

## 0434P ASKIN® XFLAM PERFORMANCE PANEL CLADDING

### Branded worksection

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### Worksection abstract

This branded worksection *Template* is applicable to a lightweight exterior facade cladding system by ASKIN® The system comprises prefinished composite panels with metal faces bonded to each side of an insulating ASKIN® XFLAM core. It is designed to provide insulated and air-tight connections and with a range of colours, prints and profiles to suit any commercial or residential application. Some applications include:

- Sports arenas.
- Residential.
- School/University facilities.
- Hospitals.
- Data facilities.
- Shopping centres.
- Medical centres.
- Aquatic centres.
- Sunshades.
- Awnings.

### Guidance text

All text within these boxes is provided as guidance for developing this worksection and should not form part of the final specification. This *Guidance* text may be hidden or deleted from the document using the NATSPEC Toolbar or the hidden text *Hide* and *Delete* functions of your word processing system. For additional information visit FAQs at [www.natspec.com.au](http://www.natspec.com.au).

### Optional style text

Text in this font (blue with a grey background) covers items specified less frequently. It is provided for incorporation into *Normal* style text where it is applicable to a project.

### Related material located elsewhere in NATSPEC

If a listed worksection is not part of your subscription package and you wish to purchase it, contact NATSPEC.

Related material may be found in other worksections. See for example:

- *0331 Brick and block construction* for brick veneer.
- *0342 Light steel framing* for subframing.
- *0382 Light timber framing* for subframing.
- [ASKIN® XFLAM performance panel installation](#).
- *0432 Curtain walls*.
- *0433 Stone cladding*.
- *0435 Cladding – planks and weatherboards*.
- *0436 Cladding – profiled and seamed sheet metal*.
- *0511 Lining* for internal lightweight lining.
- *0531p ASKIN® XFLAM performance panel ceilings*.
- *0528p ASKIN XFLAM performance panel partition system*.
- *0762p ASKIN XFLAM performance panels in cool rooms*.

### Documenting this and related work

You may document this and related work as follows:

- Check if your cladding is required to be non-combustible, refer to BCA Section C and ABCB Advisory Note 3. Consider adding a requirement in **SUBMISSIONS** for evidence of conformance from the contractor. If using a performance solution for facade cladding, type testing to AS 5113 may be used as the verification method for combustible external walls.
- Document the structural support system to your office documentation policy.

- Locate the extent of cladding types, accessories, and finishes on drawings to your office documentation policy.
- Penetrations: Show on the drawings the location and extent of penetrations for services and structural elements including flashing details.

If required, state the minimum added thermal resistance (R-Value) (m<sup>2</sup> K/W). See NATSPEC TECHnote DES 031 for information on specifying R-Values.

- Document bushfire protection requirements to conform to AS 3959 and the BCA. See NATSPEC TECHnote DES 018 for information on bushfire protection.

The *Normal* style text of this worksection may refer to items as being documented elsewhere in the contract documentation. Make sure they are documented.

Search [acumen.architecture.com.au](http://acumen.architecture.com.au), the Australian Institute of Architects' practice advisory subscription service, for notes on the following:

- Guarantees and warranties.

### Specifying ESD

ASKIN® XFLAM Performance Panels consists of the following sustainable product attributes:

- Insulated panels for thermal and acoustic performance.
- Easy to seal slip joint facilitating efficient hermetically sealed construction to allow controlled air flow and heating and cooling of the internal environment.
- Recycled material. ASKIN® XFLAM Performance Panels are 100% recyclable and may incorporate a proportion of granulated offcuts. The steel skins are recovered and recycled into new steel.
- Include measures to minimise condensation leading to greater equipment life and limiting risk of microbial growth.
- Prohibition on use of CFCs and HCFCs as blowing agents.
- Durable components, particularly for corrosion resistance.
- Provision to reduce transmitted noise and vibration.
- The ASKIN® XFLAM matrix is pH neutral, inert and resistant to water ingress.
- An ASKIN® XFLAM production plant has an extremely low carbon footprint, nil water use and has minimal atmospheric or other emissions.
- During its lifetime, ASKIN® XFLAM insulating material will save many times more energy through reduction of heating and cooling requirements than the energy or resources required for its manufacture.
- The following may be specified by including additional text:
- Metal cladding finished with low VOC or non-VOC finish.

