

0311P DINCEL IN CONCRETE FORMWORK

Branded worksection

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Worksection abstract

This branded worksection *Template* is applicable to specialist permanent polymer formwork system products by Dintel for external and internal concrete walls, retaining walls, storage tanks and other specialist uses. This worksection is also applicable to other formwork types or systems, for the production of formwork for concrete work in buildings and associated structures, and is generally used in conjunction with other concrete worksections. It does not include any support required to maintain the intended position and shape of the formwork surface, as such temporary works are typically the responsibility of the contractor or formwork system manufacturer.

How to use this worksection

Customise this worksection *Template* for each project. See [A guide to NATSPEC worksections \(www.natspec.com.au\)](http://www.natspec.com.au) for information on *Template* structure, word styles and completing a worksection.

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, including:

- 0312 Concrete reinforcement.
- 0313 Concrete post-tensioned.
- 0314 Concrete in situ.
- 0315 Concrete finishes.

Material not provided by Dintel

This branded worksection *Template* includes generic material which may not be provided by the Product Partner including:

- Formwork other than Dintel wall profiles.

Documenting this and related work

You may document this and related work as follows:

- Dintel permanent polymer formwork: This worksection is used to specify the Dintel wall profile only. Make sure reinforcement and concrete mix design and supply requirements are documented in the relevant worksections of the 031 Concrete - in situ subgroup. If the wall system comprises components other than Dintel walls, such as cladding, or finishes such as paint and render, document requirements in the relevant worksections in the 04 ENCLOSURE, 05 INTERIOR or 06 FINISH workgroups. Refer to the *Dintel Construction Manual* for more information on Dintel specific requirements and make sure requirements such as surface preparation are coordinated with the relevant worksections.
- Either fully detail the work in the structural drawings or define the performance criteria (load supporting capability factors, limits for settlement, deflection or distortion with progressive placement of concrete or differential movement of placements separated by construction joints) for any anticipated contractor design. For design by contractor, independent certification by a professional engineer of the design and documentation of the formwork system, including installation, performance and stripping is appropriate.
- Show any special requirements on drawings.

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

For example:

- Surface finish class.
- Formwork procedures and loadings.

Specifying ESD

The following may be specified by retaining default text:

- Dintel permanent polymer formwork, which is manufactured from best environmental practice (BEP) PVC. Custom length wall profiles may be ordered from Dintel to minimise or eliminate on-site offcut waste.
- Profiled steel sheeting composite formwork.

The following may be specified by including additional text:

- Re-usable formwork.
- Engineered wood formwork panels.
- Timber formwork from a sustainable source such as plantations.
- Other permanent formwork such as unfinished or prefinished fibre cement, polymer formwork, aluminium composite panels and insulating formwork.
- Fabric formwork to reduce formwork material weight.

1 GENERAL

Dintel Structural Walling is a lightweight, 'snap together' modular polymer formwork, which is filled with concrete. It is suitable for constructing virtually any type of load bearing structural wall. Architects and building designers can enjoy complete creative freedom by specifying Dintel to build straight or curved concrete walls, which can be beautifully finished. Dintel walls are also tested by NATA Accredited Testing Laboratories, CSIRO and Warringtonfire as being waterproof and fire safe.

1.1 RESPONSIBILITIES

General

Requirement: Provide Dintel wall polymer formwork systems and other formwork, as documented.

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

1.2 DESIGN

This worksection can be used to document the contractor's design and documentation responsibilities in addition to those set out in DESIGN in 0171 General requirements. If the design, or completion of the design, is not the responsibility of the contractor, delete this clause and associated requirements.

Refer to NATSPEC TECHreport TR 03 on specifying design and construct for mechanical services. It discusses some of the issues and presents a range of approaches for preparing design and construct specifications that can be applied more generally.

General

Formwork: The design of formwork, other than Dintel wall polymer formwork systems and permanent composite formwork systems, is the contractor's responsibility. Allow for dimensional changes, deflections and cambers resulting from the following:

- Imposed actions.
- Concrete shrinkage and creep.
- Temperature changes.
- The application of prestressing forces (if any).

This applies to all formwork types, including conventional, proprietary (non-composite formwork) or purpose-made formwork.

