

Specialist materials for civil engineering, infrastructure and construction

## TECHNICAL INFORMATION SHEET

### Parex Approved Render Boards

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Detailed on this information sheet are the basic principles for what constitutes a suitable render board for Parex render systems and relate to PAREX THERM Mineral, Acrylic and Marbri Dash render systems, PAREX DIRECT Mineral, Acrylic and Marbri Dash render systems and the PAREX THERM & PAREX DIRECT Brick Slip systems.

PAREX THERM 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 PAREX THERM datasheets and for specification guidance please contact Parex.

PAREX DIRECT 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 PAREX DIRECT datasheets and for project specification guidance please contact Parex.

### 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. It should not be a wood based board, cement particle board or a board Parex do not approve. There are several boards Parex are able to approve and these have been detailed below. 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. 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 – we only have 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 over a period of time unsuitable boards may become unstable and if mould growth is apparent, could create health implications to the building occupants too. As an indicator, in the USA, 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 then it should not be used for insulated render systems either.

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### **PAREX THERM insulated system.**

#### **Insulation fixing – Bonded only or Bonded and Mechanical fixings**

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.**

#### **Fixing application – Bonded and Mechanical fixings only**

**Mineral 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 the counter 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 particular substrate. It is recommended that each board manufacturer is requested 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 are not able to offer structural design advice and it is the building owner/developer/designer responsibility to satisfy themselves as to suitability and loadings.

### **Insulation Fixing Guidelines**

The insulation boards that require mechanical fixings will generally require 5 fixings per 1200 x 600mm insulation panel e.g. 8/m<sup>2</sup>. 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.

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.

### **Board joints**

Apart from the Siniat Weather Defence board, all the recommended boards detailed below will generally require a gap of between 2 – 4mm between each board as governed and required by the board manufacturer. The above Siniat board can be butt jointed.

## Parex recommended render boards

	Render System PAREXTHERM Acrylic / Mineral / Marbri Dash / AMS / Brick Slip	Render System PAREXDIRECT Acrylic / Mineral / Marbri Dash / AMS / Brick Slip	Suitable for Mechanical Fixing into	Board weight 2400 x 1200mm**
12.5mm Siniat* GTEC Aqua Board & Weather Defence <i>These boards have BBA approval 10/4725 with Parex renders.</i>	Yes	No	No	36.00kg
12.5mm Knauf* Aquapanel (Please note, the board size has been reduced by Knauf due to weight)	Yes	Yes	No	2.4m x 0.9m 35.56kg
12mm RCM* Y Wall	Yes	Yes	Yes – subject to conditions	32.00kg
12mm Siniat* Bluclad	Yes	Yes	No	38.20kg
12.5mm Fermacall* Powerpanel H <sub>2</sub> O	Yes	Yes	Yes – subject to conditions	2.6m x 1.2m 41.00kg
12mm Resistant Multi-Rend	Yes	Yes	Yes – subject to conditions	37.00kg
12mm Euroform Rendaboard	Yes	Yes	Yes – subject to conditions	41.00kg
12mm Cembrit PB	Yes	Yes	Yes – subject to conditions	41.50kg

\*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.

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 offer 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.

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For cavity applications it is common practice to use specially formed vented rails or treated and gauged 75x25, 38 or 50mm timber battens mechanically fixed back into the structural timber or steel studs which should not exceed 600mm centres. The standard centres are generally 400mm, 450mm or 600mm.

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 NHBC is generally 15mm but this would need to be checked at design stage.

Movement joints should be introduced into the structure as indicated by the project engineer. All movement joints within the render are to follow those introduced into the substrate 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, 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, in particular, timber framed buildings, have had time to settle.

It is advisable to place horizontal movement joints at every floor level above 2 storeys and vertically at every 6m or within 3m of any corner. This is particularly important when the PAREXDIRECT render system is being installed. Because the PAREX THERM 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 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](http://www.parex.co.uk/Render_Systems/Technical_Information_Sheets_and_FAQs)

Or for product datasheets contact;

Parex Ltd

Holly Lane Industrial Estate

Atherstone

CV9 2QZ

Tel: 01827 711755

[www.parex.co.uk](http://www.parex.co.uk)