The Wi System is the ultimate solution for blockwork construction. Safe, strong, seamless.
The Wi System™ from Wembley Innovation is a revolutionary approach to masonry construction.

The Wi System removes the need for traditional concrete or steel windposts and lintels and allows bricklayers to construct reinforced concrete beams and columns within hollow column and trough block units that resist lateral loads acting on infill masonry panels.

Using simple internal reinforcement within uniquely designed hollow blocks the Wi System maximises masonry wall strength without thickening the wall or adversely impacting on its appearance. Combining the strength and versatility of Wi Beams and Wi Columns the Wi System is the ideal solution for the flexible placement of multiple and complex door and service openings in blockwork panels.

The Wi System provides the adaptability for contractors to make late changes to construction without affecting the build programme and creates seamless walls which do not require any follow-on fire boarding. It provides a faster, safer and highly cost effective masonry construction solution that increases lateral load capacity and typically reduces costs by 20% compared with traditional windpost construction.

The Wi System significantly improves the architectural and aesthetic appearance of masonry walls. It offers architects the possibility of creating uninterrupted blockwork panels with flexible detailing options whilst retaining the performance characteristics of traditional masonry such as fire integrity, acoustic performance and air permeability. Compliant with BS 5628 and Eurocode 6 and fully tested and approved by Lucideon the Wi System is a real revolution in blockwork construction.

Wembley Innovation and the Wi System

- Wembley Innovation invented, patented, developed and brought the Wi System to market
- We provide full consultancy services for the Wi System and masonry design
- We sell the complete range of Wi System products
- We provide free technical support, CPD sessions, training and advice

CREATE  ●  CHALLENGE  ●  CONSTRUCT
Wi System
The advantages

- Cost savings in excess of 20% compared to traditional windpost construction
- Delivery within 48 hours
- Reduce overall programme on site
- On-site changes can be made without delay
- Improves the aesthetic appearance of walls
- Improves acoustic, fire-proofing & air permeability performance
- Site safety improved through reduced manual handling
- Reduction in the number of windposts originally required
- Up to 23% carbon reduction – can be used toward BREEAM evaluation
- Wi Columns, Wi Beams and Wi Trough Lintels are 4-hour fire-rated
What will I need?

Construction of masonry walls using the Wi System does not require any specialist equipment. The tools and equipment you will need are as follows:

- 20mm drill bit to fix rebars to slab & 12mm drill bit for M12 expansion anchors to head cleat
- SDS drill for concrete & magnetic drill for steel
- Adjustable spanner
- Laser level
- Resin & applicator gun
- Grinder with metal & concrete cutting discs
- Pincers & tie wire
- Silo or concrete mixer

SAFETY FIRST

Wembley Innovation always recommend that you wear appropriate PPE when handling Wi System components and cementitious materials during construction. Please call us for free advice.

Help and advice
0208 903 4527
Wi COLUMN
STEP-BY-STEP INSTALLATION

Wi Details 1-5, 10, 11, 15, 16, 18, 19, 20, 21, 23, 24 and 25 *(Refer to Appendix A)*

<table>
<thead>
<tr>
<th>STEP</th>
<th>PROCEDURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Set and bond out the line of the wall and mark the location of the Wi Columns on the ground as per the drawings; the Wi Column coursing will always follow the coursing of the main wall.</td>
</tr>
<tr>
<td>2</td>
<td>Drill two 20mm holes in the floor slab positioned 200mm apart and 75mm deep (unless otherwise specified). Centralise holes in the Wi Column as shown in Detail 2.</td>
</tr>
<tr>
<td>3</td>
<td>Using a laser level transfer the hole positions to the soffit, position the head bracket so the two spigots are over your marks and mark the bolt holes for the bracket.</td>
</tr>
<tr>
<td>4</td>
<td>Only two M12 bolts are required per head bracket, one each side, the additional two slots are alternatives should you encounter rebar when fixing to RC slabs.</td>
</tr>
<tr>
<td>5</td>
<td>Site measure the distance from the soffit at the top of the column to the slab at the base, add 40mm to this figure and this will be the length of the socket rebar required (75mm embedment less 35mm deflection at the head of the column); the bars come oversized so measure and cut the bar to suit, taking the excess off the end without the welded socket.</td>
</tr>
<tr>
<td>6</td>
<td>Blow and brush out the two holes at the base of the column and inject with resin until it starts to come out of the hole.</td>
</tr>
<tr>
<td>7</td>
<td>Push the column rebar into the hole with a twisting motion &amp; bend the bar slightly to guide the welded sockets over the spigots of the head bracket.</td>
</tr>
<tr>
<td>8</td>
<td>Cut an 18mm slot to one end of the column block as shown in Figure 1.</td>
</tr>
<tr>
<td>9</td>
<td>Using the open slot in the Wi column blocks, slip a block through the rebar and fill with Wi Mortar, placing extra Wi Mortar on top to bed the next column block (the Wi Mortar contains a self-levelling agent but <strong>ensure you trowel tamp as you go</strong>), rake out the joints to create a 15mm recess which can be pointed in the standard mortar later to blend the joints in with the rest of the blockwork.</td>
</tr>
<tr>
<td>10</td>
<td>When placing the top Wi Column block it is necessary to allow the specified deflection joint between the top of the block and the soffit, this will allow enough room to place the block and allow for filling with the Wi Mortar (typical gap 30mm unless specified otherwise).</td>
</tr>
<tr>
<td>11</td>
<td>Standard masonry ties (refer to project specification) placed at 450mm c/c unless otherwise specified, debonding sleeves required to masonry ties spanning across movement joints.</td>
</tr>
<tr>
<td>12</td>
<td>A vertical movement joint with soft fill and mastic as per the specification is normally required to one side of the Wi Column (Appendix A, Detail 2), refer to drawings for location. The specified deflection is always required to the head of the column.</td>
</tr>
<tr>
<td>13</td>
<td>The Wi Column can be built independently first or brought up with the rest of the blockwork; sequence has no effect on the permanent or temporary performance of the column. Refer to Standard Detail 1A for “day joint”.</td>
</tr>
</tbody>
</table>

*FIGURE 1*
Slots cut to ends of blocks, alternating on each course.
Wi BEAM
STEP-BY-STEP INSTALLATION

