FIRE CLASSIFICATIONS AND RELATED BUILDING REGULATIONS

FIRE CLASSIFICATIONS
- Euroclass system EN 13501-1 is accepted by all European states. (Mandatory where there is a Harmonised Product Standard e.g. ETA, BS EN). It includes seven classification levels, from A1 to F.

<table>
<thead>
<tr>
<th>EUROCLASS EN13501-1</th>
<th>ENGLAND, WALES, NORTHERN IRELAND</th>
<th>SCOTLAND</th>
<th>INSULATION MATERIAL ONLY</th>
<th>PAREX RENDER SYSTEM ONTO INSULATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Non-combustible</td>
<td>Non-</td>
<td>Stone wool/Rock</td>
<td>Not achievable</td>
</tr>
<tr>
<td></td>
<td></td>
<td>combustible</td>
<td>Mineral wool, Glass</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>wool A1</td>
<td></td>
</tr>
<tr>
<td>A2</td>
<td>Limited combustibility</td>
<td>Non-</td>
<td>High density &amp; High</td>
<td>Parextherm Acrylic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>combustible</td>
<td>binder or Faced</td>
<td>A2-s2, d0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Stone Wool/Rock</td>
<td>Parextherm Mineral</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mineral wool</td>
<td>A2 (or better)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>A2 (or better)</td>
<td>Parextherm Dash</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>A2-s1, d0</td>
</tr>
<tr>
<td>B</td>
<td>0</td>
<td>Low Risk</td>
<td>Some phenolic foams with</td>
<td>Parextherm Acrylic</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>fire retardant</td>
<td>A-s2, d0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>B-s3, d2 (or better)</td>
<td>Parextherm Mineral</td>
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<td></td>
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<td></td>
<td></td>
<td>Parextherm Dash</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>B-s1, d0</td>
</tr>
<tr>
<td>C</td>
<td>1</td>
<td>Medium Risk</td>
<td>Phenolic, some PIR</td>
<td>Not available</td>
</tr>
<tr>
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<td></td>
<td></td>
<td>C-s3, d2 (or better)</td>
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</tr>
<tr>
<td>D</td>
<td>3</td>
<td>High Risk</td>
<td>PIR</td>
<td>Not available</td>
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<td></td>
<td></td>
<td></td>
<td>D-s3, d2 (or better)</td>
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<tr>
<td>E</td>
<td>4</td>
<td>Very High Risk</td>
<td>Flame Retarded</td>
<td>Parextherm Acrylic</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>EPS/XPS, PUR</td>
<td>B-s2, d0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>E-s3, d2 (or better)</td>
<td>Parextherm Mineral</td>
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<td></td>
<td></td>
<td>B-s1, d0</td>
</tr>
<tr>
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<td></td>
<td></td>
<td>Parextherm Dash</td>
</tr>
<tr>
<td>F</td>
<td>Not classified</td>
<td>Very High Risk</td>
<td>EPS, PIR</td>
<td>Not available</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>F-s3, d2 (or better)</td>
<td></td>
</tr>
</tbody>
</table>
WHAT IS THE FIRE CLASSIFICATION?

- Compares ignitability, flame spread, heat release, smoke production and propensity for producing flaming droplets/particles etc.
- Reaction to Fire
- Smoke Development
- Flaming Debris

England, Wales and Northern Ireland

Key:
- Minimum classification: Euroclass C or Euroclass B if within 1m of an adjacent boundary
- Minimum classification: Euroclass A or the system has BR135 classification

Non-combustible fire break as a minimum will need to be incorporated in Class B or lower classification systems. The fire break will need to extend throughout the wall construction, including the cavity zone.

Locations where it is recommended by Parex to include additional non-combustible fire breaks

Building compartmentation may need to be considered - This may also require fire breaks around all openings

Note for consideration
For schemes higher than 2 storeys and for fire breaks through fixings of the render base coat to the primary substrate with all stainless steel fixings should also be considered, to ensure that no movement of the external render finish away from the substrate/fire barrier is possible. It is important there is no potential for fire between the external render system, substrate and the fire barrier.

To determine the height of the top storey of a building:
Measure from the ground floor level (on the lower side of the building where a fire barrier can part next to the building) to the upper floor surface of the top floor level. Roof top plant rooms and any top storey's consisting solely of plant rooms are excluded.
BUILDING REGULATIONS:

- Building Regulations Part B covers fire safety within and around buildings
  
  Part B1 – Domestic dwelling houses
  
  Part B2 - Buildings other than domestic dwellings (high rise)

- The recommended system to use for all multi-storey solutions is the PAREX THERM Mineral or PAREX THERM Acrylic render systems, using suitable mineral wool insulation as these systems are classed as limited combustibility and meet all Building Regulation requirements. By using these systems, compliance is achieved and no additional test or qualification reports are required. **SIGNIFICANT TIME AND EXPENSE SAVINGS MAY BE ACHIEVABLE.**

- Additional consideration must be given to a cavity scheme as the detailing requirements for fire barriers is far more complex and onerous.