Dintel walls: Conform to the following:

- AS 3600 (2018).
- *Dintel Structural Engineering Design Manual*.
- *Dintel Construction Manual*.

Requirements

General: To DESIGN in 0171 General requirements.

Authority requirements: [complete/delete]

In particular, draw attention to any specific requirements of the DA and other regulatory bodies. Consider attaching DA conditions, if appropriate.

1.3 COMPANY CONTACTS

Dintel technical contacts

Website: www.dintel.com.au

1.4 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. Refer to NATSPEC TECHnote GEN 008 on generic and branded worksections and their relative advantages.

- *0315 Concrete finishes*.

1.5 STANDARDS

General

Formwork design and construction: To AS 3610.1 (2018) and AS 3610.2 (Int) (2023).

CIA Z36 (2016) provides guidance on the safe design and construction of formwork.

Plywood formwork: To AS 6669 (2016).

Composite steel-concrete construction, including profiled steel sheeting and shear connectors: To AS/NZS 2327 (2017).

Reinforced concrete construction: To AS 3600 (2018).

1.6 MANUFACTURER'S DOCUMENTS

Technical manuals

Website: www.dincel.com.au

Dincel wall manuals and design resources can be accessed from the website.

1.7 INTERPRETATION

Definitions

General: For the purposes of this worksection, the following definition applies:

- Formwork: The product or material, such as plywood or profiled steel sheeting, including any finish or liner, used to contain and mould the cast in situ concrete. It is equivalent to form face, defined in AS 3610.1 (2018). It does not include framing, bracing and falsework.

AS 3610.1 (2018) defines formwork as temporary works erected to mould and support cast in situ concrete. It notes that formwork consists of a form, and where appropriate, falsework, form bracing and form ties. The support of the formwork is typically the responsibility of the contractor and their temporary works engineer, so has not been included in this worksection and the definition above provided to be clear that this worksection is to simply specify the formwork material that is in contact with the plastic concrete. Refer to AS 3610.1 (2018) clause 1.5 for definitions in the standard.

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

1.8 TOLERANCES

Formwork

Plumb of elements more than 8 m high: 1:1000.

Plumb of elements not more than 8 m high: To AS 3610.1 (2018).

Position: Construct formwork so that finished concrete conforms to AS 3600 (2018) clause 17.5, AS 3610.1 (2018) clause 3.3 and as documented.

Document formwork tolerances in the **Formwork dimensional deviation schedule**.

The tolerances in AS 3600 (2018) clause 17.5.2 are required for achieving conformance to the strength requirements of the standard. They are not intended as building tolerances. More stringent tolerances may be suitable.

AS 3610.1 (2018) Section 3 tolerances do not apply to permanent formwork systems such as Dincel. See AS 3610.1 (2018) clause 4.6.3, Note 1.

0310 Concrete - combined and *0315 Concrete finishes* document tolerance requirements for the finished concrete surface.

1.9 SUBMISSIONS

Certification

Formwork design certification: For all formwork other than Dincel wall polymer formwork systems and permanent composite formwork systems, submit certification by a professional engineer experienced in formwork design verifying conformance of the design.

Dintel formwork panels are pre-engineered to resist wet concrete pressures in conformance with AS 3610.1 (2018). Refer to the *Dintel Construction Manual* for limits on pour rates, lift heights and temporary bracing to prevent deflection or joint separation. Coordinate the relevant requirements with *0314 Concrete in situ*.

Formwork execution certification: Submit certification by a professional engineer experienced in formwork design and construction, verifying conformance of the completed formwork, including the suitability of the formwork for the documented surface finish class.

Design documentation

Dintel wall bracing: Submit calculations by a professional engineer showing suitability of the bracing for the site conditions, and as evidence of conformance with the AS/NZS 1170 series and AS 3610 series.

Pull-out capacity of fasteners installed into Dintel panel joints are available from Dintel upon request.

Other formwork: Submit calculations by a professional engineer experienced in formwork design to show that allowable concrete stresses will not be exceeded and if proposed, formwork designed for the following:

- Formwork procedures or loadings that differ from those documented.
- Props above a floor that do not coincide with the props below.
- Undocumented formwork shoring or stripping procedures.
- Loadings from stacked materials.