Wi Details 6-15, 17 and 22 *(Refer to Appendix A)*

<table>
<thead>
<tr>
<th>STEP</th>
<th>PROCEDURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Set out the line of the wall and commence laying blockwork up to one course below the designed location of the first Wi Beam (if Wi Beam at course 6, build blockwork up to and including course 4).</td>
</tr>
<tr>
<td>2</td>
<td>At this point the transfer rods are introduced typically at 900mm c/c but some designs may require 450mm c/c - refer to drawings.</td>
</tr>
<tr>
<td>3</td>
<td>Bed the long transfer rods in the preformed groove on the side of the Wi Slot Blocks with the rod projecting into the courses above and the foot resting on top of the course below (in this instance course 4), the groove will also act as a guide to ensure both the transfer rod and rebar of the Wi Beam are positioned correctly.</td>
</tr>
<tr>
<td>4</td>
<td>Fix end cleats to primary column measured 90mm from top of block course beneath U-block which identifies first hole position for cleat, use template to locate second hole. Check the positioning works with rebars before drilling. (Nuts should be pinch tightened only to allow vertical movement of the cleat.)</td>
</tr>
<tr>
<td>5</td>
<td>Now lay the U-block course bedded on standard mortar, sliding the special perforated U-blocks over the transfer rods when encountered.</td>
</tr>
<tr>
<td>6</td>
<td>Push the debonding sleeves over the sockets of the end cleats. Place the rebar into the end cleats and transfer rods. Where required ensure there is a minimum 500mm lap to the rebars and 3 no. wire ties per lap.</td>
</tr>
<tr>
<td>7</td>
<td>Place Corofil over the Wi Beam cleats (see Appendix A, Detail 8) and fill the trough with Wi Mortar to the top. Ensure you trowel tamp as you go. Note that jointing in this instance to the blockwork is with standard mortar.</td>
</tr>
<tr>
<td>8</td>
<td>Wall panel can now progress as traditional blockwork.</td>
</tr>
</tbody>
</table>

**NOTE**

Where a Wi Beam is used over a door or service opening, Wi U-blocks without perforations are required. Short transfer rods should be placed in the trough to receive the rebar in these locations.
Wi Detail 14 *(Refer to Appendix A)*

<table>
<thead>
<tr>
<th>STEP</th>
<th>PROCEDURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Build the surrounding blockwork to the lintel bearing course.</td>
</tr>
<tr>
<td>2</td>
<td>Rest the Wi Temporary Support Angles on the blockwork reveals allowing 150mm minimum bearing at each end. (Tip: Place a bit of DPM/DPC at the end of the angles to make removal easier!). Refer to section on Temporary Works on page 14.</td>
</tr>
<tr>
<td>3</td>
<td>Lay the Wi Trough Lintel Blocks on top of the angles (coursing to match the surrounding blockwork) and point with standard mortar.</td>
</tr>
<tr>
<td>4</td>
<td>Place Wi Short Transfer Rods in the trough at 900mm centres and a minimum of 150mm past both reveals, insert H16 rebar into the transfer rod grooves.</td>
</tr>
<tr>
<td>5</td>
<td>Mix up a batch of Wi Mortar as per the guidance and fill the trough units to the top of the block. Ensure you trowel tamp as you go.</td>
</tr>
<tr>
<td>6</td>
<td>Check the short transfer rods will fall within the perp joints of the blockwork above.</td>
</tr>
<tr>
<td>7</td>
<td>After a curing period of 5 days remove the temporary angles and point in the missing bed mortar.</td>
</tr>
<tr>
<td>8</td>
<td>If the Wi Trough has an opening above, the projecting transfer rod(s) can be cut off once the Wi Mortar has cured (5 days).</td>
</tr>
<tr>
<td>9</td>
<td>For reduced height lintels (&gt;215mm) please consult Wembley Innovation.</td>
</tr>
</tbody>
</table>

**Wi TROUGH SECTIONAL ELEVATION**

---

C40 Wi Concrete Mortar Infill

Wi Lintel

H16 Rebars

Short Transfer Rods at 600 max from ends and 900 c/c max intervals along trough

Wi Trough Lintel Typical Bearing of 440 both ends (min 150)
Wi Details 10, 11 and 15 (Refer to Appendix A)

<table>
<thead>
<tr>
<th>STEP</th>
<th>PROCEDURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Wi Columns &amp; Wi Beams can be connected on site to form ‘T’, ‘Cruciform’ &amp; ‘Rugby Post’ structures to suit different designs.</td>
</tr>
<tr>
<td>2</td>
<td>Refer to Details 10, 11 and 15 for block and rebar arrangements</td>
</tr>
<tr>
<td>3</td>
<td>When forming ‘T’ or ‘Rugby Post’ details, ensure the Wi Mortar is allowed to flow between the beam and column freely to create one structure.</td>
</tr>
<tr>
<td>4</td>
<td>When forming a cruciform connection (Appendix A, Detail 10) the central block will have to be cut from a Wi U-block as shown in Figure 2 to ensure a flow of Wi Mortar is maintained to all elements, this block will be fragile so take care in both handling and filling.</td>
</tr>
</tbody>
</table>

**FIGURE 1**
Cruciform detail

**SECTIONAL PLAN**

**FIGURE 2**
Adapted Wi Beam U-block (Isometric view)
Mixing guidance

When preparing Wi Mortar on site the following guidance should be followed to ensure the design strength of 40N/mm² is achieved.

Table 1 indicates the range of acceptable Wi Mortar slumps which can be used when forming Wi Columns, Wi Beams and Wi Trough Lintels.

On site, a “column mix” would be toward the drier end of this range (normally 25-75mm slump) and a “beam mix” would be the wetter end of the scale (normally 75-130mm).

For machine mixing on site, a good starting point is a 6:1 ratio of Wi Mortar to water (50mm slump mix) which can be added to achieve the desired slump and workability. The 3.1 Litres/25Kg would be seen as a maximum water content; our tests show that strengths of 45-55N/mm² are normally achieved with this mix.

To summarise, if a concrete slump test is conducted on the Wi Mortar then as long as the slump is between 25mm-130mm then the water to cement ratio would be acceptable and the Wi Mortar should achieve it’s design strength.

