

## 0651P KARNDÉAN IN RESILIENT FINISHES

**Branded worksection**

This branded worksection *Template* has been developed by NATSPEC in conjunction with **KarndeanDesignflooring** and may be used whilst the Product Partner is licensed to distribute it. The copyright remains with NATSPEC. As with all NATSPEC worksections, it is the responsibility of the user to make sure it is completed appropriately for the project. The user should also review its applicability for local conditions and regulations. Check [www.natspec.com.au](http://www.natspec.com.au) for the latest updated version.

**Worksection abstract**

This branded worksection *Template* is applicable to resilient sheet and tile finishes with associated underlay including polyvinyl chloride (PVC) and flocked textile flooring supplied by Karndean Designflooring. It also includes cork tiles, linoleum, corklinoleum, rubber, flexible terrazzo tiles and static control flooring.

**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 example:

- 0315 *Concrete finishes* for substrates.
- 0383 *Sheet flooring and decking* for substrates.
- 0541 *Access floors*.
- 0652 *Carpets*.
- 0656 *Floor sanding and finishing* for substrates.
- 0657 *Resin based seamless flooring*.
- 0822 *Wastewater* for fitting to floor wastes.

**Material not provided by Karndean**

This worksection includes generic material which may not be provided by Karndean Designflooring, including:

- Corklinoleum.
- Cork tiles.
- Linoleum.
- Rubber.
- Flexible terrazzo tiles,
- Static control flooring,
- Synthetic sporting surface.

**Documenting this and related work**

You may document this and related work as follows:

- Nominate the locations of finishes and finish abutments and control joints on drawings to your office documentation policy.
- Check lead time for imported selections and consider adding a requirement, in **SUBMISSIONS**, for the builder to verify availability.

Search [www.environmentdesignguide.com.au](http://www.environmentdesignguide.com.au), the Australian Institute of Architect's environmental advisory subscription service for notes on the following:

- Polyvinyl chloride (PVC).

**Specifying ESD**

The following may be specified by retaining default text:

- Natural and biodegradable flooring including linoleum, cork, corklinoleum and rubber.

The following may be specified using included options:

- Scrap recycling, finishes with programs for recycling offcuts.

The following may be specified by including additional text:

- Recycled material, e.g. for PVC and rubber flooring.
- PVC finishes and adhesives with low or no VOC emission.
- Planks or tiles not requiring underlays or adhesives, reducing materials for installation.
- Materials recyclable at the end of service life.

Refer to the **NATSPEC TECHreport TR 01** on specifying ESD.

## 1 GENERAL

Kardean Designflooring was founded back in 1973 and is a global supplier of commercial and residential luxury vinyl flooring. Kardean International, Inc. is a UK based company, with operations in Australia, has a reputation for creating unique vinyl floor designs that are inspired by natural materials such as ceramic, glass, slate, limestone, wood, and marble.

### 1.1 RESPONSIBILITIES

#### General

Requirement: Provide polyvinyl chloride (PVC) surface coverings and PVC backed flocked floor coverings supplied by Kardean Designflooring and other resilient floor finishes to substrates, as documented.

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

### 1.2 COMPANY CONTACTS

#### Kardean Designflooring technical contacts

Website: [www.Kardean.com/commercial-flooring/contact-us](http://www.Kardean.com/commercial-flooring/contact-us)

### 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 STANDARDS

#### General

Installation: To AS 1884.

*AS 1884* provides details of work necessary to prepare subfloor surfaces and procedures to be adopted for laying resilient floor covering.

#### Slip resistance

Classification: To AS 4586.

### 1.5 MANUFACTURER'S DOCUMENTS

#### Technical manuals

Manuals: Conform to the following:

- Luxury vinyl tiles (LVT): [www.Kardean.com/commercial-flooring](http://www.Kardean.com/commercial-flooring)
- Flotex sheet (PVC backed flocked textile): [www.Kardean.com/commercial-textiles](http://www.Kardean.com/commercial-textiles)

### 1.6 INTERPRETATION

#### Abbreviations

General: For the purposes of this worksection, the following abbreviations apply:

- LVT: Luxury vinyl tiles.
- PVC: Polyvinyl chloride.

- SBR: Styrene butadiene rubber.

### Definitions

General: For the purposes of this worksection the definitions given in AS 1884 and the following apply:

- Acoustic underlay: A resilient material laid between the structural floor and the flooring material to provide sound isolation.
- Luxury vinyl tiles: Vinyl tiles which uses photographic encapsulation to replicate natural floor finish such as stone and wood.
- Pvc backed floor coverings: Expanded PVC base with monofilament polyamide fibres.
- Resilient floor coverings classification: To EN ISO 10874.

- EN ISO 10874 classifies resilient floor coverings by level of use for domestic, commercial and industrial applications.

- Substrate: The surface to which a material or product is applied.
- Underlay: A non-structural layer of sheet material or in situ levelling material on the substrate to provide a smooth and level surface.

Edit the **Definitions** subclause to suit the project or delete if not required. List alphabetically.

## 1.7 SUBMISSIONS

### Certification

General: Provide a certificate of compliance for antistatic and conductive floor installations.

### Fire performance

Fire hazard properties: Submit evidence of conformance to PRODUCTS, **FIRE PERFORMANCE**, **Fire hazard properties**.

### Operation and maintenance manuals

General: Submit Karndean Designflooring published use, care and maintenance requirements for each type of finish.

The following publications are available:

- Floor Care Guide Consumer (Domestic).
- Floor Care Guide - Commercial.
- Flotex sheet: Cleaning and Maintenance Wall Chart.

See [www.karndean.com/floors](http://www.karndean.com/floors), [www.karndean.com/commercial-flooring](http://www.karndean.com/commercial-flooring) and [www.karndean.com/commercial-textiles](http://www.karndean.com/commercial-textiles).