Execution details

Dintel walls:

- Early removal of temporary bracing: If temporary braces need to be removed within 24 hours of pouring the concrete slab over or before permanent lateral restraint is provided, submit professional engineer's written approval.

Lateral restraints may include roof and floor framing.

- Modifications: Submit proposals of any modifications to the Dintel wall components, including cutting or removal of webs.

Moveable formwork: Provide the following details on the formwork drawings:

- Table formwork and climbing formwork: Proposed method and sequence of moving the formwork to provide concrete of the documented quality and surface finish.
- Continuously climbing formwork (Slipform): The average rate of movement.

Formwork removal: Submit formwork removal procedures.

Reshoring: Submit details of any proposed reshoring.

Products and materials

Void formers: Submit a certificate from the manufacturer as evidence of conformity to the requirements of **OTHER FORMWORK, Void formers**.

Shop drawings

Formwork: Submit shop drawings including details of proposed forms, falsework, form liners, bolt positions, release agents and, where applicable, re-use of formwork.

Warranties

Requirement: Submit warranties to **COMPLETION, Warranties**.

1.10 INSPECTION

Notice

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

- Dintel walls: Completed Dintel panel assembly and bracing before placing concrete.

Dintel inspection and test plan (ITP), and pre-pour checklist documents are available on Dintel's website. The party responsible for the structural design of the element is usually responsible for the inspection.

- Other formwork:
 - . Completed formwork with dust and debris removed before placing concrete.
 - . Used formwork, after cleaning and before re-use.

Edit 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 **SUBSTITUTIONS** in 0171 *General requirements*.

SUBSTITUTIONS in 0171 *General requirements* 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 DINCEL WALLS

General

Description: Polymer-based permanent formwork system for concrete walling for external and internal walls, retaining walls, storage tanks and other specialist uses.

Dintel wall is a waterproof polymer formwork for walls and columns. The Dintel wall profiles can be installed vertically or horizontally to form a wall or column and the profiles are joined together using the integrated custom snap joint, before reinforcement is placed and the Dintel wall is filled with concrete.

Assessments and reports

Dintel walls:

The documents listed below can be obtained from Dintel's website. If a document is not available, contact Dintel.

- CodeMark Certificate of Conformity CM20242.

The date of expiry of this CodeMark Certificate of Conformity is 16/06/2029.

See CodeMark Certificate of Conformity for conditions and limitations. To confirm it has not been withdrawn, suspended or superseded by later issue, see register.jasanz.org/codemark-register for the CodeMark Register of Certificates of Conformity.

The ABCB notes that the publication of a new edition of the NCC does not automatically invalidate existing CodeMark certificates certified to older editions of the NCC. Existing documentary evidence, such as certificates or reports, remains valid across NCC editions if the relevant technical requirements are unchanged. In these cases, the existing CodeMark certificates continue to be valid and can be relied on across NCC editions.

- BRAC Certificate of Accreditation V20/01-A3.

The date of expiry of this BRAC Certificate of Accreditation is 10/06/2029.

This has been issued by the Victoria State Government Building Regulations Advisory Committee and is relevant for projects within Victoria. It may also be accepted as evidence of NCC (2025) compliance in other states.

- Omnii Fire Engineers evidence of suitability report.

This report was prepared as a Performance Solution to show that Dintel walls satisfy BCA (2022) C1P2.

- CSIRO fire resistance assessment report to AS 1530.4 (2014).

200 mm thick Dintel wall components, filled with concrete, have been subjected to a fire resistance test to AS 1530.4 (2005) by CSIRO. The results of the test were assessed by CSIRO for confirmation of performance when tested to AS 1530.4 (2014), with the following opinion:

- 200 mm thick Dintel wall FRL: 240/240/240.

The Dintel wall fire resistance performance for structural adequacy is to be designed by the structural engineer to AS 3600 (2018), meeting the FRL criteria of the project. Similar to conventional concrete walls, this is required to take into account project specific factors such as wall height, wall loading, wall thickness and steel reinforcement.

Further guidance on the fire resistance performance of Dintel wall systems can be found in the *Dintel - Grove and Wynn-Jones Report (2023)*.

