

TECHNICAL INFORMATION SHEET

Parex Approved Render Boards

The NHBC, Premier Guarantee and the LABC have provided guidance regarding suitable grade external render receiver boards that are suitable for EWI applications and direct rendering applications.

Boards that have, via a satisfactory assessment undertaken by a technical approvals' authority (independent third-party certification) that is acceptable to the NHBC, Premier Guarantee and the LABC, such as the BBA or KIWA, will be allowed.

Boards that are fully compliant with BS EN12467:2012 and under that classification are in accordance Classification 5.2 and meet the performance criteria A or B and form part of a manufacturer's recommended system are acceptable.

For boards that do not hold suitable verification of their performance for the intended use either through compliance with a harmonised British Standard (BS EN12467) or via satisfactory assessment undertaken by a technical approvals' authority (independent third-party certification) that is acceptable to the NHBC, Premier Guarantee and the LABC such as the BBA or KIWA, will **not** be allowed.

As there is no British Standard for MgO boards, the process for acceptance by the NHBC, Premier Guarantee and the LABC is via independent third-party certification.

The NHBC has also stated on their web site which MgO boards currently meet the required compliance.

Detailed on this Technical Information sheet are the basic principles for what constitutes a suitable render board for Parex render systems and relate to PAREXTHERM Acrylic, Siloxane, Silicane, Mineral and Marbri Dash render systems, PAREXDIRECT Acrylic, Siloxane, Silicane, Mineral and Marbri Dash render systems and the PAREXTHERM & PAREXDIRECT Brick Slip systems.

PAREXTHERM systems are Parex recommended render or brick slip systems applied directly onto insulation which is then either bonded or bonded and mechanically fixed onto the render board. For full system make up, please consult the relevant PAREXTHERM datasheets and for specification guidance please contact Parex.

PAREXDIRECT systems are Parex recommended render or brick slip systems applied directly onto the render board with no insulation. For full system make up, please consult the relevant PAREXDIRECT datasheets and for project specification guidance please contact Parex.

Parex also endeavours to validate each board based upon a specific questionnaire issued to each board supplier, requesting full supporting test data and certifications, before Parex conducts its own tests to check the boards suitability.

When specifying a render board, the customer must always ensure they have conducted their own checks to ensure the specified board meets their performance requirements and that the correct fixing and installation works are completed in accordance with board supplier's recommendations. Parex always recommends the manufacturers non-corrosive fixings which must be suitable for direct render applications and thus must not corrode. Boards should not be left exposed for long periods of time. For guidance check with the specific board manufacturer.

Fire Certification

Parex will only ever recommend boards that can demonstrate they have an A1 fire rating.

Approved Render Boards

When a project has a render board specified, it should be a board that has the capability to be directly rendered to and hold a third-party accreditation (namely a BBA, BDA or ETA certification) for the intended application or meet the harmonised standard BS EN12467:2012. It should **not** be a wood-based board, cement particle board or a non-approved board. There are several boards Parex can approve and these have been detailed below.

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If a new board is brought to our attention, we will complete specific tests and checks before we are able to offer approval.

Customers, specifiers, contractors and applicators should ensure the correct render board is used.

A wood-based board, cement particle board or a non-approved board should **not** be used externally where either an insulated or direct render application is required, regardless of whether it is a non-ventilated or ventilated system. These non-specialist boards have elements within their composition that are highly susceptible to water penetration, retain moisture and swell which drastically affects their capability. Pull-off and pull through values will be wholly affected and all non-suitable boards will cause the render system to fail.

Apart from initial construction difficulties, moisture retention under the right conditions provides the medium for mould to form and spread behind the render system. This problem can occur within twelve months or may take several years to evolve but there is sufficient proven evidence to indicate this does occur and does cause future building problems – one only has to see the damage caused by single leaf construction in old structures, using low quality materials or poorly constructed buildings to know the effects mould can have on the fabric of the building.

In addition, the indications are that unsuitable boards may also become unstable and if mould growth is apparent, could create health implications to the building occupants too. As an indicator, in the USA, wood-based boards and cement particle boards are no longer allowed for render applications and the same applies in some northern European countries.