### Products and materials

Manufacturer's data: Submit the manufacturer's product data for each type of finish, and the manufacturer's recommendations for its application in the project including, the following, as appropriate:

- Thickness and width of sheet or size of tile.
- Adhesive and jointing method.
- Resistance to wear, indentation, chemicals, light and fire.
- Flexibility and bending strength.

Manufacturer's type tests: Submit test results showing that materials conform to cited standards.

Slip resistance: Submit evidence of conformance to AS 4586.

### Samples

If the specification does not state selected properties such as colour and texture, the effect of this clause is to require the submission of samples covering the full range of those properties. The specification should define the item with enough precision, either by description, or by reference to preselected samples, or as a proprietary item, to allow the contractor to identify and price it. Where the covering is specified as a proprietary item, use this clause as a means of confirmation.

Range: Submit labelled samples of resilient finishes illustrating the range of colour, pattern or texture of the product.

Minimum size per sample:

- Sheet: 450 x 450 mm.
- Tiles: A whole tile or 0.09 m<sup>2</sup>, whichever is the greater.
- Linear accessories (including coving, skirting, stair nosing, protection strips): A piece 300 mm long.
- Welded joints: 300 mm long.

No welded joints are required for Karndean Designflooring products.

Identification: Label each sample, with brand, product name, and manufacturer's code reference (including the code for each coat of multi-coat work).

Sample panels: Provide sample panels as follows:

- Location: [complete/delete]
- Size (mm): [complete/delete]

Call for sample panels only when large areas are specified. Delete if not required.

Trial set-out: Prepare a trial set-out before fixing.

#### Subcontractors

General: Submit names and contact details of proposed suppliers and installers.

#### Substrate acceptance

Applicator: Submit the installer's certification of the acceptability of the flooring substrate before commencing installation.

#### Tests

0171 General requirements covers tests in **Definitions** and calls for an inspection and testing plan under **SUBMISSIONS, Tests**.

Site tests: Submit results, as follows:

- Site slip resistance test of completed installations.
- Surface pH test.
- Moisture content test.

Detail the tests required in **PRODUCTS** or **EXECUTION**, as appropriate, and list the submissions required here.

#### Warranties

Requirement: For each type of resilient finish specified, submit the manufacturer and installer's warranty of the material, workmanship and application.

Warranty items: [complete/delete]

Describe the requirements of warranties in **PRODUCTS** or **EXECUTION**, as appropriate, and list the submissions required here. Consult or negotiate with manufacturers for warranty terms, and specify only such terms as are actually available. State requirements.

Karndean Designflooring provides the following warranty conditions:

- Flooring with 0.3 mm wear layer: 35 years for heavy domestic and 10 years for light commercial applications.
- Flooring with 0.5 mm wear layer: 35 years for heavy domestic and 15 years for heavy commercial applications.
- Flooring with 0.7 mm wear layer: 35 years for heavy domestic and 20 years for heavy commercial applications.
- Flotex sheet flooring: 15 years for heavy commercial applications.

Flotex sheet warranty terms: Product will not wear out and will be free of manufacturing defects for the warranted period (from the date of purchase). A product is deemed worn out if backing becomes exposed due to loss of surface pile.

LVT warranty terms: Karndean vinyl tile and plank floor covering products will be deemed to have worn out when the top wear layer has worn to expose the photographic design layer within the applicable warranty period specified for that quality range'.

Installer's warranty: All installer warranties cover subfloor preparation and workmanship for 1 year from the date of installation.

## 1.8 INSPECTION

#### Notice

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

- Substrate immediately before fixing resilient finishes or underlay.
- Completed underlay, if any.
- Finished surface before applying sealers or polishes (if any).
- Completed installation.

Amend to suit the project adding critical stage inspections required.

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

## 2 PRODUCTS

### 2.1 GENERAL

#### Product substitution

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

The *0171 General requirements* 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.

#### Product identification

General: Marked to show the following:

- Manufacturer's identification.
- Product brand name.
- Product type.
- Quantity.
- Product reference code and batch number.
- Date of manufacture.

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

### 2.2 FIRE PERFORMANCE

#### Fire hazard properties

Critical radiant flux: Tested to AS ISO 9239.1.

Non-sprinklered buildings: The floor finish must have maximum *smoke development rate* of 750 percent-minutes tested to AS ISO 9239.1.

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

### 2.3 UNDERLAYS

A thin cementitious type underlay may be used as an isolating barrier of known electrical resistance beneath antistatic or conductive flooring if required. Other special underlay systems are available for the reduction of impact noise, these may be laid directly on the substrate or over an isolation pad or board, an embedded reinforcing mat is usual. Consult manufacturers of both underlay and floor covering for compatibility and installation requirements.

#### Cementitious

General: Polymer modified cementitious self-smoothing and levelling compound.

Thickness: 3 mm minimum.

Use to correct the substrate. Avoid a feather edge that may curl, by cutting back for a 3 mm minimum thickness. Delete if not appropriate.

#### Fibre cement underlay

Standard: To AS/NZS 2908.2, Type B, category 2 minimum.

Thickness: 5 mm minimum.

#### Wet processed fibreboard (hardboard) underlay

Standard: To AS/NZS 1859.4.

The NCC cites AS/NZS 1859.4:2004.

Classification: General purpose medium board, manufactured specifically as flooring underlay.

Thickness: 5.5 mm.

#### Moisture barrier

If testing to AS 1884 shows the moisture content of the concrete slab exceeds the requirements of AS 1884 or the manufacturer's recommendations, a moisture barrier may be required. See NATSPEC TECHnote DES 008 on the preparation of concrete substrates.

#### General

Description: Water-based moisture barrier to resilient finish and adhesive manufacturer's recommendation, if required.

#### Acoustic underlay

Product: Regupol<sup>®</sup> 4515 Acoustic underlay.