**NOTE**
As a basic guide Wi Mortar should be mixed to the same consistency as standard bricklaying mortar.

<table>
<thead>
<tr>
<th>SLUMP</th>
<th>WATER CONTENT LITRES/25KG</th>
<th>WATER ADDED %</th>
<th>W/C RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>25mm</td>
<td>2.2</td>
<td>8</td>
<td>0.32</td>
</tr>
<tr>
<td>40mm</td>
<td>2.4</td>
<td>8.8%</td>
<td>0.35</td>
</tr>
<tr>
<td>50mm</td>
<td>2.5</td>
<td>9%</td>
<td>0.36</td>
</tr>
<tr>
<td>75mm</td>
<td>2.6</td>
<td>9.5%</td>
<td>0.38</td>
</tr>
<tr>
<td>100mm</td>
<td>2.8</td>
<td>10%</td>
<td>0.41</td>
</tr>
<tr>
<td>130mm</td>
<td>3.1</td>
<td>11%</td>
<td>0.45</td>
</tr>
</tbody>
</table>

**TABLE 1**
ACCEPTABLE SLUMP RANGE FOR WI MORTAR
Slump Test procedure and guidance

The purpose of a slump test is to measure the consistency of the Wi Mortar, which in turn confirms that the correct water content has been achieved to reach the designed strength.

The Wi Mortar is compacted into a mould in the shape of a cone and when the cone is withdrawn upwards, the distance the Wi Mortar has slumped indicates its consistency.

**The Mould (Slump Cone)**
So that it won’t be readily attacked by cement paste the slump cone must be made of metal with a minimum thickness of 1.5mm. The interior of the mould should be smooth and free from projections and dents. The mould shall be in the form of a hollow cone having the following internal dimensions:
- Diameter of base: (200 ± 2) mm
- Diameter of top: (100 ± 2) mm
- Height: (300 ± 2) mm

<table>
<thead>
<tr>
<th>STEP</th>
<th>PROCEDURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dampen the mould and base plate and place the mould on a level horizontal surface.</td>
</tr>
<tr>
<td>2</td>
<td>During filling hold the mould firmly against the surface by standing on the two foot holds (Fig 1).</td>
</tr>
<tr>
<td>3</td>
<td>Fill the mould in three layers, each approximately 1/3 of the height of the mould when compacted. Compact each layer with 25 strokes of the tamping rod and uniformly distribute the strokes over the cross-section of each layer. (Fig 1-3)</td>
</tr>
<tr>
<td>4</td>
<td>With the second and top layer ensure the strokes just penetrate into the immediately underlying layer. After the top layer has been compacted, strike off the surface of the Wi Mortar in a sawing motion and remove spilled concrete from the surface around the mould. (Fig. 4)</td>
</tr>
<tr>
<td>5</td>
<td>Remove the mould from the concrete by raising it carefully in a vertical direction and perform the operation of raising the mould in 2-5 seconds in a steady upward motion, with no lateral or torsional movement (Fig. 5). Carry out the entire operation from the start of the filling to the removal of the mould without interruption and complete it within 150 seconds.</td>
</tr>
</tbody>
</table>

**TEST RESULTS**
Immediately after removal of the mould, measure and record the slump ‘h’ by determining the difference between the height of the mould and that of the highest point of the slumped test specimen as shown in Figure 7.

The test is only valid if it yields a true slump, this being a slump in which the Wi Mortar remains substantially intact and symmetrical as shown in Figure 8(a).

If the specimen shears, as shown in Figure 8(b), another sample shall be taken and the procedure repeated. Report the true slump ‘h’, as shown in Figure 1, to the nearest 10 mm.
# Cube Making Guide

## Moulds & Sampling

<table>
<thead>
<tr>
<th>STEP</th>
<th>PROCEDURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The moulds should be steel or cast iron, certified and comply with BS EN 12390-1. They are usually in two halves that bolt together and fasten by clamps to a metal base plate. If the internal angles are not 90 degrees, the test result will be wrong.</td>
</tr>
<tr>
<td>2</td>
<td>Make sure there is no hardened mortar left inside or on the faces of the flanges where the two halves meet and coat the faces and flanges thinly with mould oil to prevent rust, make cube removal easier and prevent grout leakage during the filing.</td>
</tr>
<tr>
<td>3</td>
<td>When a sample has been taken it must then be thoroughly re-mixed by hand on a non-absorbent mixing tray to ensure it will be uniform. From making a batch of Wi Mortar the sampling, remixing and cube making should be carried out without delay.</td>
</tr>
<tr>
<td>4</td>
<td>If testing Wi Mortar from a silo, do not take the the sample from the beginning or end of a draw but around 1/3 – 2/3 way through to give a representative sample.</td>
</tr>
</tbody>
</table>

## Filling & Compaction

<table>
<thead>
<tr>
<th>STEP</th>
<th>PROCEDURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The re-mix sample is scooped into the mould and the concrete compacted. Proper compaction is absolutely essential to ensure that no air is trapped. Each 1% of entrapped air results in 5-6% loss of strength, so if the concrete cube consists of 4% air there will be at least a 20% reduction in strength.</td>
</tr>
<tr>
<td>2</td>
<td>Moulds of 150mm should be filled in three layers &amp; 100mm moulds in two equal layers, each compacted layer being about 50mm deep. Each layer is compacted using a standard tamping bar before the next layer is added. The number of tamps needed will depend on the consistancy of the Wi Mortar but at least 35 per layer.</td>
</tr>
<tr>
<td>3</td>
<td>When the final layer has been compacted, trowel its surface level with the top of the mould using a scissoring action with steel floats. A reference on the cube will be needed so the laboratory report can be matched to the right cube.</td>
</tr>
</tbody>
</table>

## Initial Curing

<table>
<thead>
<tr>
<th>STEP</th>
<th>PROCEDURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Correct curing of the cubes is vital if they are to give reliable results. Immediately after the moulds have been filled they must be stored away from vibration and disturbance.</td>
</tr>
<tr>
<td>2</td>
<td>The ambient temperature and moisture level needs to be kept uniform which can be achieved by storing indoors, covering the surface of the Wi Mortar with damp sacking or similar material. Top this off with a waterproof membrane such as polythene to prevent drying out. Cubes that are for testing in less than seven days should be stored like this for about 24 hours with the temperature kept at between 18 and 22°C before stripping. Cubes for testing at seven days or more must be stored in damp conditions for 16-18 hours at a temperature between 15 and 25°C before stripping.</td>
</tr>
</tbody>
</table>

## Cube Stripping

<table>
<thead>
<tr>
<th>STEP</th>
<th>PROCEDURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The correct method for removing a test cube from its mould is first to slacken the nuts on the base plate and withdraw the locking lugs. Slacken the nuts on the side of the mould then tap the mould gently to free the cube. The concrete will still be weak so take care not to damage the cube during this process. Corners knocked off or slight cracks in the concrete will weaken the cube.</td>
</tr>
<tr>
<td>2</td>
<td>After removing a cube, mark it clearly with a reference number in waterproof crayon. Do this even if there is already a reference scratched in the concrete.</td>
</tr>
</tbody>
</table>

