



# NASAHİ® EXTERNAL WALLS TYPE A AND B NON-COMBUSTIBLE CONSTRUCTION

## PERFORMANCE INFORMATION

Clause C1.9 of NCC 2019 Volume 1 requires all external wall components must be non-combustible in accordance with AS 1530.1 except for gaskets, caulking, sealants, damp-proof courses, and plasterboard.

All Nasahi® External Wall System components (lining, framing, wrap, sealant, fasteners, coating, and other accessories) have been assessed and are suitable for use in Type A and B non-combustible construction.

The assessment has demonstrated that compliance with the relevant Performance Requirements (CP1, CP2, CP4, CP8 and EP2.2) is achieved by the Nasahi® external wall systems incorporating the products identified above, subject to the following recommendations:

- External systems shall be installed in accordance with the Nasahi® external wall system installation guideline.
- Internal lining shall be non-combustible when tested in accordance with AS1530.1.
- Steel framing is acceptable when installed as per the Nasahi® external wall installation guide.
- Timber framing is acceptable when installed as per the Nasahi® external wall installation guide, and in accordance with the NCC C1.13 fire protected timber concession.
- Breathable Wall Wrap shall have a maximum thickness of 1 mm and that a test report to AS1530.2 shall be provided by the manufacturer to prove the maximum flammability index of 5.
- Waterproof membranes must not extend throughout between two compartments.
- Sealants shall be sufficiently fire-graded to be compatible with the fire resistance of the wall.
- Insulation shall be non-combustible when tested in accordance with AS1530.1.
- Insulation must not extend throughout between two compartments.
- Paint other than nitro-cellulose lacquer is acceptable to be used in an external wall system.
- Adhesive layer shall not exceed 3mm in thickness. The use of the Nasahi® proprietary panel adhesive is recommended.
- Fixings, screws, fasteners, brackets and angles shall be made of steel.
- Flashings and external corner angles shall be made of steel.
- Cavities in external wall must be fire stopped, using cavity barriers and fire sealant to Fire Engineers specification.
- Cavity barriers shall be non-combustible and have a fire resistance equivalent to that required in fire walls and floors.
- Gaps shall be sealed with fire rated sealant.
- External corner angles shall be made of stainless steel or aluminium. Use of PVC is possible, but a case-by-case assessment is required.
- The control joints and weep holes must not be larger than necessary for their purpose.

It should be noted that compliance of a building with the Performance Requirements

CP1, CP2, CP4, CP8 and EP2.2 will be subject to a number of other requirements independent of the external wall system.

The Nasahi External coating system may be used in Type A and B construction. The Coating

system (Aluminium, Fibreglass embedded in render, Water, Cement) does not reduce the fire resistance of Nasahi External Wall system and satisfies Performance requirements CP2 (Spread of fire), CP4 (safe conditions for evacuation), EP2.2 (Safe evacuation routes).

Table 1 - The table below outlines an evaluation of the combustibility of the components of the Nasahi® External wall system.

SYSTEM COMPONENT	COMBUSTIBILITY COMPLIANCE
<b>INTERNAL LINING</b>	
<ul style="list-style-type: none"> <li>To project requirements.</li> <li>For example. 10mm standard plasterboard, 13mm Fire rated plasterboard, 16mm fire rated plasterboard.</li> </ul>	<b>Non-combustible</b> when tested to AS1530.1. Complies with NCC Clause C1.9. Performance Requirements CP2 (spread of fire), CP4 (safe conditions for evacuation), EP2.2 (safe evacuation routes) are met.
<b>FRAMING SYSTEM</b>	
<ul style="list-style-type: none"> <li>Timber Stud</li> </ul>	<b>Combustible.</b> However Timber framing is acceptable when installed as per the Nasahi® external wall installation guide, and in accordance with the NCC C1.13 fire protected timber concession. Performance requirements CP1 is met.
<ul style="list-style-type: none"> <li>Steel Stud</li> </ul>	<b>Non-Combustible</b> (Component is constructed out of steel).
<b>BREATHABLE WALL WRAP (WATERPROOF MEMBRANE)</b>	
<ul style="list-style-type: none"> <li>Pliable wall membrane in accordance with AS 4200.1 with water barrier and vapour permeable classification.</li> </ul>	<b>Combustible.</b> However, complies with NCC Clause C1.9. It is required that waterproof membrane has a maximum thickness of 1 mm and that a test report to AS1530.2 is provided by the manufacturer to prove the maximum flammability index of 5. Waterproof membranes must not extend throughout between two compartments. Cavities in external walls must be fire stopped, using cavity barriers and fire sealant. Performance Requirements CP2 (spread of fire), CP4 (safe conditions for evacuation), EP2.2 (safe evacuation routes) are satisfied.
<b>CAVITY BATTENS</b>	
<ul style="list-style-type: none"> <li>Steel Cavity Battens</li> </ul>	<b>Non-Combustible</b> (Component is constructed out of steel).
<b>NASAHI® AAC PANELS</b>	
<ul style="list-style-type: none"> <li>50mm Nasahi AAC Panel</li> <li>62mm Nasahi AAC Panel</li> <li>75mm Nasahi AAC Panel</li> </ul>	<b>Non-Combustible</b> when tested to AS1530.1. Acceptable for Type A and B constructions when installed a per the Nasahi® External wall installation guide.
<b>FASTENERS</b>	
<ul style="list-style-type: none"> <li>Batten Screws</li> <li>Panel Screws</li> </ul>	<b>Non-Combustible</b> (Component is constructed out of steel).