Available direct from Regupol (Australia) Pty Ltd.

Thickness: 3 mm.

Application: Dual bonding with LVT or plank.

Adhesive: Regupol® 1-Part Multi-Use adhesive for both bonds.

Select from the following Karndean Designflooring products and nominate here or in **SELECTIONS**:

- Generally: All Karndean Designflooring tile and plank products when installed with Regupol® 4515 Acoustic underlay comply with BCA F5.3(a), for Class 2 and 3 buildings.
- Looselay: No separate underlay is required to comply with BCA F5.3(a), for Class 2 and 3 buildings.

Delete clause if acoustic underlay is not required.

## 2.4 ADHESIVES

### General

Requirement: To the resilient finishes manufacturer's recommendations.

Special adhesives may be required for antistatic and conductive applications and slabs with high moisture content,

## 2.5 SHEETS AND TILES

### Edges of sheets and tiles

General: Make sure edges are firm, unchipped and machine-cut accurately to size and square to the face, and that tile edges are square to each other.

### Cork tiles

Standard: To EN 12104.

Most of the cork tiles imported from Portugal are 305 x 305 mm square. Cork is not suitable for very heavy wear although densities over 450 kg/m<sup>3</sup> may be available for heavy contract use.

### Corklinoleum

Standard: To EN 688.

### Linoleum

Standard: To EN ISO 24011.

### Rubber

Standard:

- Smooth rubber: To EN 1817.
- Textured/relief rubber: To EN 12199.

Generally synthetic, available in various grades for specific uses, e.g. where oils, fat, grease, acids and solvents are used. The surface is commonly moulded into patterns - usually raised studs. Static dissipative and static conductive grades are available for static control.

### Polyvinyl chloride (PVC)

Resilient floor covering, homogeneous: To EN ISO 10581.

Resilient floor covering, heterogeneous: To EN ISO 10582.

Resilient floor covering, jute or polyester felt backing: To EN 650.

Resilient floor covering, with foam layer: To EN 651.

Resilient floor covering, with particle based enhanced slip resistance: To EN 13845.

Resilient floor covering, semi-flexible polyvinyl chloride tiles: To EN ISO 10595.

Proprietary PVC products will generally be imported and conform to overseas standards. See also NATSPEC TECHnote DES 001 on slip resistance. Consult the manufacturer on suitability for service conditions, especially for severe conditions such as underfloor heating or high humidity.

### Karndean Designflooring PVC LVT flooring/PVC backed flocked floor covering

Product: [complete/delete]

Select from the following Karndean Designflooring and Flotex sheet flocked products and nominate here or in **SELECTIONS** if there is more than one product:

- Art Select (Oak Premier, Parquet, Oak Royale, Hand Crafted Wood) – wood textured plank effect flooring, bevelled edge, standard thickness 3 mm, 0.7 mm thick wear layer.
- Art Select Stone – marble, slate, travertine and limestone tile effect flooring, bevelled edge, standard thickness 3 mm, 0.7 mm thick wear layer.

- Da Vinci – smooth surface slim wood plank and stone effect floor tiles, bevelled edge, standard thickness 3 mm, 0.7 mm thick wear layer.
- LooseLay – loose laid, wood plank and stone effect floor tiles non-bevelled edge, PVC friction pad backing, standard thickness 4.5 mm, 0.5 mm thick wear layer. Available in Series 1, 2 and 3 which have different slip resistance ratings.
- LooseLay Long Board - loose laid, long plank with a non-bevelled edge, PVC friction pad backing, standard thickness for 4.5 mm, 0.5 mm thick layer.
- Van Gogh – large 1219 mm x 178 mm wood plank effect flooring, non-bevelled edge, standard thickness 3 mm, 0.5 mm thick wear layer.
- Opus – large format floor tiles and wood plank effect flooring, non-bevelled edge, standard thickness 2.5 mm, 0.5 mm thick wear layer.
- Michelangelo – metallic, mosaic and pebble tile effect flooring, non-bevelled edge, standard thickness 2.5 mm, 0.5 mm thick wear layer.
- Knight Tile – wood plank, tiles and stone effect flooring, non-bevelled edge, standard thickness 2 mm, 0.3 mm thick wear layer.
- Flotex sheet Essentials collection – sheet flocked floor covering, standard thickness 2.3 mm, width 2000 mm, pile height 2 mm.
- Flotex sheet Classic collection – sheet flocked floor covering, standard thickness 2.3 mm, width 2000 mm, pile height 2 mm.
- Flotex sheet Vision collection – sheet flocked floor covering, standard thickness 2.3 mm, width 2000 mm, pile height 2 mm.
- Flotex sheet Sottsass collection – sheet flocked floor covering, standard thickness 2.3 mm, width 2000 mm, pile height 2 mm.

Karndean Designflooring LVT is 100% PVC.

The products are suitable for education, healthcare, domestic, hospitality and leisure, retail and other commercial applications.

**Thickness:** [complete/delete]

**Adhesive:** [complete/delete]

Select from the following Karndean Designflooring products and nominate here or in **SELECTIONS** if there is more than one product:

- Karndean Mega-Bond for general applications.
- Karndean 8000 2-part Polyurethane for high temperature and wet area applications.
- Karndean Hi-Tack PS adhesive grid stick to floor tile perimeter for loose laid applications.
- Regupol 1-Part Multi-Use adhesive for bonding Regupol® 4515 Acoustic underlay.

**Primer:** [complete/delete]

Select from the following Karndean Designflooring products and nominate here or in **SELECTIONS** if there is more than one product:

- Karndean GS400 Primer for general applications or as recommended by the installer, depending on subfloor conditions.

**Lead time:** [complete/delete]

Karndean Designflooring LVT: Depending on stock availability, can make deliveries within 24 to 48 hours within Melbourne and within 5 working days to regional or interstate areas.