## Curing After Stripping

<table>
<thead>
<tr>
<th>STEP</th>
<th>PROCEDURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The cubes need to be water cured and should be placed straight into a tank of water which must be kept between 18-22°C. A thermostatically controlled heating element is essential to maintain the temperature. Large tanks should have a circulation pump.</td>
</tr>
</tbody>
</table>
Cube making - Summary points to remember

**MAKING CUBES**
- Fill 150mm moulds in 3 equal layers or 2 equal layers for 100mm moulds
- Compact each layer fully (at least 35 tamps)
- Level off surface with care

**INITIAL STORAGE**
- Cover moulds to minimise evaporation
- Store between 18-22°C ≤ 7days test for 24 hours
- Store between 15-25°C >7days test for 16-18 hours

**STORAGE OF CUBES**
- After stripping the mould mark with a reference code
- Place in water at 18-22°C

**TRANSPORTATION**
- Cubes must be kept damp
- Cubes must be protected from damage

**ANY QUESTIONS**
Please call us for free help and advice on any of the details covered in this guide.

Help and advice
**0208 903 4527**
This section covers the formation of Wi Trough Lintels and Wi Beams spanning openings. These standard temporary works examples can be replicated onsite with the use of metal ‘L’ angles which are available from Wembley Innovation and can be cut to suit standard door widths and openings.

Please refer to Figures 2-5 on the next page.

<table>
<thead>
<tr>
<th>STEP</th>
<th>PROCEDURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR ALL OPENINGS</td>
<td>1 Build the wall to lintel bearing course.</td>
</tr>
<tr>
<td></td>
<td>2 Lay 2 no. 80x80x8mm angles, both sides of the wall across the opening with 150mm (min) bearing to either end (Refer to Figure 1). Please refer to Wembley Innovation for further details.</td>
</tr>
<tr>
<td></td>
<td>3 Place a small strip of DPM/DPC underneath the angles at the four contact points. This makes removal of the steel angle simpler after the mandatory five day curing period.</td>
</tr>
<tr>
<td>OPENINGS &lt; 2500MM</td>
<td>4A If the opening is less than 2,500mm wide then a maximum of 3 courses (675mm) can be built up on the angles first (if unpropped). The Wi Trough &amp; blockwork should then be allowed to cure for a minimum of 24 hours, before the remaining blockwork can be built above.</td>
</tr>
<tr>
<td>OPENINGS &gt; 2500MM</td>
<td>4B If the opening is more than 2,500mm wide then the angles should be propped with maximum spacing of Acrow prop or scaffold tubing and screw jacks at 1.5m spacing and then the blockwork can be built above without restriction.</td>
</tr>
<tr>
<td>STRIKING</td>
<td>5 The angles can be removed after a minimum of 5 days curing of the Wi Trough Lintel.</td>
</tr>
</tbody>
</table>
TEMPORARY SUPPORT WITH 80X80X8mm ANGLES

OPENINGS <2500mm

FIGURE 2

2 NO. 80x80x8 ANGLES

Wi TROUGH LINTEL

OPENING <2500

ELEVATION
[No propping needed]

OPENINGS >2500mm

FIGURE 4

2 NO. 80x80x8 ANGLES

ACROW PROP OR SCAFFOLD TUBING AND SCREW JACKS @ 1.5M CENTRES

OPENING >2500

ELEVATION
(Propping needed)

FIGURE 3

Remaining courses built after Wi Trough has cured for min. 24 hours

3 courses max. can be built before allowing to cure for min. 24 hours

FIGURE 5

No restriction to no. of courses that can be built above (subject to any permanent design limits)
Wi COLUMN & Wi BEAM CONSTRUCTION

**Wi COLUMN & Wi BEAM**

**FIXINGS, CORING AND DRILLING GUIDANCE**

**Wi COLUMN & Wi BEAM CONSTRUCTION**

**Wi COLUMN**
- H16 BARS DRILLED & RESIN BONDED INTO SLAB
- SHORT TRANSFER RODS AT 900 c/c MAX
- MOVEMENT JOINT WITH SOFT FILL & MASTIC TO SPECIFICATION

**H16 Wi COLUMN REBARS**
- END OF BLOCK CUT TO ALLOW THROUGH-FLOW OF Wi MORTAR BETWEEN Wi COLUMN AND Wi BEAM

**C40 Wi CONCRETE MORTAR INFILL**

**Wi TROUGH LINTEL**
- H16 Wi COLUMN REBARS
- END OF BLOCK CUT TO ALLOW THROUGH-FLOW OF Wi MORTAR BETWEEN Wi COLUMN AND Wi BEAM

** SECTIONAL ELEVATION**

**Wi COLUMN & Wi BEAM: GUIDANCE FOR HOLES & FIXINGS**

**NO DRILLING CHASING OR CORING ZONES**

Holes and drilling can be allowed with caution, as course will contain Transfer Rods.

(Apart from nominal fixings up to M12 or through-holes up to 12mm diameter)

Fix these warning stickers on Wi Columns and Wi Troughs/Wi Beams.
(Stickers available from Wembley Innovation)
Wi COLUMN & Wi BEAM
FIXINGS, CORING AND DRILLING GUIDANCE

Wi TROUGH CONSTRUCTION

- C40 Wi CONCRETE MORTAR INFILL
- H16 REBARS
- Wi TROUGH Lintel
- SHORT TRANSFER RODS AT 600mm MAX. FROM ENDS AND 900 C/C MAX. INTERVALS ALONG TROUGH

Wi TROUGH Lintel
TYPICAL BEARING OF 440 BOTH ENDS (MIN. 150)

REMEMBER
Wi Columns and Wi Trough Lintels have 2 no. 16mm rebars and Wi Concrete fill.
Wi Trough Lintels have transfer rods extending into the course above. Wi Beams have transfer rods extending above and below.