Refer to the NATSPEC TECHreport TR 01 on specifying ESD.

## 1 GENERAL

**ASKIN®** is a leading manufacturer and installer of insulated architectural facade systems, roofing systems and temperature controlled facilities in Australasia. We embrace a customer first approach in delivering sustainable, lifetime value. With a network of 12 sites throughout Australia and New Zealand, ASKIN®'s vast experience has been built upon a strong foundation dating back to 1964. ASKIN® culture of customer first, constant improvement, quality and safety assurance is supported with our technical expertise and ISO 9001 accreditation.

### 1.1 RESPONSIBILITIES

#### General

Requirement: Provide an ASKIN® XFLAM Performance Panel fully insulated exterior facade cladding system and associated work, as documented.

*Documented* is defined in the 0171 *General requirements* worksection as meaning contained in the contract documents.

The **ASKIN®** external wall and façade panel system is fast to install, weather tight and exceeds the thermal requirements of BCA Section J. The prefinished internal lining and superior spanning capability reduces in installation cost.

### 1.2 COMPANY CONTACTS

#### ASKIN® contacts

Website: [www.askin.net.au/contact](http://www.askin.net.au/contact)

### 1.3 CROSS REFERENCES

#### General

Requirement: Conform to the following:

- 0171 General requirements.

0171 General requirements contains umbrella requirements for all building and services worksections. List the worksections cross referenced by this worksection. 0171 General requirements references the 018 Common requirements subgroup of worksections. It is not necessary to repeat them here. However, you may also wish to direct the contractor to other worksections where there may be work that is closely associated with this work. NATSPEC uses generic worksection titles, whether or not there are branded equivalents. If you use a branded worksection, change the cross reference here.

## 1.4 MANUFACTURER'S DOCUMENTS

### Technical manuals

Website: For more technical information:

- General: [www.askin.net.au](http://www.askin.net.au)
- External walls: [www.askin.net.au/products/](http://www.askin.net.au/products/)
- Maintenance manual: [www.askin.net.au/wp-content/](http://www.askin.net.au/wp-content/)

## 1.5 TOLERANCES

### Permitted deviations

Requirement: To ASKIN®'s recommendations.

Structural steelwork for ASKIN wall panels: ± 5 mm between bearing planes of adjacent supports.

## 1.6 SUBMISSIONS

### Fire hazard properties

General: Submit evidence of conformance to PRODUCTS, **GENERAL**, Fire hazard properties.

Fire hazard properties may be documented in **PRODUCTS** and/or **EXECUTION**.

### Operation and maintenance manuals

Requirement: Submit ASKIN® *Warranty and maintenance* for care and maintenance of ASKIN® XFLAM Performance Panel exterior facade system, including frequency of inspection and recommended methods of access, cleaning, repair and replacement.

### Prototypes

General: Erect a prototype of each panel type, including at least one example of each component in the system to verify selections submitted as samples, to demonstrate aesthetic effects, to set quality standards for materials and execution and to verify performance, including wind loading.

Inclusions:

- Typical components, attachments to building structure and methods of installation.
- Window opening with cladding panel, trim and returns.
- Sealant filled joint.

Type: [complete/delete]

Extent: [complete/delete]

Not less than 1800 mm long x 1200 mm high or Not less than 4.5 m long x 3 m high.

Location: [complete/delete]

Consider adding the following *Optional text*:

**Incorporation: Subject to approval, incorporate the prototype in the completed works.**

Preferably show on the drawings the location and extent of the prototype and the number and type of components to be included. Delete if the size of the project does not justify a prototype.