Flotex sheet:

- Australasian stocked products: Can make deliveries within 24 to 48 hours within Melbourne and within 5 working days to regional or interstate areas.
- European stocked products: Can make deliveries within 8 to 14 weeks.

### Vinyl bench topping

General: Fully flexible homogeneous sheet.

Bench or counter topping grade is available but is less durable than laminate for heavy usage. Antistatic material is available where static control is required, consult with manufacturer for special installation procedures.

### Flexible terrazzo tiles

General: Marble or granite chips bedded in a flexible thermoset resin matrix, precision ground and polished.

### Static control flooring

See NATSPEC TECHnote DES 007 on static control floors.

General: Unbacked flexible sheet with electrical resistance.

Sheet products with antistatic properties generally refer to static dissipative or static conductive grades that provide static control. However, some standard products will provide some degree of static control and may prove adequate.

#### Acoustic sheet vinyl

General: Unbacked flexible sheet vinyl laid over separate closed cell foam acoustic underlay.

Acoustic underlay thickness: 2 mm.

For built-up applications using a separate acoustic underlay, a tested system from a single manufacturer is preferable to a combination of products from different manufacturers. Single layer resilient backed sheet vinyl may provide an alternative but with a lower insulation rating.

Refer to NATSPEC TECHnote DES 027 for information on impact sound insulation.

#### Slip-resistant sheet vinyl

Slip resistance classification: To AS 4586.

#### Inlaid vinyl sheet

General: A layer of vinyl chips inlaid in a translucent vinyl matrix, bonded to a moisture resistant backing.

## 2.6 SYNTHETIC SPORTING SURFACES

#### Standard

General: To EN 14904.

Refer to EN 12235 (ball rebound), EN 13036-4 (sliding coefficient of friction), EN 14808 (shock absorption) and EN 14809 (verticle deformation) for additional information on synthetic sporting surfaces.

## 3 EXECUTION

### 3.1 SUBCONTRACTORS

#### General

Requirement: Use specialist installers recommended by the materials manufacturers.

Karndean Designflooring can assist in recommending suitable installers throughout Australia.

### 3.2 PREPARATION

#### Substrates

General: To AS 1884 Section 3.

#### Substrate tolerance table

Property	Length of straightedge laid in any direction	Max. deviation under the straightedge
Planeness	2 m	4 mm
Smoothness	150 mm	1 mm
Projections	50 mm	0.5 mm

Planeness tolerance class: Nominate Class A in the **Flatness tolerance class table** in the *0315 Concrete finishes* and *0612 Cementitious toppings* worksections for locations where resilient finishes is to be installed, as appropriate for the project. It is assumed smoothness and projection tolerance corrections form part of substrate preparation.

#### Concrete substrates

Refer to NATSPEC TECHnote DES 008 on the preparation of concrete substrates. Refer also to CCAA Data Sheet Moisture in concrete and moisture-sensitive finishes and coatings.

Requirement: Do not start installation of the resilient finishes until the concrete substrate conforms to AS 1884 clause 3.1 and the adhesive and resilient finish manufacturers' recommendations.

AS 1884 sets out minimum requirements for surface pH, moisture content and planeness and smoothness of the concrete substrate which should be determined by inspection and testing. The manufacturer's recommendations may exceed these requirements. This worksection requires submission of test results.

Concrete substrate rectification: Conform to the following:

- Surface treatments: Mechanically remove any incompatible surface treatments, including the following:
  - . Sealers and hardeners.



- . Curing compounds.
- . Waterproofing additives.
- . Surface coatings and contamination.

The application of solvent based spray paint and makers during construction should be avoided as these products may cause bleed through to resilient finishes laid on concrete floors.

- Planeness, smoothness, projections: Remove projections and fill voids and hollows with a self-smoothing levelling compound compatible with the adhesive. Allow filling or levelling compound to dry to manufacturer's recommendations.

Moisture content rectification: Provide a moisture barrier to the flooring manufacturer's recommendation.

If a moisture barrier or moisture suppression system is permitted, consider including this *Optional* text. Changes in the design mix of concrete, admixtures and concrete surface finishing techniques, and low VOC adhesives have contributed to increased failure of resilient finishes. Consult the flooring manufacturer.

Cleaning: Remove loose materials or dust.

### Timber, plywood and particleboard substrates

Requirement: Do not start the installation of the resilient finishes until the timber, plywood or particleboard substrate conforms to AS 1884 clause 3.2.

Timber, plywood and particleboard substrate rectification: Remove projections. If conformance to the **Substrate tolerance table** cannot be achieved, provide an underlay in brick pattern with joints avoiding substrate joints.

Cleaning: Remove oil, grease, traces of applied finishes and loose materials or dust.

### Working environment

General: Do not start work before the building is enclosed, wet work is complete and dry, overhead work is complete and good lighting is available. Protect adjoining surfaces.

### Conditioning

General: Stabilise the room temperature for seven days before, and two days after, installation of resilient finishes, as follows:

- Areas with air conditioning installed: Run air conditioning at operational temperature.
- Air conditioned areas not operational: Maintain an ambient room temperature range of 15°C to 28°C.

For Karndean Designflooring products, maintain the ambient room temperature at 15° to 26°C.

- Underfloor heating: Turn off heating and allow substrate to stabilise at the temperature recommended by the manufacturer.

Underlay: Expose both faces of each sheet for at least 24 hours before fixing.

Resilient sheet and tile floor coverings: Stack for at least 48 hours before installation.

For Karndean Designflooring products, stack for at least 24 hours before installation.

## 3.3 SHEET AND TILE INSTALLATION

### Karndean Designflooring PVC flooring

General: To Karndean Designflooring's recommendations for LVT and Flotex sheet.

