

TIER® Panel Systems Fitting Guidelines

1) Suitable Substrates

Concrete

Concrete Block – Bare block preferable, but cement scratch coat is acceptable if structurally sound.

Brick (Concrete/Clay)

TIER® Building Board

Substrates must be structurally sound, and capable of supporting the loads associated with the particular TIER® Panel range chosen. If using TIER® Building Board, ensure compliance with the relevant fitting guidelines.

2) Preparation & Handling

2.1 - Appropriate care must be taken when transporting, lifting and handling TIER panel and TIER Adhesive. TIER panel should be handled with care. Rough handling, heavy impact and friction can cause breakage or weakness in panels. Boxes of TIER should not be laid, stacked or transported on their side. Personal protection equipment must be worn.

2.2 - The following equipment will be required during fitting:

Slow speed mixer (or appropriate drill & mixing paddle)

Large mixing bucket

Stone cutting water cooled table saw (or angle grinder with appropriate diamond blade)

12mm notched trowel

Pointing trowel

Rubber mallet

Spirit Level

Drill

Claw Hammer

Appropriate personal protection Equipment (e.g. gloves, goggles, dust mask, safety boots etc.)

2.3 – The Substrate should be structurally sound, clean and free from anything which would inhibit full bond and adhesion between the surface and TIER® adhesive e.g. dust, dirt, loose particles, release agents, concrete sealers, curing compounds, paint etc. If the substrates surface is smooth, scuff to create a good key.

2.4 – Ensure the temperature of the substrate, and atmosphere, is between 5- 32°C. If the potential exists for frost, or a temperature drop below 5°C during curing, adequate protection should be provided. The moisture content of the substrate should be between 5-10%. Either dampen the substrate or allow to dry until the constant optimum moisture content has been achieved.

2.5 – A temporary straight edge is necessary to support the TIER® panel during the adhesive curing period. Securely fix a straight edge to the substrate at the level you wish to begin fitting TIER® panel from. If starting at a level below the DPC, ensure the TIER® panel does not ‘bridge’ the DPC. If necessary, stop the TIER® panel just below DPC level, and begin fitting again just above it. The straight edge should be perfectly level, clean and able to bear the associated weight.

3) Fitting

3.1 – Mix TIER® adhesive as per instructions on bag. Only use TIER® Masonry installation System Adhesive.

3.2 – Always begin by fitting TIER panel to corners, working ‘inwards’ until panels meet, or towards a wall end. Only apply adhesive to an area of substrate which can be covered by TIER® panel within the open time (i.e. before the adhesive surface has started to harden or ‘skin over’). This open time is normally 15-20 minutes, but can be reduced depending on atmospheric conditions. Apply TIER® adhesive to a workable area of the substrate using the straight side of the notched trowel. The adhesive must be thoroughly worked into the substrate to ensure maximum bond. A further coat of adhesive should immediately be combed on top using the 12mm notched side of the trowel. The beads, or ribs, of adhesive, applied with the notched trowel to the substrate, must all follow the same direction. 100% coverage of the area and full bond between adhesive layers are essential. Do not ‘dot and dab’ when applying adhesive, as insufficient coverage will create air pockets and weakness.

Natural Stone **Made Simple**

3.3 - Using the adhesive application method described in 3.2, apply a full, level, bed of adhesive to the back of the panel using the flat site of the trowel. Ensure coverage of the full panel. If being fitted to a flat surface, it is important that the back of the projecting stones to the staggered ends of each panel are fully covered to maintain the stones structural integrity. Again, 100% coverage and full bond is essential.

3.4 – Place the TIER® panel into position against the substrate. It is essential that the panel is pressed firmly against the substrate. Enough pressure should be applied to ensure the layers of adhesive on the back of the panel and the substrate become a single fully combined layer. All adhesive beads created with the notched trowel should be fully collapsed, leaving no gaps or air pockets. Gentle use of a rubber mallet or a diagonal pressing movement can be useful methods when presenting panels to substrate. Do not use a claw or lump hammer, as this will damage the panel. It is important that panels are presented to the substrate quickly, before the layers of adhesive have started to ‘skin over’. If a skin is allowed to form on any, or both, adhesive layers, this will result in a weak and unacceptable bond.