Warringtonfire assessment letter FAS190305 notes the polymer webs of Dintel walls do not burn or melt away to create holes when subjected to fire conditions. Therefore, the presence of polymer webs will not adversely affect the fire resistance performance of Dintel walls tested or otherwise assessed to achieve a particular FRL.

The fire resistance performance of Hilti or TBA Firefly products used with Dintel walls has also been tested. Reports are available on Dintel's website.

Refer to NATSPEC TECHnote DES 020 on fire behaviour of building materials and assemblies, for further information.

- Warringtonfire classification report to AS 5637.1 (2015).

Dintel wall components have been tested by Warringtonfire, with the following results:

- Group number: 1.
- Smoke Growth Rate Index (SMOGR_{RC}): 14.0.

- CSIRO bushfire performance report to AS 1530.8.2 (2018).

This report concludes that a 200 mm thick Dintel wall system, filled with concrete, achieves a BAL performance of BAL-FZ.

- CSIRO report on watertightness.

Dintel panel joints, when filled with concrete, have been tested and verified by CSIRO to be waterproof for up to 6 m of water head pressure. In addition, Dintel wall components, filled with concrete, have been tested and meet the waterproofing requirements of AS 3740 (2021).

For waterproofing the cold joint between the Dintel wall and footing or slab, a Dintel Water Stop and a re-injectable hose system is required. See the *Dintel Construction Manual* and contact Dintel for further information regarding the Dintel Waterproof System Warranty.

- Better Building hygrothermal assessment report.

This report assesses a wall system comprising Dintel wall, insulation, interior cavity and plasterboard finish for conformance with BCA (2025) F8P1 and BCA (2025) H4P7.

- Day Design acoustic report.

Dintel wall components, filled with concrete have the following acoustic properties:

- 110 mm thick Dintel wall: $R_w = 48$, $R_w + C_{tr} = 43$.
- 155 mm thick Dintel wall: $R_w = 51$, $R_w + C_{tr} = 45$.
- 200 mm thick Dintel wall: $R_w = 53$, $R_w + C_{tr} = 48$.
- 275 mm thick Dintel wall: $R_w = 53$, $R_w + C_{tr} = 48$.

The above values are based on nil, painted or rendered finishes on both sides of the wall. Contact Dintel for additional acoustic properties based on different applied finishes to the wall. Acoustic performance may be increased through the use of additional layers such as insulation, cavities and plasterboard.

Storage and handling

Handling: Conform to the following:

- Lift packs using wide, flat lifting slings. Do not use chains or round ropes.
- Do not lift more than two packs at a time unless lifting bars are used.
- Place packs softly onto the site storage area without dropping.

Damage to the component surfaces or the webs of the components may cause bulging to occur when the components are filled with concrete.

Storage: Conform to the following:

- Store on a clean flat surface.
- Place timber sleepers under the timber collars of the packs.
- Do not stack packs more than two high.
- If daily temperatures on site are likely to be consistently above 30°C, store the packs under cover in a well-ventilated space.

The Dintel wall components may deform if they are stored with uneven and inappropriate support.

Profile

Wall thickness: As documented.

Document in the **Dintel wall schedule**.

Accessories and components

General: Provide proprietary accessories including corner profiles, T-junctions, curved/angled profiles, end caps, guide tracks and angles, as appropriate.

Fire-resisting sealant: Hilti CP 611A Firestop.

If fire-resisting sealants are required, consider including this *Optional* style text by changing it to *Normal* style text.

Testing to AS 1530.4 (2014) and AS 4072.1 (2005) has been carried out by Warringtonfire on minimum 155 mm thick Dincel walls with service penetrations protected using Hilti fire protection products, including Hilti CP 611A Firestop. Testing to AS 1530.4 (2014) has also been carried out by Warringtonfire on the junctions between Dincel walls and fire-resisting walls of other construction. Refer to Warringtonfire reports for the outcome of the testing, including the FRLs achieved. If a different fire-resisting sealant is required, contact Dincel or the project fire engineer for guidance.

Waterproofing sealant: [complete/delete]

If waterproofing sealants are required, consider including this *Optional* style text by changing it to *Normal* style text and completing the prompt.