#### Sheet set-out

General: Set out sheets to give the minimum number of joints. Position joints away from areas of high stress. Run sheet joints parallel with the long sides of floor areas, vertically on non-horizontal surfaces.

Flotex sheet: Delete this text and include the following in *Open text*.

Requirement: Following the arrow directions on the back of sheets, set out sheets pointing towards the main light source. Do not mix lot numbers. Lay each roll in the numerical sequence found on each label, lengthways along the main direction of traffic flow.

#### Tile set-out

General: Set out tiles from centre of room. If possible cut tiles at margins only, to give a cut dimension of at least 100 mm x full tile width. Match edges and align patterns. Arrange the tiles so that any variation in appearance is minimised.

Amend text if tile layout and joints have been documented.

**Joints**

Non-welded: Butt edges together to form tight neat joints showing no visible open seams.

Delete if joints are welded. For Flotex sheet, include the following text:

- Additional length: Provide to allow pattern matching across the joints.

**Junctions**

General: Scribe neatly up to returns, edges, fixtures and fittings. Finish flush with adjoining surfaces.

**Rolling**

General: If rolling is required, roll the finish in multiple directions before the adhesive sets and as follows:

- Karndean Designflooring LVT:
  - . Stage 1: Use a hand roller across the surface of each tile/plank as they are placed into the wet adhesive.
  - . Stage 2: At completion of the installation, when the adhesive has tacked-up, roll with a 30 to 40 kg floor roller.
  - . Stage 3: Repeat Stage 2 after 90 minutes.
- Flotex sheet:
  - . Stage 1: Press sheets with a spatula into the adhesive from the centre to the edges to eliminate air bubbles, ensuring accurate pattern matching.
  - . Stage 2: At completion of the installation roll with a 30 to 40 kg floor roller.

Roller size: [complete/delete]

e.g. PVC 30 to 40 kg, Linoleum 65 kg, LVT (Luxury vinyl tiles) 45 kg, VCT (Vinyl composite tiles) 68 kg.

**Change of finish**

General: Maintain finished floor level across changes of floor finish including carpet.

**Cleaning**

General: Keep the surface clean as the work proceeds.

**Finishing schedule**

Sheet and tile type	Finish	Rolling after laying

Finish: e.g. Buffable water emulsion polish, Two-pack clear polyurethane (cork); Buffable metallised emulsion polish, Buffing only for slip-resistant sheet (PVC); Two coats buffable metallised emulsion polish (cushion backed sheet vinyl).

**Scrap recycling**

Participating supplier: [complete/delete]

Some manufacturers will recycle site scrap vinyl of their own brand.

Karndean Designflooring and Flotex do not recycle scrap material.

**3.4 TILING****Cork tiles**

Laying: Provide a water-based latex adhesive. Do not use pins.

Finishing: Sand after laying.

Cork tiles can be sealed or given a clear finish.

Two-pack polyurethane will give the floors a harder finish with some loss of resilience. Coordinate with the 0671 Painting worksection.

**Karndean Designflooring PVC flooring**

General: To Karndean Designflooring recommendations.

Laying: Dry lay tiles before installation. Lay tiles in stretcher bond. Match edges and align joints.

Stretcher bonding, where each alternate tile is laid so that the end of the adjacent tile is in the centre of the ones on either side of it, reduces the possibility of the tiles lifting at the point where the four corners join.

**Rubber tiles**

General: Keep tiles flat during storage. Before laying, allow the tiles to relax and decompress, and make sure that the backs are free of loose material.

Adhesive: Provide as follows:

- Horizontal surfaces: Solvent-free epoxy mechanically mixed. Use only within the limit of the adhesive pot life.
- Stair skirtings, stop ends, external mouldings and vertical surfaces: Neoprene contact adhesive applied to both the tile or accessory and the substrate surface. Fix when both surfaces are touch dry.

Laying: Lay tiles in stretcher bond. Match edges and align joints and studs. Make sure that the whole surface of the tile or accessory is in contact with the substrate.

Stretcher bond reduces the possibility of the tiles lifting at the point where the four corners join. Checkerboard may be preferred otherwise.

Stair finish: Provide as follows:

- Smallest tiles: Half tile.
- Nosing tiles: Purpose-made matching tread, nosing and riser tile. Accurately scribe, cut and fit to perimeters. Close butt seams.

Rubber nosing tiles are an alternative to forming standard tiles to radius. Proprietary slip-resistant PVC or aluminium, or PVC combined riser, nosing and tread are also available. Stair stringer profile with tapered edge is available in 300 mm width.

Finishing: Sweep, vacuum, and wash using clean warm water and household soap only, to remove foreign matter, including protective wax coating. Buff when dry. Provide a suitable polish if recommended in conjunction with buffing.

**3.5 SHEETING****Welded joints**

Select from the alternatives and document in the **Welded joints schedule**.

Heat welding: After fixing, groove the seams using a grooving tool and weld the joints with matching filler rod, using a hot air welding gun or hot sealer. When the weld rod has cooled, trim off flush.

Note: This is not applicable for Flotex sheet flooring. Delete if only Flotex sheets are selected.

Heat welding was developed specifically for homogeneous sheet. It may be used for vinyl chip sheet but will be more conspicuous than cold welding and will not have the same strength as heat welding in homogeneous sheet.

Chemical welding: Apply seaming compound 100 mm wide to the substrate centrally under the seam until the compound is forced up into the joint. Clean off flush with a damp cloth.

Is less conspicuous and may be preferable for that reason.

Epoxy jointing: Join seams with epoxy adhesive.

For slip-resistant vinyl sheet.

**Welded joints schedule**

Sheet and tile type	Welding type

**Conductive flooring**

General: Install conductive sheet on a copper grid comprising copper tape 80 µm thick x 10 mm wide adhered to the floor with conductive adhesive. Lay copper tape along each length of sheet vinyl and connect it at right angles to a 1 MΩ resistor. Connect to earth with copper tape at 20 to 30 m<sup>2</sup> intervals.