Wi COLUMN & Wi BEAM: GUIDANCE FOR HOLES & FIXINGS

- NO DRILLING CHASING OR CORING ZONES
  (Apart from nominal fixings up to M12 or through-holes up to 12mm diameter)

Fix these warning stickers on Wi Columns and Wi Troughs/ Wi Beams.
(Stickers available from Wembley Innovation)

Holes and drilling can be allowed with caution, as course will contain Transfer Rods

450mm

450mm

225

225

450mm

450mm
Suitable fixings:
- Plugs and screws
- Resin anchors - up to M12, 100mm long
- Expander bolts - up to M12, 100mm long
- Fixings should be proof tested prior to installation where structural

Refer to Wembley Innovation for recommended fixings from Hilti & fischer test reports
All post-cut holes should be reviewed and confirmed by a structural engineer.
APPENDIX A
Standard Details
Wi SYSTEM DETAILS
INDEX

Wi COLUMN COMPONENTS
Wi BEAM COMPONENTS
Wi TROUGH LINTEL COMPONENTS
Wi SYSTEM PRINCIPAL DETAILS 1 - 25
# Wi COLUMN COMPONENTS

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<th>Head Fixing Bracket</th>
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<th>Socket Ended 16mm Rebar (Single Continuous Length in Column)</th>
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<thead>
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<th>225mm Masonry Tie with or without De-Bonding Sleeve</th>
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<tr>
<td><img src="image4.png" alt="Diagram" /></td>
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**C40 Wi Concrete Mortar Available in Silos, 1 Ton Bags and 25kg Bags from CPI (Refer to User Manual for Mixing Guidance)**

<table>
<thead>
<tr>
<th>Wi Column Block</th>
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$t$: 100mm, 140mm, 190mm, 215mm
## Wi BEAM COMPONENTS

<table>
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<tr>
<th>Wi BEAM CLEAT C/W DEBONDING SLEEVES</th>
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<td><img src="image1.png" alt="Diagram" /></td>
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<table>
<thead>
<tr>
<th>TRANSFER ROD - LONG</th>
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<td><img src="image2.png" alt="Diagram" /></td>
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<table>
<thead>
<tr>
<th>16mm Diameter REBAR (MINIMUM LAP LENGTH IN BEAMS IS 500mm)</th>
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</thead>
<tbody>
<tr>
<td><img src="image3.png" alt="Diagram" /></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>C40 WI CONCRETE MORTAR AVAILABLE IN SILOS, 1 TON BAGS AND 25kg BAGS FROM CPI (REFER TO USER MANUAL FOR MIXING GUIDANCE)</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image4.png" alt="Diagram" /></td>
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<table>
<thead>
<tr>
<th>WI BEAM U-BLOCK WITH KNOCK-OUT RECESS FOR TRANSFER ROD HOLE</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image5.png" alt="Diagram" /></td>
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</tbody>
</table>

- t=100mm, 140mm, 190mm, 215mm
## Wi TROUGH LINTEL COMPONENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>TRANSFER ROD - SHORT</td>
<td>![Transfer Rod Drawing]</td>
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<tr>
<td>16mm Diameter REBAR</td>
<td>![16mm Diameter Rebar Drawing]</td>
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<tr>
<td>C40 Wi Concrete Mortar</td>
<td>Available in silos, 1 ton bags and 25kg bags from CPI (refer to user manual for mixing guidance)</td>
</tr>
<tr>
<td>Wi TROUGH BLOCK</td>
<td>![Wi Trough Block Drawing]</td>
</tr>
</tbody>
</table>

**Width Dimensions:**

- Wi TROUGH BLOCK: 100mm, 140mm, 190mm, 215mm
**M12 Expansion Anchors**

- Continuous H16 reinforcing bar extends full height of column.

**Base Fixing**

- Head cleat
- Head deflection joint filled with mastic or joint filler to specification.

**Critical Gap Dimension = 35 or in compliance with project specification head deflection requirements.**

- Critical dimension = 35 or in compliance with project specification head deflection requirements.

**Details**

- Top of Wi column
- Wi mortar infill
- H16 bars drilled and resin bonded into slab

**Revision/Issue Details**

- General Revision 01
- Date: 22/02/17
1. Wi MORTAR LEFT AT MID-DEPTH OF LAST Wi COLUMN BLOCK (100mm FROM THE TOP OF THE BLOCK).
2. TOP SURFACE TO BE KEYED OR TROWEL ROUGHENED.
3. IF NOT KEYED WHEN MORTAR IS FRESH, SURFACE-DRILL TO CREATE A KEY.
4. WHEN CONTINUING NEXT LIFT, THE KEYED SURFACE SHOULD BE DAMPENED WITH CLEAN WATER.
MASONRY TIES WITH DE-BONDING SLEEVE @ 450 VERTICAL c/c UNLESS OTHERWISE SPECIFIED

NOTE: BLOCK CUT AT END TO ALLOW SIDE INSERTION ACROSS REBAR

MORTAR JOINT

C40 WI CONCRETE MORTAR INFILL

440 WIDE WI COLUMN

120

200

120

MORTAR JOINT

H16 REBARS

MOVEMENT JOINT WITH SOFT FILL & MASTIC TO SPECIFICATION

SECTIONAL PLAN

440 WIDE WI COLUMN

PRINCIPAL WI SYSTEM DETAILS

DETAIL 2

WI COLUMN WITH BONDED & SLEEVED TIES

REV. 01

DATE 20/02/17
NOTE: BLOCK CUT AT END TO ALLOW SIDE INSERTION ACROSS REBAR

MASONRY TIES @ 450 c/c UNLESS OTHERWISE SPECIFIED

C40 Wi CONCRETE MORTAR INFILL

MORTAR JOINT

SECTIONAL PLAN

440 WIDE Wi COLUMN

120 200 120

H16 REBARS

MORTAR JOINT

MASONRY TIES @ 450 c/c UNLESS OTHERWISE SPECIFIED
MASONRY TIES @ 450 c/c UNLESS OTHERWISE SPECIFIED

NOTE: BLOCK CUT AT END TO ALLOW SIDE INSERTION ACROSS REBAR

H16 REBARS
C40 Wi CONCRETE MORTAR INFILL

MORTAR JOINT

DETAIL 4A - WALL JUNCTION WITH BONDED TIE - SECTIONAL PLAN

MOVEMENT JOINT WITH SOFT FILL & MASTIC TO SPECIFICATION

NOTE: BLOCK CUT AT END TO ALLOW SIDE INSERTION ACROSS REBAR

MASONRY TIES WITH DE-BONDING SLEEVE @ 450 VERTICAL c/c UNLESS OTHERWISE SPECIFIED

H16 REBARS
C40 Wi CONCRETE MORTAR INFILL

DETAIL 4B - WALL JUNCTION WITH DEBONDED TIE - SECTIONAL PLAN
PLAN COURSE 1
PLAN COURSE 2
PLAN COURSE 3

SINGLE SIDED

PLAN COURSE 1
PLAN COURSE 2
PLAN COURSE 3

SECTIONAL PLANS

C40 Wi CONCRETE MORTAR INFILL
2No. CONTINUOUS H16 REINFORCING BARS EXTEND FULL HEIGHT OF COLUMN
H16 BARS DRILLED & RESIN BONDED IN TO SLAB

