

## 0654P GERFLOR ENGINEERED SPORTS FLOORING

### Branded worksection

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### Worksection abstract

This branded worksection *Template* is applicable to engineered sports floors supplied by GERFLOR Australasia.

### 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:

- 0191p GERFLOR sundry items.
- 0314 Concrete in situ.
- 0315 Concrete finishes.
- 0651p GERFLOR in resilient finishes.

### Documenting this and related work

You may document this and related work as follows:

- Set out floor patterns and location of control joints on drawings to your office documentation policy.
- Check lead time for unusual selections and consider adding a requirement in **SUBMISSIONS** for the contractor to verify availability.
- Refer to the NATSPEC TECHnote DES 001 on slip resistance.

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

### Specifying ESD

The following may be specified by including additional text:

- Timber from a sustainable source.
- Water-based, solvent free finish.

Refer to the NATSPEC TECHreport TR 01 on specifying ESD.

## 1 GENERAL

Gerflor is a world leading manufacturer of resilient flooring surfaces, door/wall protection systems and timber sports flooring. We offer a range of hardwood maple timber sports flooring systems through Connor Sports. Gerflor Australasia Pty Ltd is an Australian company with more than 30 years' experience in indoor sports solutions. Colour, design and innovation are hallmarks of the brand.

### 1.1 RESPONSIBILITIES

#### General

Requirement: Provide GERFLOR engineered sports flooring systems to substrates, as documented.

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

### 1.2 COMPANY CONTACTS

#### GERFLOR technical contacts

Website: [www.gerflor.com.au/contact](http://www.gerflor.com.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.

- 0656 Floor sanding and finishing.

### 1.4 STANDARDS

#### General

Standard: To EN 14904.

### 1.5 MANUFACTURER'S DOCUMENTS

#### Technical manuals

Website: [www.connorsports.com/architects-tool-kit](http://www.connorsports.com/architects-tool-kit)

### 1.6 INTERPRETATION

#### Definitions

The flooring definitions are specific to NATSPEC. Edit to suit the project or delete if not required.

General: For the purposes of this worksection the following definitions apply:

- Feature: Any natural variation on or colour which affects timber appearance, including gum/resin veins, borer marks, checks and knots. The grade will determine the level of feature present.
- Flooring - continuously-supported: Flooring which is supported by, and directly fixed to, continuous structural supporting surfaces, including concrete slabs and sheet flooring subfloors.
- Flooring - floating: Any manufactured flooring panel system not fixed to the subfloor.
- Flooring - sprung floor: A floating floor engineered to absorb shocks, usually fixed on resilient pads.

Floor panels that are not adhered to the substrate are marketed as floating floors.

- Moisture content (timber): The percentage by mass of water present in the timber.

Flooring is generally manufactured with boards in the moisture content range from 9% to 14%. At 60% relative humidity boards will be about 11% moisture content. Refer to NATSPEC TECHnote DES 002 on moisture content in timber floors.

- Subfloor: The structure that supports the flooring.

e.g. concrete slabs, existing suspended timber floor, or sheet flooring or underlay.

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

### 1.7 SUBMISSIONS

#### Fire performance

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

#### Products and materials

General: Submit the following:

- Floor product manufacturer's detailed handling and installation recommendations.
- Product technical data sheets.
- Maintenance recommendations.

Type tests: Submit results, as follows:

Type tests are carried out off-site. However, submission of evidence of a successful type test may be called up here for requirements specified in **SELECTIONS** or **PRODUCTS** when there are no **SELECTIONS**.

- Athletic performance to EN 14904.

**Samples**

General: Submit samples of the engineered sports flooring illustrating the range of variation in colour and figure.

For natural materials call for a number of samples to illustrate the expected range in surface appearance and to suit the site management of the project.

**Subcontractors**

General: Submit names and contact details of proposed installers.

Evidence of experience: [complete/delete]

Contact GERFLOR for a list of approved installers. Delete if supplier/installer details are not required.

Substrate acceptance: Submit the installers certificate of the acceptability of the flooring substrate before commencing the 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:

- Moisture content test.