Provide an earthing system if electrical resistance to earth or a conductive floor is required. The earthing grid will consist of metallic strips laid directly under the flooring material, connection to building is made by a qualified electrician – a backup connection is recommended. Metal fixtures and fittings should be isolated from the flooring. Additional requirements, e.g. earthing rails, placement of switches and outlets outside the area, atmosphere ionisation and humidity controls may be required. Include these under the relevant worksection.

### 3.6 VINYL STAIR FINISH

#### General

Preformed: Provide purpose-made vinyl stair finish combining riser, nosing and tread in the one element. Lay each step consecutively with the joint at the bottom of each riser.

Formed in situ: Fit the sheet vinyl to each tread, and to the riser above, in one piece, coved in the angle. Accurately scribe, cut and fit to stair nosings and perimeters.

### 3.7 JOINTS AND ACCESSORIES

At areas of heavy use, particularly with wheeled traffic, consider specifying a prototype test for the joint product installation using the anticipated wheeled equipment.

#### Junctions

General: Finish junctions tapered to with adjoining surfaces. Where changes of floor finish occur at doorways locate the joint on the centreline of the closed door leaf.

If the floor finish is to be divided into bays, specify here the bay size, dividing strip or joint filler.

#### Accessories

General: Provide purpose-made matching moulded accessories for nosings, coves, skirtings, edge cover strips and finishes at junctions, margins, and angles, if available. Otherwise, form accessories from the sheet material. Provide solid backing for radiused coves and nosings.

#### Accessories schedule

Accessory type	Location

Accessory type: Specify required accessories, such as nosings, wedge fillets, tile edge trim, wall and capping trim and state whether they are to be a proprietary item, purpose-made or formed.

For floor wastes to wet areas, consult with manufacturer for special requirements, e.g. flanged fittings to clamp over finish, and coordinate with **SANITARY DRAINAGE** in the 0822 Wastewater worksection.

#### Edge strips

General: Provide edge cover strips at junctions with different floor finishes and to exposed edges.

Metal cover strip: Extruded tapered strip 25 mm wide, of the same thickness as the sheet or tile. Fix with matching screws to timber bases or to masonry anchors in concrete bases, at 200 mm maximum centres.

Material: [complete/delete]

Material: e.g. Brass, Stainless steel or Aluminium.

PVC cover strip: Feather edge strip matching the floor finish, fixed with contact adhesive.

Width (mm): [complete/delete]

Width: e.g. 25 mm, 50 mm.

Colour: [complete/delete]

#### Control joints

Location: Provide control joints as follows:

- Over structural control joints.
- At junctions between different substrates.

Depth of joint: Right through to the substrate.

Sealant width: 6 to 25 mm.

Depth of elastomeric sealant: One half the joint width, or 6 mm, whichever is the greater.

#### Control joint materials – sheet flooring

Proprietary slide plate divider strip: Provide interlocking metal plates grouted into pockets formed in the concrete joint edges to finish flush with the flooring surface.

**Control joints schedule – proprietary slide plate**

Property	CJ1	CJ2	CJ3
Location			
Product			
Material			
Insert colour			

Location: State here or show on drawings.

Proprietary slide plate:

- Nominate the product type suitable for the anticipated movement.
- Material: e.g. Stainless steel.
- Insert colour: Nominate colour or omit if there is no insert.

**Vinyl skirting**

Select from the following.

Feather edge: Moulded PVC skirting section.

Intended for use with PVC or similar flat surface floor finishes. It provides coverage of floor termination at the vertical surface. Occasionally used where partitions are retro fixed over carpet.

Flat skirting: Flat PVC skirting section.

Intended for use with carpet. It provides a solid margin to assist the carpet laying process. Skirtings may be cut from sheet material but are more costly.

**Pre-formed vinyl coving: [complete/delete]**

Select sit-on or set-in. Sit-on is surface mounted after the floor material is laid.

Fixing: Scribe as necessary. Mitre corners. Fix to walls with contact adhesive.

Minimum height: 100 mm.

**Rubber coved skirtings and margins**

General: Form from smooth flat sheet matching the colour and total thickness of the rubber flooring. Scribe and mitre at internal corners.

External corners and stop ends: Provide purpose-made matching moulded pieces.

If moulded pieces are not available to match the rubber floor finish, consider using vinyl skirtings.

**Coved skirtings**

Provide where a continuous surface is required e.g. Wet areas, Wet mopping, Hygiene and clean rooms. A sealant or cover mould may be necessary where the wall finish joins the door jamb profile. The width may require special consideration to provide a sealed overlap where the coving terminates at the door jamb.

Site formed coving: Carry the flooring material up over a profiled coving section to form the skirting and mitre and weld all joints. Make sure the radius of the coving section conforms to the floor finish manufacturer's recommendations for sheeting material and thickness.

If using a contrasting border, document in the **Sheet and tile schedule**.

**Location: [complete/delete]**

State location if not shown on the drawings.

**3.8 TESTING**

0171 *General requirements* covers tests in **Definitions** and calls for an inspection and testing plan under **SUBMISSIONS, Tests**.

**Substrate tests**

Surface pH: Test concrete subfloor for suitability for the installation of resilient floor coverings to AS 1884 Appendix B.

- Maximum pH: 10 or as recommended by Karndean Designflooring.

Testing of pH should be carried out after any surface grinding. Freshly exposed concrete has high alkalinity and problems have been encountered overseas.

Moisture content: Test subfloors for suitability for the installation of resilient floor coverings to AS 1884 Appendix A.

- Maximum relative humidity of concrete: To AS 1884 Appendix A3.1.2 and A3.1.3 or as recommended by Karndean Designflooring.
- Moisture content of timber, plywood and particleboard subfloors: To AS 1884 Appendix A3.2 or as recommended by Karndean Designflooring.

