjacent table.

Ancon ST1
 200mm for 50-75mm cavities
 225mm for 76-100mm cavities
 250mm for 101-125mm cavities
 275mm for 126-150mm cavities
 300mm for 150mm cavities



U.K. Patent Nos. 2 255 358
 2 260 348
 2 260 349

Staifix
 Stainless steel wall ties

Staifix RT2
 200mm for 50-75mm cavities
 225mm for 76-100mm cavities
 250mm for 101-125mm cavities



Patent Nos. GB 2359831
 IE 83574

Staifix
 Stainless steel wall ties

Staifix HRT4
 200mm for 50-75mm cavities
 225mm for 76-100mm cavities
 250mm for 101-125mm cavities



Patent Nos. GB 2359831
 IE 83574

Cross-Sectional Areas of Wall Ties for U-value Calculations

Tie Reference	Tie Length (mm)	Cavity Width (mm)	BS 5628 Type	Area (mm ²)
HRT4	200	50-75	4	3.5
	225	76-100	4	4.2
	250	101-125	4	6.2
RT2	200	50-75	2	7.5
	225	76-100	2	7.5
	250	101-125	2	8.6
ST1	200	50-75	1	19.5
	225	76-100	1	19.5
	250	101-125	1	19.5
	275	126-150	1	23.4
	300	150	1	23.4

Note: BS EN ISO 6946 permits the corrections due to wall ties, air gaps etc to be omitted, if the corrections amount to less than 3% of the uncorrected U-value of the element. Ancon and Staifix wall ties are manufactured from stainless steel which has a thermal conductivity of 17W/mK.