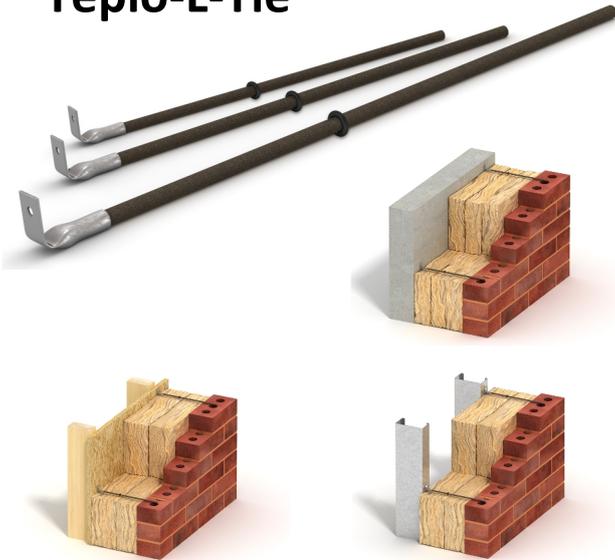


Teplo-L-Tie®



Low Thermal Conductivity Wall Ties for connecting in-situ masonry, concrete, steel or timber to masonry

The Teplo-L-Tie is ideal where a low thermal conductivity restraint fixing is required between a masonry outer leaf and timber, in-situ masonry, concrete or steel.

The body is manufactured from basalt fibre and features a stainless steel up stand at one end with a 7mm diameter-fixing hole to allow for a secondary fixing.

This tie is suitable for cavities from 100mm to 300mm, features a moveable o-ring drip to prevent water crossing the cavity and can be used with the black Teplo-Clip where insulation needs to be retained.

The Teplo-L-Tie has been independently tested and meets the technical requirements of the NHBC. A BBA certificate is applied for. Contact us for more information.

To aid with U-value calculations, the table below provides the Chi value of an individual Teplo-L-Tie. This Chi value can be multiplied by the number of ties used per m² to give the U-Value correction for the ties (ΔU). BS EN ISO 6946 permits the corrections due to wall ties, air gaps between insulation boards etc., to be omitted from U-value calculations if the corrections amount to less than 3% of the uncorrected U-value of the element.

The Teplo-L-Tie is suitable for fixing to a range of substrates with a variety of fixings; When fixing to timber, we recommends a 5mm x 30mm countersunk wood screw. Typically an M6 single expansion bolt for concrete, a plug and screw for masonry and either an M6 set screw or SDTSS-38-SPT self-drilling screw for steelwork.

The load performance will depend on the substrate and on-site pulls out tests are recommended to confirm the strength of uncertain or old substrates.

Product Code	Diameter (mm)	Length (mm)	Cavity widths (mm)	Chi-Value WK-1	Masonry, Concrete and Steel: Wall Tie Types in accordance with PD6697 2010	Timber: Wall Tie Type 6 in accordance with BS 5268-6-1 1996
TEPLO-L-5-165	5	165	83 - 100	0.000335	<p>Type 3: a general-purpose tie for domestic and small commercial buildings up to a maximum of 15m in height. Suitable for flat sites where the basic wind speed is up to 27m/s and altitude is not more than 150m above sea level.</p> <p>Type 4: a light duty wall tie suitable for box-form domestic dwellings with leaves of similar thickness and up to 10m in height. Suitable for flat sites in towns and cities where the basic wind speed does not exceed 27m/s and altitude is not more than 150m above sea level.</p> <p>Type 2: a general-purpose tie for domestic and small commercial buildings of up to 15m in height. Suitable for flat sites where the basic wind speed is up to 31m/s and altitude is not more than 150m above sea level.</p> <p>Density & Positioning of Ties (types 2, 3 and 4) The Teplo-L-Tie should be of the correct length to ensure that it is properly embedded in to the mortar joint in the masonry leaf. The tie should have a minimum embedment of 62.5mm in each leaf. For walls in which both leaves are 90mm or thicker, ties should be used at not less than 2.5 ties/m². At vertical edges of an opening, unreturned or unbounded edges, and vertical expansion joints, additional ties should be used every 300mm, located not more than 225mm from the edge. Decreasing wall tie centres can increase the tie performance e.g from Type 2 to Type 1 (heavy duty). Contact us for more information.</p>	<p>Type 6: Timber frame ties suitable for domestic houses and industrial / commercial developments of up to 4 storeys (up to a 15m building height). Suitable for flat sites in towns and cities where the basic wind speed does not exceed 25m/s and altitude is no more than 150m above sea level.</p> <p>Density & Positioning of Ties The Teplo-L-Tie should be of the correct length to ensure that it is properly embedded in to the mortar joint in the masonry leaf. The tie should have a minimum embedment of 62.5mm in each leaf. The tie should be used with a density of 4.4 ties/m² and with 3-4 ties/m at unbounded edges.</p>
TEPLO-L-5-190	5	190	108 - 125	0.000260		
TEPLO-L-5-215	5	215	133 - 150	0.000215		
TEPLO-L-5-240	5	240	158 - 175	0.000175		
TEPLO-L-5-265	5	265	183 - 200	0.000150		
TEPLO-L-7-165	7	165	83 - 100	0.000515		
TEPLO-L-7-190	7	190	108 - 125	0.000405		
TEPLO-L-7-215	7	215	133 - 150	0.000340		
TEPLO-L-7-240	7	240	158 - 175	0.000280		
TEPLO-L-7-265	7	265	183 - 200	0.000245		
TEPLO-L-7-290	7	290	208 - 225	0.000210		
TEPLO-L-7-315	7	315	233 - 250	0.000190		
TEPLO-L-7-340	7	340	258 - 275	0.000165		
TEPLO-L-7-365	7	365	283 - 300	0.000150		

Refer to PD 6697: 2010, BS 5268-6-1 1996 and BS EN 1991-1-4: 2005 for complete information.

Ash Court, Girton College, University of Cambridge



Ash Court is a new residential wing of Girton College, Cambridge University, which provides 50 student en-suite bedrooms, a gym and an indoor swimming pool. The new facilities also form a hub for conference guests outside of term time. The college set very ambitious environmental targets for a BREEAM 'Excellent' rating and the design drew on the pioneering Passivhaus approach.

The Teplo-L-Tie was used in a fast build programme which had a tight deadline to get the building finished before the intake of new students. To this end the inner concrete block wall was built first to allow the interior fit-out to start faster. The Teplo-L-Tie was then used to tie the high quality outer brick to the inner concrete block over a 300mm cavity fully filled with mineral wool insulation, giving a U-Value of 0.1 W/m²K.

Barbrook Passivhaus Retrofit, Devon



The Barbrook Passivhaus Retrofit is a project within Exmoor National Park. The aim of the project was to design a refurbishment solution to reduce carbon dioxide emissions from this social housing property type by 80%.

The wall construction was a key part of the Passivhaus strategy. A new timber frame was specifically designed to fit around the existing concrete "no fines" walls creating a 350mm cavity to accommodate the high level of insulation required.

The frame was fixed to the concrete walls using the Teplo-L-Tie. Chemical anchors secured the thermally low conductivity ties in to the existing inner concrete wall, with the stainless steel "L" end of the tie being fixed to the new outer timber frame with a standard wood screw.