A simple rule of thumb: If the board is unsuitable for direct render applications, is not A2 fire classification as a minimum and hasn't got a required standard 3rd party appraisal, then it should not be used for any type of external render application.

PAREX THERM insulated system.

Insulation fixing application – Bonded only or Bonded and Mechanical fixings

Insulation type; EPS70E: When using EPS70E or higher grades of fire-resistant polystyrene insulation, using the correct type of render board is very important as Parex do not require mechanical fixings on suitable render boards when using Parex Maite as the bonding agent. Suitable mechanical fixings can be used in addition to the Parex Maite when the appropriate board is used for other types of insulation application.

PAREX THERM insulated system.

Insulation fixing application – Bonded and Mechanical fixings only

Insulation type; Stone Wool, Phenolic, Wood Fibre: Due to the different manufacturing properties of other types of EWI approved insulation boards, mechanical fixings will be required as part of the insulated render system installation. The insulation will always require bonding with Parex Maite (the bonding process should always be used and will assist to counter the shear element and pull off under wind loading) before the appropriate mechanical fixings are used. There are some exceptions, but we would suggest that if you are ever unsure, to always check with Parex first.

Pull - out values: Before Parex can offer a mechanical fixing solution, a pull-out value should be performed on the render board – This can be arranged by Parex. Please note – This can only apply to boards that are suitable for mechanical fixings. Refer to the chart below.

To provide pull-out values, Parex have worked in conjunction with Fischer, Rawlplug, ITW and EJOT fixings, using their proprietary ETAG approved fixings to suit the substrate. It is recommended that specifiers conduct their own checks with the specific board manufacturer by asking them to provide pull-out tests for their boards.

All the boards detailed below using an ETAG approved mechanical fixing are suitable for most UK locations, however it is important to clarify that the final design is the responsibility of the building engineer/architect. Parex can offer structural design advice for their systems through a third-party Engineering company which a fee may be charged by Parex, but it is the building owner/developer/designer's responsibility, to satisfy themselves as to suitability and loadings to meet their building requirements.

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Insulation Fixing Guidelines

The insulation boards that require mechanical fixings will generally require 5 fixings per 1200 x 600mm insulation panel e.g. 8/m². This will meet most UK requirements based on a characteristic load of 1.0kN and a Required Safety Factor of 3.2. There will be additional fixings required to the corners of building and to window and door reveals.

The above scenario may alter due to project specific requirements, for buildings above 5 storeys', in coastal locations or on higher ground where the need for a mechanically fixed mesh solution may also be required.

Parex would request the building designer to advise what loads they are looking to achieve, and we will provide a calculation to qualify the pull-out values for approval and fixing design layout.

Board joints

All the recommended boards detailed below will generally require a movement gap of between 2 – 4mm between each board as governed and required by the board manufacturer.

Parex recommended render boards

	Render System PAREX THERM EPS Acrylic / Siloxane, Silicane / Mineral / Marbri Dash / Brick Slip	Render System PAREX THERM SW Acrylic / Siloxane, Silicane / Mineral / Marbri Dash / Brick Slip	Render System PAREX DIRECT Acrylic / Mineral / Marbri Dash / Brick Slip	Is the board suitable for receiving insulation mechanical fixings	Board weight per 2400 x 1200mm board unless specified**	Fire classification
12.5mm Siniat* Weather Defence <i>This board has BBA approval 10/4725 with Parex renders.</i>	Yes – up to 18m	Not suitable ⁽¹⁾	No	No ⁽¹⁾	36.00kg	A1 non- combustible
12.5mm Knauf* Aquapanel (Please note, the board size has been reduced by Knauf due to weight)	Yes – up to 18m	Not suitable ⁽¹⁾	Yes	No ⁽¹⁾	2.4m x 0.9m 35.56kg	A1 non- combustible
10mm Siniat* Bluclad	Yes – up to 18m	Not suitable ⁽¹⁾	Yes	No ⁽¹⁾	33.00kg	A2 limited- combustibility
12mm Kemwell WeatherKem FCB	Yes – up to 18m	Not suitable ⁽²⁾	Yes	Yes	43.77kg	A1 non- combustible
12mm STS Construction Board	Yes – up to 18m	Not suitable ⁽²⁾	Yes	Yes	47kg	A1 non- combustible
12.5mm Fermacell* Powerpanel H ₂ O	Yes – up to 18m	Yes – subject to project, design loads against pull out values may need qualifying	Yes	Yes – subject to conditions	2.6m x 1.2m 41.00kg	A1 non- combustible
12mm RCM* Y Wall	Yes – up to 18m	Yes – subject to project, design loads against pull out values may need qualifying	Yes	Yes – subject to conditions	32.00kg	A1 non- combustible
12mm Resistant Multi-Rend	Yes – up to 18m	Yes – subject to project, design loads against pull out values may need qualifying	Yes	Yes – subject to conditions	37.00kg	A1 non- combustible