3.5 – Repeat the process, described in 3.4, to fit horizontally across the row. TIER® panels should be interlocked tightly together. Remove any cement droplets on the edge of panels which could prevent a tight joint. Clean off any excess adhesive or spillages immediately. Using a long spirit level, check regularly to make sure all the panels in the row are level, making adjustments if necessary. Periodically check fitting and bond quality by removing a panel and inspecting adhesive transfer and bond. There should be no evidence of poor adhesive transfer or gaps in adhesive coverage, and no indication of adhesive layers or trowel marks should be present. 100% coverage and full bond are essential.

3.6 – When finishing a row, it is likely a TIER® panel will need to be cut to length. We recommend that when cutting a panel, the staggered joint shape is maintained. Cutting can be carried out using a static blade water-cooled stone cutting table saw, or an angle grinder with appropriate diamond blade. When using a non-static blade, slight movements can cause high torsion forces. Occasionally this force can result in a stone being dislodged when cutting. This can be easily, and quickly, rectified by simply fixing the stone back into place using a full bed of TIER® adhesive or high quality polymer adhesive such as Xcel UBS.

3.7 – This fitting process is repeated on all subsequent rows. Use different sized TIER® panels, or rotate TIER® Quoins, when forming the corners of each row. It is normal for natural stone to vary slightly in shade and colour. Therefore, to achieve a mix of shades on the wall, select panels randomly from various boxes and crates during fitting. Ensure the vertical joints on each row are staggered, and horizontal joints are clean and tightly fitted.

3.8 – We recommend that TIER® Stainless Steel Clips are used, in conjunction with TIER® adhesive, to areas of panel fitted above 3m from ground level. In areas of high exposure, or where extreme weather conditions are expected, please contact your local supplier and request technical advice. Where TIER Clip use is required, create a slot in the top of the panel to receive the bottom ‘lip’ of the clip. The slot should be approx. 3mm wide x 20mm in depth and length. The slot should be positioned, allowing for adhesive, to ensure the clip is in full contact with substrate. A 3 mm recess must be made behind the slot to allow the clips to sit below the top of the panel. When in position, the clip is securely fixed to the substrate using the Stainless Steel fixings provided. The panel being fitted directly above the clips will require a slot on the bottom edge, positioned to receive the top ‘lip’ of the clip. This process is repeated as required.

3.9 – Expansion joints/gaps in the substrate must be carried through both the layer of TIER® Adhesive and TIER® Stone Panel. Ensure that adhesive is only applied up to the edge of the expansion joint, and not over it. Cut the TIER panel to length, ensuring that it stops at the edge of the expansion joint. The expansion gap must be filled with an appropriate joint filler. Where TIER® panel abuts a render system, or differing cladding material, an appropriate weather tight movement joint should be used, allowing for expected differential movement.

4) Cleaning, Sealing & waterproofing

4.1 – If cleaning or sealing is required, a full range of high quality TIER®, water based, breathable, low VOC (VOCs are Volatile organic compounds. Exposure to, or inhalation of, VOCs may pose a risk to health) products are available. We strongly recommend the use of sealers on our TIER Contemporary range. Sealing can help protect stone against staining and ease cleaning. If TIER stone panel and adhesive will be subject to permanently wet conditions, or if a waterproofing membrane is required, a range of quickly applied, quality products are available. For advice, please make contact using the information below.

5) Technical Information & Warranty

5.1 – If further advice or technical information is required, please speak to your local TIER supplier, or visit our website www.tiersystems.co.uk

5.2 – To avail of the TIER System Warranty, your purchase, and project, must be registered. To register please visit www.tiersystems.co.uk

Important - CED Ltd is not responsible for workmanship which is not carried out in full accordance with these fitting guidelines, our technical data sheets and local Industry Standard Guidelines and codes of practice.