DOUBLE SIDED

SECTIONAL ELEVATIONS

C40 Wi CONCRETE MORTAR INFILL
2No. CONTINUOUS H16 REINFORCING BARS EXTEND FULL HEIGHT OF COLUMN
H16 BARS DRILLED & RESIN BONDED IN TO SLAB

SINGLE SIDED
TRANSFER RODS LOCATED 680 MAX FROM WI BEAM ENDS AND AT 900 INTERVALS FOR WI BEAM LENGTH

USE WI BEAM BLOCK WITH PERFORATION FOR TRANSFER RODS

C40 WI CONCRETE MORTAR INFILL

H16 REBARS

WI BEAM (3 COURSES OVERALL HEIGHT)

TRANSFER ROD

98 66 51

SECTION A-A

SECTIONAL ELEVATION

WI BEAM DETAIL

PRINCIPAL WI SYSTEM DETAILS

DETAIL 6
MINIMUM 890 RETURN OF Wi BEAM WITHIN ADJOINING WALL (WHERE NO END FIXING POSSIBLE).

Wi BEAM FIXED TO STRUCTURE / COLUMN OTHER END

OUTLINE OF REBAR

USE Wi BEAM BLOCK WITH PERFORATION FOR TRANSFER RODS

TRANSFER RODS LOCATED 680 MAX FROM Wi BEAM ENDS AND AT 900 INTERVALS FOR Wi BEAM LENGTH

H16 REBARS

C40 Wi CONCRETE MORTAR INFILL

TRANSFER ROD LOCATED 600 MAX FROM Wi BEAM END

SECTIONAL PLAN

ELEVATION A-A
Wi END CLEAT FIXED TO CONCRETE STRUCTURES WITH M12 EXPANSION BOLTS

DE-BONDING SLEEVE OVER BAR AND CLEAT

MOVEMENT JOINT WITH SOFT FILL & MASTIC TO SPECIFICATION

C40 Wi CONCRETE MORTAR INFILL

H16 REBARS

COROFILL

H16 REBAR

SECTIONAL PLAN

SECTIONAL ELEVATION

C40 Wi CONCRETE MORTAR INFILL

H16 REBARS

COROFILL

Wi BEAM FIXED TO CONCRETE STRUCTURE

DESCRIPTION OF DETAIL

1. Wi END CLEAT FIXED TO CONCRETE STRUCTURES WITH M12 EXPANSION BOLTS.

2. DE-BONDING SLEEVE OVER BAR AND CLEAT.

3. MOVEMENT JOINT WITH SOFT FILL & MASTIC TO SPECIFICATION.

4. C40 Wi CONCRETE MORTAR INFILL.

5. H16 REBARS.

6. COROFILL.
Wi End Cleat Fixed to Steel Column with 2No. M12 Gr. 8.8 Bolts

DE-Bonding Sleeve Over Bar and Cleat

Movement Joint with Soft Fill & Mastic to Specification

Steel Column

Corofill

C40 Wi Concrete Mortar Infill

H16 Rebars

Sectional Plan

Sectional Elevation

Corofill

Rev/Issue No. Date
01 General Revision 22/02/17

Detail 9
Wi Beam Fixed to Steel Column
Wi COLUMN AND Wi BEAM REBARS CENTRALISED IN BLOCK

TRANSFER ROD

H16 Wi BEAM REBAR

C40 Wi CONCRETE MORTAR INFILL TO Wi BEAM & Wi COLUMN

ADAPTED Wi BEAM U-BLOCK

ENDS TO BASE OF U-BLOCK CUT AND CENTRAL RECESS KNOCKED-OUT TO ALLOW THROUGH-FLOW OF Wi MORTAR BETWEEN Wi COLUMN AND Wi BEAM

TIE Wi BEAM AND Wi COLUMN REBARS WITH TYING WIRE

TRANSFER ROD

Wi BEAM

H16 Wi BEAM REBAR

Wi COLUMN

ADAPTED Wi BEAM U-BLOCK

H16 Wi COLUMN REBAR

SECTIONAL PLAN

SECTIONAL ELEVATION

ADAPTED Wi BEAM U-BLOCK PLAN VIEW

ADAPTED Wi BEAM U-BLOCK ISOMETRIC VIEW

WEMBLEY INNOVATION™

PRINCIPAL Wi SYSTEM DETAILS

DETAIL 10

Wi COLUMN - Wi BEAM DOUBLE CONNECTION
SECTION A-A

H16 Wi BEAM REBAR

WI COLUMN AND WI BEAM REBARS CENTRALISED IN BLOCK

TRANSFER ROD

40mm CONCRETE COVER ABOVE WI COLUMN REBARS

C40 WI CONCRETE MORTAR INFILL TO WI BEAM & WI COLUMN

ENDS TO BASE OF U-BLOCK CUT AND CENTRAL RECESS KNOCKED-OUT TO ALLOW THROUGH-FLOW OF WI MORTAR BETWEEN WI COLUMN AND WI BEAM

ADAPTED WI BEAM U-BLOCK PLAN VIEW

ADAPTED WI BEAM U-BLOCK ISOMETRIC VIEW

SECTIONAL ELEVATION

H16 WI COLUMN REBAR

WI COLUMN

ADAPTED WI BEAM U-BLOCK

TRANSFER ROD

WI BEAM
MIN. 7mm THK T BRACKET WITH 4NO. M12 GR. 8.8 BOLTS TO COLUMN FLANGE

C40 WI CONCRETE MORTAR INFILL

STANDARD SECTIONAL PLAN

WI END CLEATS BOLTED WITH 2NO. M12 BOLTS GRADE 8.8

15

movement joint with soft fill & mastic to specification

WI BEAM

COROFILL

H16 REBAR

WI COLUMN
SECTIONAL PLAN

OUTLINE OF Wi BEAM WALLS

H16 REBAR

C40 Wi CONCRETE MORTAR INFILL

H16 REBAR

t
C40 WI CONCRETE MORTAR INFILL
H16 REBARS
WI TROUGH LINTEL

SHORT TRANSFER RODS AT 600 MAX FROM ENDS
AND 900 c/c MAX INTERVALS ALONG TROUGH

WI TROUGH LINTEL TYPICAL
BEARING OF 440 BOTH ENDS
(MIN 150)