*These manufacturers have provided proof that they have achieved Environmental Management System ISO 14001:2004 certification.

** Approximate dimensions provided as some boards may be 2440 x 1220mm – check with manufacturer on their standard board dimension.

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- ⁽¹⁾ Not suitable for insulation systems requiring mechanical fixings e.g. PAREXTHERM SW render systems using mineral wool insulation.
- ⁽²⁾ Though these boards have mechanical fixing capability, the pull-out values are of insufficient value to meet the requirements of a PAREXTHERM SW system and so cannot be used.

The above information is offered as guidance only. These render boards are approved to be used with the above Parex render systems subject to a Parex issued specification. Always ensure that the correct board fixing is used in accordance with the render board manufacturer's guidance. Ensure all recommended fixings are suitable for external applications and will not corrode. Parex are unable to offer any further information regarding these manufacturer's boards and would recommend that fixing to the desired substrate, design advice and information relating to the boards is checked and obtained directly from the board manufacturer.

Timber and Steel Frame - movement joints and other general guidance

Parex are not building designers and therefore our knowledge of timber and steel frame structures is based upon referring to certain standards. **Parex is unable** to take any liability to the suitability of the timber or steel frame structure and the following is offered only as supporting information.

It is important to gain guidance from the timber and steel frame company's or their appropriate trade associations.

For cavity applications it is common practice to use specially formed non-corrosive vented metal rails or C16 dry strength 75Wx15D, 25mm, 38mm or 50mm graded treated timber batten in accordance with BS EN 14081-1: 2005 mechanically fixed back into the structural timber or steel studs with non-corrosive fixings, which should not exceed 600mm centres. The standard centres are generally 400mm, 450mm or 600mm. Ensure the cavity solution meets the required fire standards for the building.

It is generally a requirement for the cavity to be vented top and bottom. The cavity thickness will often vary due to design requirements, but the minimum accepted by the warranty providers is generally 15mm, but this would need to be checked at design stage. Parex render systems meet the performance standard outlines in the NHBC Technical Standards Chapter 6.11 and has gained full render system approval with Premier Guarantee and LABC which allows Parex to offer a range of solutions subject to specific conditions being met. For information and guidance, please contact Parex.

Movement joints should be introduced into the structure as indicated by the project engineer. All movement joints within the substrate are to be follow in the render system or as detailed. If there is no movement joint within the substrate, there is no point in placing one in the render system unless instructed to do so.

For general information, particularly in relation to timber framed structures, it is good practice to ensure the roof has been tiled and completed so that the full vertical load on the structure has been achieved and the building, particularly timber framed buildings, have had time to settle.

For timber framed structures it is advisable to place horizontal movement joints at every floor level and for all buildings it is good practice to place them vertically at every 6m or within 3m of any corner. This is particularly important when the PAREXDIRECT render system is being installed. Because the PAREXTHERM system has insulation, this may provide some element of 'give' in the system. It is common practice to locate vertical movement joints behind rain water down pipes or at the junction of an internal corner. The movement joint must be carried through the complete build system not just the board and render.

A cavity system will generally provide some additional movement compensation but a directly applied non-cavity system will always require adequate movement joints.

The above information has been produced for guidance only. Full guidance on timber and steel frames should be obtained from the NHBC, Premier Guarantee or other specific building warranty providers, the Structural Timber Frame association or direct from the steel or timber frame manufacturer.

For additional information or other Technical Information Sheets, please visit our Web site link http://www.parex.co.uk/Render_Systems/Technical_Information_Sheets_and_FAQs

Or for product datasheets contact;
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