- Where fire retardant EPS is used with the PAREX THERM render systems, fire classification requirements for EWI systems change according to storey height, based upon whether they are greater or less than 18m in height above ground level and/or whether a boundary distance between structures is greater or less than 1m.

- The 18m rule is based upon the position where a fire tender can position itself next to the building and the last floor level for accommodation/living/working (excluding plant rooms).

To determine the height of the top storey of a building:

- Measure from the ground floor level (on the lowest side of the building where a fire tender can park next to the building) to the upper floor surface of the top floor level.

- Roof top plant rooms and any top storeys consisting solely of plant rooms are excluded.

- Systems of at least limited combustibility and those meeting the provisions of BR135 are compliant to all combinations of height and boundary conditions. Parex does not have this as it would not consider using any render system that does not meet Limited Combustibility classification above 18m.

- Combustible systems are required to fulfil a number of criteria to meet the various area regulations which can also be dependent on the structure usage and whether there may be roof areas below the building height with public access.

- Non-combustible fire barriers (e.g. Stone wool/Rock Mineral wool Lamella) should be incorporated into the design when used with EPS. The fire barrier must be the full height of the floor zone and a minimum of 100mm wide elsewhere. The Fire barrier must be bonded and mechanically fixed with stainless steel fixings through the mesh. Fire barrier locations may include, floor levels, compartmentation to walls, windows, doors and other openings. **If the full façade receives Stone (Mineral) wool insulation, fire barriers may still be required for a cavity system. There are special solutions that can deal with these requirements.**

- Combustible systems less than 18m in height and greater than 1 m from a boundary require no special fire provisions, but within 1 m of a boundary must meet at least European Class B.

- Combustible systems greater than 18m in height and greater than 1 m from a boundary must comply with at least a Euro Class C up to a height of 18m and Euro class B above.
• When less than 1 m from a boundary the EWI over the full building height is required to meet European Class B. Additionally, combustible systems installed above 18m irrespective of boundary distance must be classified to BR135.

• For schemes higher than 2 storeys, through fixing of the render base coat to the primary substrate with all steel fixings should also be considered, to ensure that no movement of the external render finish away from the fire barrier is possible. It is important there is no potential for fire between the external render system and the fire barrier.

FIRE STRATEGY PLAN:

• On large building schemes, of multi-occupancy use e.g. accommodation / offices etc, it is likely it will have a Fire Strategy plan. It is important to check that the render system links in with/complies with this plan. There may be a requirement to discuss what render system to use, with the compliance organisation that is dealing with the building design.

SPECIFICATION:

• As no two buildings are the same, for clarity, always request a project specific Parex specification.

Detailed below are the Parex insulated system certifications and fire test certification details.

European Technical Approval (ETA)

British Board of Agrément (BBA)

Building Research Establishment (BRE)

ETA 04-0014 - PAREX THERM Render Systems on white and grey carbon enhanced fire-resistant EPS on masonry substrates.

System applications
Bonded only insulation systems
Bonded and mechanically fixed insulation systems

ETA 11-0110 - PAREX THERM Render Systems on mineral wool on masonry substrates

System applications
Bonded and mechanically fixed insulation systems

BBA 10-4725 PAREX THERM Render Systems on white and grey carbon enhanced fire resistant EPS on Siniat Weather Defence

System applications
Bonded only insulation systems

Fire Certifications

European Fire testing to NF EN 13501:1 - RA12-0413 on EPS - Parextherm Acrylic
European Fire testing to NF EN 13501:1 - RA13-0351 on EPS - Parextherm Mineral
European Fire testing to NF EN 13501:1 - RA09-0159 on mineral wool - Parextherm Mineral
European Fire testing to NF EN 13501:1 - RC12-0195 on mineral wool - Parextherm Acrylic
European Fire testing to NF EN 13501:1 - RC13-0148 on mineral wool - Parextherm Acrylic
European Fire testing to NF EN 13501:1 - RC14-0343 - All Parextherm Acrylic finishes
Class ‘O’ classification for Parextherm Render Systems on to EPS70E
Fire Test for Parextherm Render Systems on to EPS70E to BS 476 Pt 6
Fire Test for Parextherm Render Systems on to EPS70E to BS 476 Pt 7

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

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