SECTIONAL ELEVATION
**Wi COLUMN**

**H16 BARS DRILLED & RESIN BONDED INTO SLAB**

SHORT TRANSFER RODS AT 900 c/c MAX

MOVEMENT JOINT WITH SOFT FILL & MASTIC TO SPECIFICATION

END OF BLOCK CUT TO ALLOW THROUGH-FLOW OF Wi MORTAR BETWEEN Wi COLUMN AND Wi BEAM

ADAPTED Wi COLUMN BLOCK PLAN VIEW

C40 Wi CONCRETE MORTAR INFILL

**SECTIONAL ELEVATION**

**H16 Wi COLUMN REBARS**

**Wi TROUGH LINTEL**

H16 Wi TROUGH LINTEL REBARS

END OF BLOCK CUT TO ALLOW THROUGH-FLOW OF Wi MORTAR BETWEEN Wi COLUMN AND Wi BEAM

**DETAIL 15**

**TYPICAL Wi COLUMN TO Wi TROUGH LINTEL CONNECTION**
MASONRY TIES AT 450 c/c UNLESS OTHERWISE SPECIFIED

DEBONDED MASONRY TIES AT 450 c/c UNLESS OTHERWISE SPECIFIED

MOVEMENT JOINT WITH SOFT FILL & MASTIC TO SPECIFICATION

H16 REBARS

C40 WI CONCRETE MORTAR INFILL

MORTAR JOINT

DOUBLE WI COLUMN

SECTIONAL PLAN
MOVEMENT JOINT WITH SOFT FILL & MASTIC TO SPECIFICATION

WI END CLEAT FIXED TO BRICKWORK WITH 2No. 12Ø RESIN ANCHORS (EMBEDMENT TO BE ASSESSED BY DESIGNER)

DE-BONDING SLEEVE OVER BAR AND CLEAT

H16 REBAR

C40 WI CONCRETE MORTAR INFILL

H16 REBARS

SECTIONAL PLAN

SECTIONAL ELEVATION
CRITICAL GAP DIMENSION = 35 OR IN COMPLIANCE WITH PROJECT SPECIFICATION HEAD DEFLECTION REQUIREMENTS.
- HEAD DEFLECTION JOINT FILLED WITH MASTIC OR JOINT FILLER TO SPECIFICATION.

H16 WELDED TO SOCKET WITH 8mm FILLET WELD. SOCKET HAS A SLIDING FIT OVER SPIGOT TO ACCOMMODATE VERTICAL MOVEMENT.

CRITICAL GAP DIMENSION = 35 OR IN COMPLIANCE WITH PROJECT SPECIFICATION HEAD DEFLECTION REQUIREMENTS.
- HEAD DEFLECTION JOINT FILLED WITH MASTIC OR JOINT FILLER TO SPECIFICATION.

SECTIONAL ELEVATION

SINGLE SOCKET BASE BRACKET POSITIONED TO STRADDLE SLAB REBAR

M12 EXPANSION ANCHORS

SINGLE SPIGOT HEAD BRACKET POSITIONED TO STRADDLE SLAB REBAR

20mmØ SPIGOT

TOP OF WI COLUMN BLOCKWORK

WI MORTAR INFILL LOCALLY DEPRESSED 15mm DIRECTLY BELOW FIXING ANCHORS

NOTE: ALTERNATIVE HEAD & BASE FIXINGS TO DETAIL 1. ADOPT IF REINFORCEMENT BARS IN BASE AND / OR SOFFIT SLAB(S) PREVENT INSTALLATION OF DOUBLE SPIGOT HEAD BRACKET, OR DRILLING & RESIN BONDING OF H16 REBARS TO BASE.

WI MORTAR INFILL

CONTINUOUS H16 REINFORCING BAR EXTENDS FULL HEIGHT OF COLUMN

TOP OF SLAB

BASE BRACKETS

SLAB REINFORCEMENT

WI COLUMN

WI MORTAR INFILL

SLAB REINFORCEMENT

CRITICAL GAP DIMENSION = 35 OR IN COMPLIANCE WITH PROJECT SPECIFICATION HEAD DEFLECTION REQUIREMENTS.
- HEAD DEFLECTION JOINT FILLED WITH MASTIC OR JOINT FILLER TO SPECIFICATION.
CRITICAL GAP DIMENSION = 35 OR IN COMPLIANCE WITH PROJECT SPECIFICATION HEAD DEFLECTION REQUIREMENTS.
- HEAD DEFLECTION JOINT FILLED WITH MASTIC OR JOINT FILLER TO SPECIFICATION.

SINGLE SPIGOT HEAD CLEAT FIXED WITH 2No. M12 GR.8.8 BOLTS

20mmØ SPIGOT

H16 WELDED TO SOCKET WITH 8mm FILLET WELD. SOCKET HAS A SLIDING FIT OVER SPIGOT TO ACCOMMODATE VERTICAL MOVEMENT

SECTION

ELEVATION

PRINCIPAL WI SYSTEM DETAILS
DETAIL 19
WI COLUMN HEAD FIXING DETAILS TO STEEL BEAM PARALLEL TO WALL

CRITICAL DIMENSION
Critical gap dimension = 43 or in compliance with project specification head deflection requirements.
- Head deflection joint filled with mastic or joint filler to specification.

Wi mortar infill locally depressed 15mm directly below fixing anchors
STEEL BEAM

CONTINUOUS H16 REBAR REINFORCING BAR EXTENDS FULL HEIGHT OF COLUMN

SINGLE SOCKET BASE BRACKET FIXED WITH 2No. GR. 8.8 BOLTS

SECTION

ELEVATION

STEEL BEAM

PRINCIPAL W1 SYSTEM DETAILS

DETAIL 21
W1 COLUMN BASE FIXING DETAILS TO STEEL BEAM
Wi END CLEAT FIXED TO STEEL COLUMN WITH 2 No. M12 Gr. 8.8 BOLTS

DE-BONDING SLEEVE OVER BAR AND CLEAT

STEEL COLUMN

COROFIL

H16 REBAR

SECTIONAL PLAN

C40 Wi CONCRETE MORTAR INFILL

H16 REBARS

COROFIL

SECTIONAL ELEVATION

GENERAL REVISION

Revision/Issue

Date

WEMBLEY INNOVATION

DETAILED DESIGN DRAWINGS

DETAIL 22

WI BEAM FIXED TO STEEL COLUMN WEB
**Critical Gap Dimension**

- CRITICAL GAP DIMENSION = 35 OR IN COMPLIANCE WITH PROJECT SPECIFICATION HEAD DEFLECTION REQUIREMENTS.
- HEAD DEFLECTION JOINT FILLED WITH MASTIC OR JOINT FILLER TO SPECIFICATION.