### Samples

Approved samples are retained on site and define the acceptable limits of colour and texture variation.

Finish: Submit samples of the cladding material showing the typical colour and finish.

Sample size: [complete/delete]

Sample sizes are generally 300 x 300 mm or 600 x 600 mm.

### Shop drawings

Composite panels: Submit shop drawings to a scale that best describes the detail, showing the following:

- Dimensioned elevations of all elements.
- Details of construction, connections and all support systems.
- Dimensions of all typical elements and of any special sizes and shapes.
- Provision for the exclusion and/or drainage of moisture.
- Jointing details and method of fixing between individual elements and between this installation and adjacent work, including adjustment.
- Sealant types and full size sections of all sealant-filled joints and backing rods.
- Provision for thermal movement.
- Provision for movement under seismic and wind loads.
- Sequence of installation.
- Co-ordination requirements with other work.
- Schedule of materials, finishes, componentry, hardware and fittings.

### Subcontractors

General: Submit names and contact details of proposed ASKIN® approved installers.

Contact ASKIN® for details of ASKIN® approved installers appropriate to construction in your area.

### Warranties

Requirement: Submit the following:

- [complete/delete]

Describe the requirements of warranties in **PRODUCTS** or **EXECUTION**, as appropriate, and list the submissions required here.

Cladding materials: Submit the manufacturer's published product warranties.

ASKIN® standard warranty is 2 years for workmanship and 10 years for materials.

Subject to maintenance conforming to ASKIN® *Warranty and maintenance*, ASKIN® standard warranty for corrosion or blistering of the skin material is 10 years for general application subject to location and can be up to 25 years depending on the substrate used and the application of it.

## 1.7 INSPECTION

### Notice

Inspection: Give notice so that inspection may be made of the following:

- Workshop assemblies before delivery to the site.
- Framing, sarking, vapour barrier and insulation before covering up or concealing.
- Completion of a prototype.

Amend to suit the project, adding critical stage inspections required.

**Hold points**, if required, should be inserted here.

Coordinate with requirements for prototypes or delete.

## 2 PRODUCTS

### 2.1 GENERAL

#### Fire hazard properties

Group number: To BCA Spec C1.10 and AS 5637.1.

Group number: Refer to BCA Spec C1.10 Table 3 which has *group number* requirements for wall and ceiling linings. Materials used as a finish, surface, lining, or attachment to an internal wall or ceiling must be a Group 1, 2 or 3 material used in conformance with BCA Spec C1.10 Table 3.

Non-sprinklered buildings: Wall and ceiling linings must either have an *average specific extinction area* less than 250 m<sup>2</sup>/kg or a *smoke growth rate index* not more than 100 as determined by AS 5637.1.

Refer to NATSPEC TECHnote DES 020 for information on fire hazard properties.

ASKIN 100 mm XFLAM panels tested to AS ISO 9705: Group number 1.

Insulation fire hazard indices: Conform to the following for all materials, tested to AS/NZS 1530.3:

See NATSPEC TECHnote DES 003 for more information on the fire hazard properties of insulation materials and NATSPEC TECHnote DES 020 on fire behaviour of building materials and assemblies. See also BCA Spec C1.10 Table 4.

ASKIN 50 mm thick with Z275 G300 steel skins tested to AS/NZS 1530.3:

- Ignitability index: 0.
- Spread-of-Flame Index: 0.
- Heat Evolved Index: 0.
- Smoke Developed Index: 1.

- Spread-of-Flame Index:  $\leq 9$ .
- Smoke-Developed Index:  $\leq 8$  if Spread-of-Flame Index  $> 5$ .
- Materials with reflective facing: Test to AS/NZS 1530.3 clause 4.12(b) and the recommendations of Appendix A6.