### Completion tests

Slip resistance testing of completed installation: To AS 4663.

Delete if not required.

## 3.9 COMPLETION

### Protection of sheet materials

Finished flooring surface: Keep traffic off floors for minimum 24 hours after laying or until bonding has set, whichever period is the longer. Avoid contact with water for minimum 7 days after laying.

### Reinstatement

Extent: Repair or replace faulty or damaged work. If the work cannot be repaired satisfactorily, replace the whole area affected.

### Cleaning

Consult the Karndean Designflooring system brochure.

Flotex sheet: Dry vacuum followed by water extraction, if required, using Flotex Clean-It diluted in a solution tank.

Polyurethane reinforced vinyls do not require sealing or polishing (they are mopped and dry buffed), and other vinyl floors only require mopping. For installations in existing buildings, consult the building user on current maintenance procedures, type of polish used, and make the new installations compatible as far as possible.

General: Clean the finished surface. Buff and polish. Before the date for practical completion, mop and leave the finished surface clean and undamaged on completion.

Karndean Designflooring vinyl: Conform to the Karndean Designflooring cleaning guidelines and the following:

- Flotex sheet: Before the date of practical completion, vacuum and steam clean, if required, using water extraction. Leave finished surface clean and undamaged on completion.
  - . Water extraction solution mix: 100:1 (water:shampoo).

### Cleaning static control flooring

General: Do not use sealers, wax or floor polish. Clean using a mild neutral detergent and lukewarm water. Dry buff clean floor using a scrubbing machine with a white nylon pad.

Sealers and polishes affect or destroy the antistatic properties.

### Certificate of compliance

General: Provide a certificate of compliance for antistatic and conductive floor installations.

### Spare materials

General: Supply spare matching resilient finishes and accessories of each type for future replacement purposes. Store the spare materials on site where directed.

Quantity: At least 1% of the quantity installed.

### Spare material schedule

Material	Quantity	Storage location

## 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 PRODUCT SCHEDULES

## Sheet and tile schedule

Property	RF1	RF2	RF3
Type			
Product			
Form			
Colour			
Pattern			
Tile laying pattern			
Sheet width (mm)			
Thickness (mm)			
Vinyl chip size (mm)			
Surface			
Slip resistance classification			
Slip resistance site test of completed installation			
Accelerated wear test			
Tactile indicators: Directional: Product			
Tactile indicators: Directional: Colour			
Tactile indicators: Warning: Product			
Tactile indicators: Warning: Colour			
Critical radiant flux			
Tile dimensions (mm)			
Underlay			
Skirting			

RF1, RF2, RF3: These designate each instance or type or location of the item schedule. Edit to align with the project's codes or tags.

Edit codes in the **Schedule** to match those on drawings.

Much of the scheduled information will be unnecessary if resilient finishes are specified by proprietary items.

Include any particular requirements not otherwise specified, such as resistance to wear, indentation, chemicals, light or fire. Consult the manufacturer.

Type: e.g. Karndean Designflooring vinyl, Flotex flocked textile floor covering, Linoleum, Cork, Vinyl (PVC), Antistatic vinyl, Conductive vinyl, Cushion backed vinyl, Vinyl counter topping.

Product: e.g. Art Select, Da Vinci, Loose Lay Series One, Two and Three, Van Gogh, Opus, Michelangelo, Knight Tile, Flotex Essential, Flotex Classic, Flotex Vision, Flotex Sottsass.

Form: e.g. Sheet or Tile (Vinyl, linoleum, cork, rubber); Unbacked flexible sheet, Semi-rigid floor tiles, Flexible floor tiles, Inlaid vinyl sheet (PVC), Nylon flocked textile floor covering.

Pattern: e.g.:

- Vinyl: Wood plank effect, Stone effect, Tile effect, Metallic tile effect, Mosaic tile effect, Pebble tile effect.
- Textile floorcovering: Bacteria, White, Wool, Terrazzo, Kasuri, Field, Cord, Vector, Circuit, Senya, Manila, Calgary, Montana, Dakota, Berlin.

Tile laying pattern: e.g.:

- Tile effect: Straight, Diagonal, Checkerboard or Stretcher bond.
- Woodplank effect: 90°, 45°.

Thickness: e.g.:

- For Kardean Designflooring vinyl: 2, 2.5, 3, 4.5 mm. Check with Kardean Designflooring.
- For Flotex sheet: Approximately 4.3 mm total thickness.
- For cork: 4.75 mm or 6.3 mm (6.3 mm is recommended for concrete floors).
- For rubber: 2.7, 4, 5, or 6 mm.
- For flexible terrazzo tiles: 4.76 mm.
- For flexible PVC sheet or tiles: 1.5, 2, 2.5 or 3 mm.
- For semi-rigid PVC tiles: 1.5, 2, 2.5, or 3 mm.
- For linoleum sheet or tiles: 2 or 2.5 mm.

Surface:

- For Kardean Designflooring vinyl: Smooth, Textured, Registered embossed.
- For Flotex: Nylon 6.6 pile fibres.
- For cork: Smooth surface only.
- For rubber: May be smooth, textured, or studded. For studded sheet or tile state form and profile of studs. Consult manufacturer for available forms.

Slip resistance classification: Refer to NATSPEC TECHnote DES 001, SA HB 197 and SA HB 198. For slip resistance rating of Kardean Designflooring products, see technical data sheets (see **MANUFACTURER'S DOCUMENTS**) and check with the manufacturer for the appropriate test. Select classifications of pedestrian surface materials to the dry floor friction, wet pendulum or oil wet ramp tests.

Slip resistance site test of completed installation: e.g. Required. Delete if not required.

Accelerated wear test: Consult a test laboratory such as CSIRO or Safe Environments. Delete if not required.