**Elevation**

- 4No. GR8.8 Bolts
- 2No. 8mm x 70mm (Min) Extension Plates Bolted to Wi Head Cleat
- Wi Head Cleat
- 20mmØ Spigot
- Wi Mortar Infill Locally Depressed 15mm Directly Below Fixing Anchors

**Section A-A**

- 2No. M10 Expansion Bolts
- 2No. 8mm x 70mm (Min) Extension Plates Bolted to Wi Head Cleat
- Wi Head Cleat
- 20mmØ Spigot

**General Revision**

- Revision/Issue
- Date: 22/02/17

**Wembley Innovation**

**Detail 23**

**Wi Head Cleat Connection to Profiled Decking - Parallel to Trough**
CRITICAL GAP DIMENSION = 35 OR IN COMPLIANCE WITH PROJECT SPECIFICATION HEAD DEFLECTION REQUIREMENTS.
- HEAD DEFLECTION JOINT FILLED WITH MASTIC OR JOINT FILLER TO SPECIFICATION.

WI MORTAR INFILL LOCALLY DEPRESSED 15mm DIRECTLY BELOW FIXING ANCHORS

SECTION A-A

ELEVATION

PRINCIPAL WI SYSTEM DETAILS
DETAIL 24
WI HEAD CLEAT CONNECTION TO PROFILED DECKING - ACROSS TROUGH
CRITICAL GAP DIMENSION = 35 OR IN COMPLIANCE WITH PROJECT SPECIFICATION HEAD DEFLECTION REQUIREMENTS.
- HEAD DEFLECTION JOINT FILLED WITH MASTIC OR JOINT FILLER TO SPECIFICATION.

ANGLE TO BE CONFIRMED FOR BESPOKE FABRICATION OF HEAD CLEAT

CRITICAL DIMENSION

20mmØ SPIGOT

HEAD BRACKET

M12 EXPANSION ANCHORS

W1 MORTAR INFILL LOCALLY DEPRESSED 15mm DIRECTLY BELOW FIXING ANCHORS

H16 WELDED TO SOCKET WITH 8mm FILLET WELD. SOCKET HAS A SLIDING FIT OVER SPIGOT TO ACCOMMODATE VERTICAL MOVEMENT

SECTIONAL ELEVATION

CRITICAL GAP DIMENSION = 35 OR IN COMPLIANCE WITH PROJECT SPECIFICATION HEAD DEFLECTION REQUIREMENTS.
- HEAD DEFLECTION JOINT FILLED WITH MASTIC OR JOINT FILLER TO SPECIFICATION.

ANGLE TO BE CONFIRMED FOR BESPOKE FABRICATION OF HEAD CLEAT

CRITICAL DIMENSION

20mmØ SPIGOT

HEAD BRACKET

M12 EXPANSION ANCHORS

W1 MORTAR INFILL LOCALLY DEPRESSED 15mm DIRECTLY BELOW FIXING ANCHORS

H16 WELDED TO SOCKET WITH 8mm FILLET WELD. SOCKET HAS A SLIDING FIT OVER SPIGOT TO ACCOMMODATE VERTICAL MOVEMENT

SECTIONAL ELEVATION

CRITICAL GAP DIMENSION = 35 OR IN COMPLIANCE WITH PROJECT SPECIFICATION HEAD DEFLECTION REQUIREMENTS.
- HEAD DEFLECTION JOINT FILLED WITH MASTIC OR JOINT FILLER TO SPECIFICATION.

ANGLE TO BE CONFIRMED FOR BESPOKE FABRICATION OF HEAD CLEAT

CRITICAL DIMENSION

20mmØ SPIGOT

HEAD BRACKET

M12 EXPANSION ANCHORS

W1 MORTAR INFILL LOCALLY DEPRESSED 15mm DIRECTLY BELOW FIXING ANCHORS

H16 WELDED TO SOCKET WITH 8mm FILLET WELD. SOCKET HAS A SLIDING FIT OVER SPIGOT TO ACCOMMODATE VERTICAL MOVEMENT

SECTIONAL ELEVATION

CRITICAL GAP DIMENSION = 35 OR IN COMPLIANCE WITH PROJECT SPECIFICATION HEAD DEFLECTION REQUIREMENTS.
- HEAD DEFLECTION JOINT FILLED WITH MASTIC OR JOINT FILLER TO SPECIFICATION.

ANGLE TO BE CONFIRMED FOR BESPOKE FABRICATION OF HEAD CLEAT

CRITICAL DIMENSION

20mmØ SPIGOT

HEAD BRACKET

M12 EXPANSION ANCHORS

W1 MORTAR INFILL LOCALLY DEPRESSED 15mm DIRECTLY BELOW FIXING ANCHORS

H16 WELDED TO SOCKET WITH 8mm FILLET WELD. SOCKET HAS A SLIDING FIT OVER SPIGOT TO ACCOMMODATE VERTICAL MOVEMENT

SECTIONAL ELEVATION

CRITICAL GAP DIMENSION = 35 OR IN COMPLIANCE WITH PROJECT SPECIFICATION HEAD DEFLECTION REQUIREMENTS.
- HEAD DEFLECTION JOINT FILLED WITH MASTIC OR JOINT FILLER TO SPECIFICATION.

ANGLE TO BE CONFIRMED FOR BESPOKE FABRICATION OF HEAD CLEAT

CRITICAL DIMENSION

20mmØ SPIGOT

HEAD BRACKET

M12 EXPANSION ANCHORS

W1 MORTAR INFILL LOCALLY DEPRESSED 15mm DIRECTLY BELOW FIXING ANCHORS

H16 WELDED TO SOCKET WITH 8mm FILLET WELD. SOCKET HAS A SLIDING FIT OVER SPIGOT TO ACCOMMODATE VERTICAL MOVEMENT

SECTIONAL ELEVATION
PATENTS AND IP PROTECTION

“Wi Column”, “Slot Block”, “U-Block”, “Wi Beam and the “Wi” device are copyright and registered Community trademarks of Wembley Innovation Ltd. The Wi Beam/Wi Column System and its components are the subject of a number of Community Design Registrations (CDRs), patents and patent applications, including:

CDRs: 000881263-0001 to 0005, 005810579-0001 to 0004, 002391136-0001 to 0002, 000992136-0001, 001126635;
UK & EU patent Nos. 2440531, 2442543, 2054563, 2313575, 2469272, 2509149, 2250323, 2444258, 345397, 1711069.3;
EU Trademarks: 006884936, 006885396, 008355141, 008355166, 008880762;
International patent Nos. 2007280305, 2659536, 575214, 12/309795, 2726735, 2009254997, 2313575, 2013366093, 2892704, 708518, 9523194.

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