AS/NZS 1530.3 Informative Appendix clause A6 recommends that reflective surfaces of test specimens (which would otherwise generally pass this test) be blackened and diagonally scored in order to simulate soot deposition onto reflective surfaces in a real fire situation. Note that AS/NZS 1530.3 clause 4.12.2(c) requires insulation materials faced with reflective surface materials to incorporate a representative vertical joint in three test specimens.

**Non-combustible construction required: [complete/delete]**

List any parts of the project that the BCA requires to be non-combustible. Delete if none. Construction required to be non-combustible by the BCA (e.g. fire walls and spandrels with a specific FRL) must be constructed wholly of materials that are not deemed combustible. In other situations the BCA does not prohibit the use of combustible insulation materials, provided they meet the other fire properties.

### Product substitution

Other products: Conform to PRODUCTS, **GENERAL, Substitutions** in *0171 General requirements*.

The *0171 General requirements* worksection clause sets out the submissions required if the contractor proposes alternative products. Refer also to NATSPEC TECHnote GEN 006 for more information on proprietary specification.

### Sealants

Materials: One-component compounds with a neutral curing mechanism, vulcanising at room temperature. Provide sealants that:

- Do not foster microbial growth.

The requirement that sealants not foster microbial growth is consistent with AS/NZS 3666.1. Sealants that support mould growth (e.g. some grades of silicone) and are unsuitable for use in food preparation areas, laboratories, health facilities and the like.

- Maintain their sealing performance for the life of the partition.
- Bond to the surface of application without primers.
- Are resistant to oils, food acids and water after curing.
- Are non-toxic.
- After curing retain their elastomeric properties over the range of room operating temperatures.
- Are suitable for application by gun or hand tools.
- Are ASKIN® approved for the application.

### Storage and handling

Requirement: Store and handle materials to the manufacturer's recommendations and the following:

- Protect materials including edges and surfaces from damage.
- Keep dry and unexposed to weather.
- Do not drag metal sheets or panels across each other or over other materials.

### Marking

Identification: Deliver materials to the site in packaging, legibly marked to show the following:

- Manufacturer's identification.
- Product brand name.
- Product type.
- Quantity.
- Product reference code and batch number.
- Date of manufacture.
- Material composition and characteristics such as volatility, flash point, light fastness, colour and pattern.

Edit the list to suit the project or delete if not required.

## Components

Requirement: Conform to the **Cladding support schedule** and the **Component schedule**.

If using anchors or attachments cast in the concrete structure, refer to information on embedded anchors in the *0432 Curtain wall* worksection and document requirements in the selected concrete worksections.

Fasteners and ties: Type, size, corrosion resistance class and spacing to the cladding manufacturer's recommendations.

Flashings: To AS/NZS 2904.

Coordinate with the *0423p ASKIN XFLAM performance panel roofing* worksection.

## 2.2 ASKIN® XFLAM PERFORMANCE PANELS

### General

Description: Proprietary panel exterior facade cladding system comprising manufactured, prefinished structural composite panels with metal faces bonded to each side of an insulating, ASKIN® XFLAM core.

### ASKIN® XFLAM Performance Panel insulation core

Material: Syntactic foam sheet with Factory Mutual certification to FM 4471 and FM 4880.

Prohibited materials: Do not provide materials:

- Which use CFC or HCFC as blowing agents in the manufacturing process.
- Which use a blowing agent with a global warming potential  $\geq 140$ .

ASKIN® XFLAM is a market leading, insurer endorsed, innovative product. It is a syntactic foam with excellent mechanical properties, superior insulation values, low toxicity and is completely recyclable. ASKIN® XFLAM achieves a high insulation rating to easily achieve BCA Section J compliance (R-Values of 1.5 to 8.10 m<sup>2</sup>K/W). The high insulation value reduces the energy costs required for maintaining a comfortable and efficient environment within the building. ASKIN® XFLAM Performance Panels were the first in Australasia to achieve FM accreditation in all three relevant certifications for Insulated Panel Systems – FM 4471, FM 4880 and FM 4881. These Approvals cover full scale fire, severe hail, and hurricane conditions.