Tactile indicators: To AS/NZS 1428.4.1.

- Tactile indicator: Directional: Colour: A colour contrast is required, in both wet and dry conditions, between the tactile indicators and the adjacent surface and that the colour provides a luminance contrast to the surrounding surface to AS/NZS 1428.4.1 Appendix E.

Critical radiant flux: Include the appropriate value from BCA Spec C1.10 Table 2 for the building class.

Tile dimensions: Consult the manufacturer for available sizes and thicknesses.

- For Kardean Designflooring tile products: Check with Kardean Designflooring for all sizes available.
- PVC tiles: 300 x 300 mm.
- Portuguese cork tiles: 305 x 305 mm.
- Rubber tiles: Usually 1000 x 1000 mm or 500 x 500 mm.

Underlay: e.g. Trowelled, Hardboard, Fibre cement sheet. Consult manufacturers of resilient flooring for recommended underlay for particular applications. State thickness.

Skirting: e.g. Feather edge, Flat or coved vinyl, Coved rubber, or Site formed coving.

### Synthetic sporting surfaces schedule

Property	SS1	SS2	SS3
Type			
Sport/activity			
Underlay			
Surface product			
Skirting			
Critical radiant flux			
Slip resistance classification			
Surface marking method			



SS1, SS2, SS3: These designate each instance or type or location of the item schedule. Edit to align with the project's codes or tags.

Edit codes in the **Schedule** to match those on drawings.

Type: e.g. Indoor or Outdoor.

Sport/activity: e.g. aerobics, gymnastics, badminton, fencing.

Underlay: Consult the manufacturer of the proprietary surface for recommendations as to the need for, and type of, underlay.

Skirting: e.g. Feather edge, flat or coved vinyl, coved rubber, or site formed coving.

Critical radiant flux: Include the appropriate value from BCA Spec C1.10 Table 2 for the building class.

Slip resistance classification: Refer to NATSPEC TECHnote DES 001, SA HB 197 and SA HB 198.

#### REFERENCED DOCUMENTS

##### The following documents are incorporated into this worksection by reference:

AS/NZS 1859		Reconstituted wood-based panels - Specifications
AS/NZS 1859.4	2018	Wet-processed fibreboard
AS 1884	2012	Floor coverings - Resilient sheet and tiles - Installation practices
AS/NZS 2908		Cellulose-cement products
AS/NZS 2908.2	2000	Flat sheets
AS 4586	2013	Slip resistance classification of new pedestrian surface materials
AS 4663	2013	Slip resistance measurement of existing pedestrian surfaces
AS ISO 9239		Reaction to fire tests for floor coverings
AS ISO 9239.1	2003	Determination of the burning behaviour using a radiant heat source
EN 650	2012	Resilient floor coverings. Polyvinyl chloride floor coverings on jute backing or on a polyester felt backing or on polyester felt with polyvinyl chloride backing. Specification
EN 651	2011	Resilient floor coverings. Polyvinyl chloride floor coverings with foam layer. Specification
EN 688	2011	Resilient floor coverings. Specification for corklinoleum
EN 1817	2010	Resilient floor coverings - Specification for homogeneous and heterogeneous smooth rubber floor coverings
EN ISO 10581	2012	Resilient Floor Coverings - Homogeneous Poly (Vinyl Chloride) Floor Covering - Specifications
EN ISO 10582	2017	Resilient Floor Coverings - Heterogeneous poly(vinyl chloride) floor covering - Specifications
EN ISO 10595	2012	Resilient floor coverings. Semi-flexible/ vinyl composition (VCT) poly(vinyl chloride) floor tiles. Specification
EN ISO 10874	2012	Resilient textile and laminate floor coverings. Classification
EN 12104	2000	Resilient floor coverings. Cork floor tiles. Specification
EN 12199	2010	Resilient floor coverings. Specifications for homogeneous and heterogeneous relief rubber floor coverings
EN 13845	2017	Resilient floor coverings - Polyvinyl chloride floor coverings with particle based enhanced slip resistance - Specification
EN 14904	2006	Surfaces for sports areas - Indoor surfaces for multi sports use - Specification.
EN ISO 24011	2012	Resilient floor coverings- Specification for plain and decorative linoleum

##### The following documents are mentioned only in the **Guidance text**:

AS 1428		Design for access and mobility
AS/NZS 1428.4.1	2009	Means to assist the orientation of people with vision impairment - Tactile ground surface indicators
AS/NZS 1859.4	2004	Wet-processed fibreboard
SA HB 197	1999	An introductory guide to the slip resistance of pedestrian surface materials
SA HB 198	2014	Guide to the specification and testing of slip resistance of pedestrian surfaces
BCA Spec C1.10	2016	Fire resistance - Fire hazard properties
BCA F5.3	2016	Health and amenity - Sound transmission and insulation - Determination of impact sound insulation ratings
CCAA Data Sheet MC	2007	Moisture in concrete and moisture-sensitive finishes and coatings
NATSPEC DES 001	2016	Slip resistance performance
NATSPEC DES 007	2007	Static control floors
NATSPEC DES 008	2015	Preparation of concrete substrates
NATSPEC DES 020	2011	Fire behaviour of building materials and assemblies
NATSPEC DES 027	2016	Impact sound insulation
NATSPEC GEN 006	2007	Product specifying and substitution
NATSPEC GEN 024	2015	Using NATSPEC selections schedules
NATSPEC TR 01	2018	Specifying ESD
EN 12235	2013	Surfaces for sports areas. Determination of vertical ball behaviour.
EN 13036		Road and airfield surface characteristics. Test methods.
EN 13036-4	2011	Method for measurement of slip/skid resistance of a surface. The pendulum test.
EN 14808	2005	Surfaces for sports areas - Determination of shock absorption
EN 14809	2005	Surfaces for sports areas - Determination of vertical deformation