



0001c Design Checklist - Finish

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00 Design Principles

0.01 Main considerations

It is a requirement to undertake the [00 PLANNING AND DESIGN/ 0001R - DESIGN REFERENCE](#) and [GLOSSARY OF TERMS](#) information into all aspects of design, detailing and delivery when developing the content here within. Clear demonstration of adherence to these requirements is part of the services and will be called upon at key points in the project and during at the discretion of the Department of Education (DoE).

General

This design checklist provides information on the important criteria that should be considered in the design of the building fabric and the selection of appropriate materials.

Designers should consider:

- Ecological sustainable solutions
- Maintenance
- Aesthetic appeal
- Life Cycle Costing
- Value for money
- Durability
- Vandalism
- Safety

The preference is to use products with recycling potential on disposal and /or includes recycled content.

The selection of materials and finishes must be based on a knowledge of the activities to be conducted in the area.

Use impact resistant materials in all pupil accessible zones. Visible surfaces should be capable of being easily cleaned and repaired if damaged.

0.02 Design and Detailing

Detailing of the design should be undertaken, appropriate to the location and individual situation. Generally, the following criteria will need to be considered:

- **Design** utilises traditional construction techniques and where possible “off-the-shelf” materials and standard colours that are tried and proven, representing building best practice.
- **Detailing** allows for differential movement, thermal stress, ultraviolet degradation, trade tolerances and robust use, in simple uncomplicated format. Excessive complicated detailing is often misunderstood by general construction staff, which will lead to poor execution and excessive costs.
- **Water tightness** is an essential criterion and must be guaranteed. Reliance on silicone sealant at junctions between structure and metal sheeting is unacceptable as over time and because of inevitable differential movement, joints will fail.
- **Air tightness** is an important design element that leads to better building performance. An appropriately detailed airtight façade in conjunction with adequately designed and operated controlled ventilation will lead to improved ventilation, lower rates of heat loss, greater thermal comfort and reduced energy consumption.
- **Building forms** and elements that rely on highly detailed steelwork to achieve user comfort conditions or decoration, such as sun and weather screens, to achieve user comfort conditions or decoration, have generally been found to represent poor value for money and are to be avoided.
- **Increasing the thermal performance** beyond the minimum requirements of BCA Section J to improve thermal comfort and reduce energy consumption is encouraged and should be considered as part of the Whole of Life analysis of heating/cooling options.
- **Solar Reflectance Index (SRI)** to reduce heat loss/gain and the heat island effect (unless local glare issues dictate otherwise).

0.03 Finishes and surfaces

Key considerations in materials selection and detailing are:

- High durability, impact resistance & low maintenance materials are required at levels accessible to pupils. Areas of high pupil contact and activity will require greater robustness and could be separated from areas of less contact, by dados, datum lines etc., to minimise maintenance cycles to those areas.
- Pre-finished materials are preferred to minimise future maintenance.
- Concrete structural elements, walls and soffits to be unpainted.
- Steelwork below 2100mm above the ground should not be painted so as reduce maintenance requirements.

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- Within 3km of the ocean, 1km from bays or in highly industrialised areas with corrosive atmospheres, avoid unnecessary use of steelwork. Where use of steel is considered necessary, design for the location, considering maintenance provisions.

Refer [00 PLANNING AND DESIGN/0001C DESIGN CHECKLIST - STRUCTURE](#) and [03 STRUCTURE/0342 LIGHT STEEL FRAMING](#)

- Termite resistant materials are to be used.
- Bird Nuisance: Avoid structural struts or ledges in details that could provide bird perches.
- Glare: is a major issue in schools, particularly from paving and roofs. Select materials, finishes/textures and colours to address this.
- Paving: Ensure surfaces comply with access requirements of the relevant Australian Standard.

Applied finishes

Avoid the following:

- Toxic or hazardous materials.
- Use of surface coatings with volatile organic compound emitting products, including adhesives and sealants. Emission limits that do not exceed those stipulated in the Green Star Buildings rating tool.
- Colours which are significant in creating adverse learning environments appropriate to the required ambience.

0.04 Wall Surfacing

Wall materials and finishes should be chosen utilising **0.01 Main Considerations** with specific attention to:

- Value for Money
- Aesthetic appeal
- Long term durability
- Low maintenance costs
- Functionality, including an appropriate level of insulation for acoustic and thermal purposes
- Use products with a long-life span
- Avoid products or materials that require frequent and costly maintenance
- Use products with recycling potential on disposal, and/or include recycled content.

Selection of appropriate surface finishes must proceed with a knowledge of the activities to be conducted in the area. Visible surfaces should be capable of being easily cleaned and repaired if damaged.

External walls should be of impact resistant materials, generally masonry, to a minimum height above ground level of 2100mm (door head height). Masonry can continue beyond this height however; lightweight cladding is an acceptable alternative.

Externally, pre-finished surfaces should be used. External painting should be minimised and restricted to secure areas.

Avoid articulated forms that significantly increase wall areas.

Where corrugated steel wall sheeting is used run ribs vertically to minimise dirt collection.

Building regulations such as the BCA will require that some external walls to have fire rated characteristics, which are to be complied with.