Application: Recommended for general commercial construction, specifically coolstores, supermarkets, municipal facilities, schools hospitals, food and drug manufacture, storage, distribution and cold chain.

### Internal and external skins

Document requirements in the **ASKIN®**

**XFLAM Performance Panel schedule**. If there is only one type, delete alternatives.

Skin material and thickness: As documented.

The standard external skin material is 0.5 mm AM100 colour coated steel. The standard internal skin is 0.4 mm Z275 colour coated steel. AZ150, PVDF or HPS200 are available for alternate performance. All Colorbond® colours or Printech® (PVDF) steel are available. The available skin thicknesses are 0.4, 0.5 or 0.6 mm depending on requirements for structural performance, and fire resistance (minimum 0.5 mm external/0.4 mm internal).

Factory pre-coating: Polyester to a dry film thickness of 25 microns.

Colorbond® Permagard® Off-white is standard. All Colorbond®, Colorbond® Permagard® or Printech® (PVDF) colours are available. Printech® (PVDF) is a paint finish. HPS200, a 200 micron thick polymer coating, is also available.

Profile: Provide panels with profiles as documented:

- Express joint.
- Flat.
- Mesa.
- Metric.
- Rib.
- Silcline.
- Unideck 600.

Internal wall profile is generally Flat or Rib.

### Dimensions

ASKIN® XFLAM Performance Panels are available in lengths up to 25 m subject to location.

Panel thickness: As documented.

Document thickness in the **ASKIN®**

**XFLAM Performance Panel schedule.** ASKIN® XFLAM Performance Panels are available in thicknesses from 50-250 mm in 25 mm increments. Thickness is dictated by insulation, structural capacity and fire performance required. Contact ASKIN® to discuss your project requirements.

Panel width:

- Standard module width: 1200 mm.
- Metric module width: 1000 mm.

### 3 EXECUTION

#### 3.1 PREPARATION

##### Substrates or framing

Preparation: Before fixing cladding, check the alignment of substrates or framing and adjust if necessary.

#### 3.2 INSTALLATION

##### General

Requirement: Install panels as follows:

- Plumb, level, straight and true within acceptable building tolerances.
- Fixed or anchored to the building structure in conformance with the wind action loading recommendations.
- Isolated from any building loads, including loads caused by structural deflection or shortening.
- Allow for thermal movement.

Expansion and contraction of the components needs to be provided for. Temperature change due to climatic conditions must not cause harmful buckling, opening of joints, undue stress on fastening and anchors, noise of any kind or other defects.

Protection: Protect surfaces and finishes, including the retention of protective coatings during installation.

Fixing method: As documented or to one of the following fixing methods to the manufacturer's recommendations:

- Steel framing: Screw.
- Timber framing: Nail or screw.

Horizontal cladding surface:

- Minimum slope: 1:15.
- Staining: Slope away from visible vertical façade areas to prevent staining.

Document control joints, flashings at windows and abutments, and penetrations to the manufacturer's recommendations on the drawings.

Defective components: Do not install component parts which are defective, including warped, bowed, dented, abraded or broken members.

Damaged parts: Remove and replace damaged members during installation.

##### Manufacturer's instructions

General: Use ASKIN® approved installers for installation.

##### ASKIN® XFLAM performance panel installation

Requirement: Conform to ASKIN® recommendations and standard construction drawings.

Detail control joints, flashing at windows and abutments, and penetrations. Consult ASKIN for further information.

##### Accessories and trim

Requirement: Provide accessories and trim necessary to complete the installation, or as documented.

##### Metal separation

Requirement: Prevent direct contact between incompatible metals, and between green hardwood or chemically treated timber and aluminium or coated steel, by either of the following methods:

- Apply an anti-corrosion, low moisture transmission coating to contact surfaces.
- Insert a separation layer.

Incompatible metal fixings: Do not use.