☞ Reference Document: TC Fire Engineering, TCFE0011 Fire Safety Report (Issue 4),  
Dated 7<sup>th</sup> July 2021.

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SYSTEM COMPONENT	COMBUSTIBILITY COMPLIANCE
<b>CAULKING – SEALANTS AND BACKING RODS</b>	
<ul style="list-style-type: none"> <li>• Backing Rod</li> <li>• Flexible Sealant</li> <li>• Fire rated Sealant</li> </ul>	<p><b>Combustibility unknown.</b> Although the non-combustibility requirement does not apply to sealants and backing rods, sealants are to be sufficiently rated to be compatible with the fire resistance of the wall. It has been demonstrated that backing rods do not reduce the fire resistance of an external wall.</p>
<b>OTHER ACCESSORIES</b>	
<ul style="list-style-type: none"> <li>• Damp Proof course</li> </ul>	<p><b>Combustible.</b> As per C1.10 (C) the requirements for Type A and B construction does not apply to DPC.</p>
<ul style="list-style-type: none"> <li>• Fibre cement packers</li> <li>• Non-compressible PVC Packers</li> <li>• Masonite Hardwood Packers</li> </ul>	<p><b>Combustibility unknown.</b> Complies with NCC Clause C1.9. Plastic or PVC packers can be considered ancillary elements as they are secondary elements. In accordance with NCC Specification C1.1 Clause 2.4, PVC packers must not reduce the fire-resistance of the external wall.</p> <p>PVC packers are acceptable. Performance Requirements CP2 (spread of fire), CP4 (safe conditions for evacuation), EP2.2 (safe evacuation routes) are satisfied.</p>
<ul style="list-style-type: none"> <li>• Insulation</li> </ul>	<p><b>Non-Combustible .</b> All insulation in type A and B buildings shall be non-combustible when tested in accordance with AS1530.1.</p>
<ul style="list-style-type: none"> <li>• Nasahi® Adhesive</li> </ul>	<p><b>Non-Combustible.</b> C1.10 fire hazard properties, and C1.14 ancillary elements requirements do not apply to a material used for an adhesive.</p>
<ul style="list-style-type: none"> <li>• Nasahi® Anti-Corrosion Paint</li> </ul>	<p><b>Combustibility is unknown.</b> Complies with NCC clauses C1.10 fire hazard properties, and C1.14 where ancillary elements requirements do not apply to a paint, paint, varnish, lacquer, or similar finish, other than nitro-cellulose lacquer.</p>
<ul style="list-style-type: none"> <li>• Steel Pressure equalisation slots</li> <li>• Shelf Angle</li> <li>• Z' flashing</li> </ul>	<p><b>Non-combustible.</b> (Component is constructed out of steel).</p>
<b>EXTERNAL COATING (RENDER) SYSTEM</b>	
<ul style="list-style-type: none"> <li>• Recommended Nasahi® External Wall Coating System</li> <li>• Unitex Acrylic Coating System</li> <li>• Astex Acrylic Coating system</li> <li>• Dulux AcraTex Render Wall AAC Coating System</li> <li>• Rockcote Acrylic Coating system</li> <li>• Ezycoat AAC Render System</li> </ul>	<p><b>Combustibility unknown.</b> The recommended coating system do not contribute to a fire (aluminium, fibreglass embedded in render, water, cement). The recommended coating system does not reduce the fire resistance of the Nasahi® wall systems. Performance Requirements CP2 (spread of fire), CP4 (safe conditions for evacuation), EP2.2 (safe evacuation routes) are satisfied.</p>
<b>PAINT SYSTEM</b>	
<ul style="list-style-type: none"> <li>• Acrylic based exterior paint</li> </ul>	<p><b>Non-combustible.</b> Acrylic paints are water based and as such non-combustible. Furthermore, C1.10 fire hazard properties, and C1.14 ancillary elements requirements do not apply to a paint, varnish, lacquer, or similar finish, other than nitro-cellulose lacquer. Paints other than nitro-cellulose lacquer are acceptable to be used in an external wall system.</p>

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