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

**Warranties**

Engineered sports flooring: Submit the manufacturer's published product warranties.

**1.8 INSPECTION****Notice**

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

- Subfloor immediately before flooring.
- Trial set-out before execution.
- Control joints before fitting skirting.

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 the *0171 General requirements* worksection.

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.

**Storage and handling**

General: Deliver engineered sports flooring to site in unbroken wrapping or packs. Store in dry conditions, a minimum 100 mm above the subfloor. Do not store on the subfloor until the moisture content of the subfloor is suitable for the installation of the floor. Do not store in areas with wet plaster or paint.

**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.
- Material composition and characteristics such as light fastness, colour and pattern.

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

### Formaldehyde emission class

Requirement: To EN 14904.

## 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

### Moisture protection underlay

Sport flooring vapour barrier: Minimum 200 µm thick high-impact resistant polyethylene film.

A vapour barrier is recommended over new and old concrete substrates. Delete if not required.

## 2.4 GERFLOR ENGINEERED SPORTS FLOORING

### Connor REZILLSLEEPER floating system

Description: North American maple timber flooring fixed to plywood sleeper subfloor on 12 mm resilient Rezill pads.

Total thickness: 56 mm.

Application: Multisport activities.

### Connor ALLIANCE anchored system

Description: North American maple timber flooring fixed to double plywood pre-assembled sleeper subfloor on 19 mm resilient Rezill pads.

Total thickness: 57 mm.

Application: High intensive sport activities.

### Connor NEOSHOK floating system

Description: North American maple timber flooring fixed to 2 layers of plywood panel subfloor on 19 mm resilient polyurethane Neoshok pads.

Total thickness: 63 mm.

Application: Multipurpose activities.

### Connor QUICKLOCK portable system

Description: North American maple timber flooring fixed to plywood sleeper and panel subfloor with integral resilient Powershok pads and locking system.

Total thickness: 83 mm.

Application: Temporary use.

Delete systems not being used.

## Components

Fasteners:

- Flooring: 50 mm barbed cleats or coated staples.
- Subfloor: 38 mm coated staples.

Skirting: 75 mm x 100 mm moulded vented cove with pre-moulded outside corners.

Ramped threshold gradients: 1 in 8 maximum.

## 3 EXECUTION

### 3.1 PREPARATION

#### Preparation - concrete subfloors

It is often difficult to remove curing and stripping agents. Consider alternate means of curing concrete slabs such as spreading wet sand or covering with taped and sealed polyethylene sheeting.

The use of levelling compounds should be restricted to small areas to reduce the chances of lifting and curling due to uneven shrinkage. Consider a topping screed where major correction is required.

Concrete subfloors should be checked and corrected for drumminess, and weak or powdery surfaces.

Provide set-down for engineered sports flooring systems to align with the finished floor levels.

### Subfloor

Cleaning: Remove loose material and dust and any deposits or finishes that may impair adhesion or location and functioning of control joints.

The removal of curing and/or stripping agents may require grinding.

Rectification: Conform to the following:

- Concrete subfloors: Remove excessive projections and fill voids and hollows with a self-smoothing levelling compound compatible with the flooring.

Flatness: Conform to the following:

- Engineered sports flooring: Not greater than 3 mm deviation of the surface under a 3 m straight edge laid in any direction.

### Moisture content alignment of flooring and subfloor

Concrete subfloor: Do not start installation of the flooring until the moisture content of the concrete subfloor conforms to AS 1884 clause 3.1.

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 *Moisture in concrete and moisture-sensitive finishes and coatings*.

A rule of thumb for the approximate drying time for concrete slabs is one month for every 25 mm thickness. Moisture meter testing of concrete subfloors is also not always reliable and should be used with other assessment methods.

Slab curing agents inhibit drying and should be removed as soon as curing is nominally complete.

A vapour barrier is recommended as an integral part of the flooring system.

Conformance: Confirm that the moisture content of the timber flooring products, as delivered, is similar to the moisture content of the subfloor as measured on site. If not, allow for acclimatisation.

### Acclimatisation

See NATSPEC TECHnote DES 002 on the moisture content in timber floors.