**Joints**

Requirement: Rigidly secure joints other than movement and open joints. Reinforce as required and fix with hairline abutments or as documented.

Structural movement joints:

- Location: Coincident with structural movement joints, as documented.
- Joint width: To match structural movement joint requirements.

**3.3 COMPLETION**

**Cleaning**

Protection: Remove protective coatings using methods required by the manufacturer after completion.

Protective film will withstand exposure to weather for a limited period of time before losing its peel-off characteristics and causing staining. The gloss coating changes when exposed to plasticizers.

ASKIN® panels: Clean surfaces to the manufacturer’s recommendations.

**Warranties**

General: Provide warranties for materials and workmanship in the form of interlocking warranties from the supplier and the installer.

- Form: Against failure of materials and execution under normal environment and use conditions.
- Period: As offered by the supplier.

Use only if warranties extending beyond the defects liability period are available for the particular system. Insert the required warranty period and terms, which should be negotiated beforehand. If the warranty is in the form of separate material and installation warranties, require the signatures of both manufacturer and installer. If specifying warranties include the following:

- Workmanship: 2 years.
- Materials: 10 years.

The form(s) required should be provided as part of the contract documentation.

**4 SELECTIONS**

**Schedules** are a way of documenting a selection of proprietary or generic products or systems by their properties. Indicate their locations here and/or on the drawings. Refer to NATSPEC TECHnote GEN 024 for guidance on using and editing schedules.

**4.1 ASKIN® EXTERIOR FACADE SYSTEM**

**ASKIN® XFLAM Performance Panel schedule**

Property	A	B	C
Panel thickness (mm)	50-250 mm		
Panel skin material: External	AM100		
Panel skin material: Internal	Z275		
Panel skin thickness: External (mm)	0.5 mm		
Panel skin thickness: Internal (mm)	0.4 mm		
Panel profile: External	Ribbed		
Panel profile: Internal	Flat		
Panel finish and colour: External	Colorbond® Surfmist®		
Panel finish and colour: Internal	Colorbond® Surfmist®		
R-Value			

A, B, C: These designate each instance or type or location of the item scheduled. Edit to align with the project’s codes or tags. Edit codes in the **Schedule** to match those on drawings.





AS/NZS 1530.3	1999	Simultaneous determination of ignitability, flame propagation, heat release and smoke release
AS/NZS 2904	1995	Damp-proof courses and flashings
AS 5637		Determination of fire hazard properties
AS 5637.1	2015	Wall and ceiling linings
BCA Spec C1.10	2016	Fire resistance - Fire hazard properties
FM 4471	2010	Approval standard for Class 1 panel roofs
FM 4880	2015	Approval standard for Class 1 fire rating of insulated wall or wall and roof/ceiling panels, interior finish materials or coating sand exterior wall systems
<b>The following documents are mentioned only in the <i>Guidance text</i>:</b>		
AS/NZS 3666		Air-handling and water systems of buildings - Microbial control
AS/NZS 3666.1	2011	Design, installation and commissioning
AS 3959	2009	Construction of buildings in bushfire prone areas
AS 5113	2016	Fire propagation testing and classification of external walls of buildings
AS ISO 9705	2003	Fire tests - Full-scale room test for surface products
ABCB Advisory Note 3	2016	Fire performance of external walls and cladding
BCA Section C	2016	Fire Resistance
BCA Section J	2016	Energy efficiency
NATSPEC DES 003	2006	Fire hazard properties of insulation and pliable membranes
NATSPEC DES 018	2008	Bushfire protection
NATSPEC DES 020	2011	Fire behaviour of building materials and assemblies
NATSPEC DES 031	2014	Specifying R-Values
NATSPEC GEN 006	2007	Product specifying and substitution
NATSPEC GEN 024	2015	Using NATSPEC selections schedules
NATSPEC TR 01	2016	Specifying ESD
FM 4881	2007	Approval standard for Class 1 exterior wall systems
ISO 9001	2015	Quality management systems - Requirements