General: Acclimatise the flooring by stacking it in the in-service environment for a minimum period of two weeks with air circulation to all surfaces, after the following construction operations are complete and monitor progress:

- Air conditioning operational.
- Lighting operational.
- Site drainage and stormwater works are complete.
- Space fully enclosed and secure.
- Wet work complete and dry.

### Vapour barrier

General: Lay high-impact resistant polyethylene film over concrete subfloor. Lap 300 mm, seal the laps with pressure-sensitive tape and return up the vertical surfaces and trim at the level of the flooring.

## 3.2 INSTALLATION

### Room environment

General: Maintain the ambient temperature between 15°C to 30°C and relative humidity between 30% to 60%.

### Trial set-out

General: Prepare a trial panel set-out to each area, as follows:

- Maximise the size of equal margins of cut panels.
- Locate control joints.

### Control joints

Requirement: Provide 50 mm control joints at perimeter and at vertical building elements.

**Laying GERFLOR engineered sports flooring**

General: To GERFLOR recommendations.

**Finishing**

Requirement: Sand and finish flooring to *0656 Floor sanding and finishing*.

Coating: Apply two coats of Poloplaz NSB polyurethane sealer and two coats of Poloplaz Express polyurethane finish to GERFLOR's recommendations.

Line marking: Apply game lines between the seal and first finish coat with TLD Aqua polyurethane paint to GERFLOR's recommendations.

**3.3 TESTING**

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

**Substrate tests**

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

- Maximum relative humidity of concrete: To AS 1884 Appendix A3.1.2 and A3.1.3.

**3.4 COMPLETION****Protection**

General: Provide protection as follows:

- Sports flooring: With used carpet taped at all joints. Do not cover with sheet plastic.

**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 SCHEDULES****GERFLOR engineered sports flooring schedule**

Property	SF1	SF2	SF3
Product			
Fixing method			
Timber wearing surface: Species or group			
Timber wearing surface: Profile			
Timber wearing surface: Size (width x thickness, mm)			
Resilient pads			
Ventilated skirting			
Ramped thresholds			
Sports floor fittings			
Impact sound insulation laboratory value: Weighted normalised impact sound pressure level ( $L_{n,w}$ )			
Impact sound insulation field test: Weighted standardised impact sound pressure level ( $L'_{nT,w}$ )			
Environmental factors			
Product moisture content			

Property	SF1	SF2	SF3
Underlay			

SF1, SF2, SF3: 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.

Product: Select from the following:

- Connor REZILLSLEEPER floating system.
- Connor ALLIANCE anchored system.
- Connor NEOSHOK floating system.
- Connor QUICKLOCK portable system

Fixing method: To the manufacturer's recommendations.

Timber wearing surface:

- Timber species or product identification.
- Profile: e.g. tongue and groove.

Resilient pads: Proprietary item. Cross reference the manufacturer's data sheets.

Ventilated skirting: Refer to your detail or cross reference the manufacturer's data sheets.

Ramped thresholds: Refer to details or nominate a product.

Sports floor fittings: Nominate products and locations.

Impact sound insulation: Refer to NATSPEC TECHnote DES 027. Delete if not required.

Environmental factors: State a range of temperature and relative humidity combinations that can be expected. It may be misleading to note figures for an air conditioned space as the air conditioning could be turned off over a long weekend. Typical figures for a non-air conditioned space in Sydney are: 10°C at 90% relative humidity to 30°C at 55% relative humidity. Under these circumstances it is essential to make a generous allowance for control joints. If slab heating is to be installed seek advice from the floor product supplier. Consider an alternative finish.

Product moisture content: Refer to GERFLOR product information.

#### REFERENCED DOCUMENTS

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

AS 1884	2012	Floor coverings - Resilient sheet and tiles - Installation practices
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 14904	2006	Surfaces for sports areas - Indoor surfaces for multi sports use - Specification.

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

CCAA Data Sheet MC	2007	Moisture in concrete and moisture-sensitive finishes and coatings
NATSPEC DES 001	2016	Slip resistance performance
NATSPEC DES 002	2005	Moisture content in timber 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