For waterproof walls, Dincel recommends the following:

- Confirm the compatibility of the proposed sealant for use with the polymer formwork substrate, with the sealant manufacturer. If waterproofing sealant is required, nominate the compatible sealant here.
- Provide a bandage at joints where panels have been cut and spliced together.
- Use the Dincel waterproof warranty system at cold joints between the base of the wall and the footing or slab. Refer to the *Dincel Construction Manual Addendum* for further details.

2.3 DINCEL WATERPROOF WARRANTY SYSTEM

General

Description: A fully tanked waterproofing system for concrete basements, comprising of Dincel wall panels, Dincel Waterstop (DWS) accessory, and injectable hoses and resin.

Injectable hose and resin: Proprietary products supplied by Dincel.

Assessments and reports

Dincel waterproof warranty system:

- Mahaffey Associates report on liquid tightness testing to AS 3735 (2001).

A tank, constructed using the Dincel waterproof warranty system with 275 mm thick, concrete-filled Dincel walls was tested against the liquid tightness provisions of AS 3735 (2001). The testing showed that the tank met the requirements of the standard for liquid tightness for a water level of 3 m. There was no drop in water level following the test period, indicating no water was lost from the tank.

- ACOR Consultants expert opinion report on Dincel wall watertightness.

The Dincel waterproof warranty system can produce a basement wall which performs to BS 8102 (2022) Grade 2. The system can also produce a basement wall which performs to BS 8102 (2022) Grade 3 if a suitable inner skin dry wall is constructed beyond the Dincel wall and perimeter dish drain, and if appropriate dehumidification and/or air conditioning is put in place by others.

Storage and handling

Requirement: Conform to **DINCEL WALLS, Storage and handling**.

Profile

Wall thickness: As documented.

Select from 200 mm and 275 mm profiles. Document in the **Dincel waterproof warranty system schedule**.

Accessories and components

General: Provide proprietary accessories including corner profiles, end caps and angles, as appropriate.

Waterproofing bandages: To Dincel's recommendations.

2.4 OTHER FORMWORK

General

Form liners and release agents: Compatible with documented concrete surface finish and any proposed applied finishes to concrete.

Lost formwork: Free of timber or chlorides and not to impair the structural performance of the concrete members.

Void formers

Requirement: Material capable of maintaining rigidity and shape until the concrete has set, capable of withstanding construction loads and non-collapsible on absorption of moisture.

Profiled steel sheeting composite formwork

Material: Hot dip zinc-coated sheet steel to AS 1397 (2021).

Refer to BlueScope TB-14 (2022) guide on standards for steel sheet and strip products.

Minimum steel grade: G550.

Edit if appropriate.

Zinc coating mass: [complete/delete]

Nominate one of the following two levels of protection:

- Z350: 350 g/m² zinc coating mass is recommended for use in non-aggressive areas.
- Z450: 450 g/m² zinc coating mass is recommended for severe and aggressive environment where a build-up of airborne corrosive contaminants can affect the coating.

Make sure that the product documented has the level of galvanizing selected. See NATSPEC TECHnote DES 010 for information on atmospheric corrosivity categories.

Accessories: Use materials and corrosion protection compatible with the profiled steel sheeting.

Plywood formwork

Material: To AS 6669 (2016).

AS 6669 (2016) does not cover off-form surface finish Class 1.

Grade: Use appropriate grade for the documented design dimensions, loading and surface quality.

Refer to AS 6669 (2016) for information on surface quality, veneer qualities and stress grades.

Joints: Seal the joints consistent with the documented surface finish class.

Tolerances: To AS 3610.1 (2018) Section 3.

Document any special requirements.

3 EXECUTION**3.1 DINCEL WALLS****Preparation**

Components: Check that all webs within modules are undamaged before installing Dincel wall components. Where dust or dirt has accumulated on panels during storage, wash the panels clean, making sure no dirt remains on the snap joint of the component.

Substrate: Before installing Dincel wall components, make sure the concrete substrate is clean, level and free of laitance or standing water.

Installation

Set-out: Install proprietary Dincel floor tracks (guide channels) or angles using concrete nails.

The wall guide channels can be used under walls and vertically at wall T-junctions. They are not recommended under shear walls unless the internal webs of the guide are removed. This profile must not be used under basement walls at the wall to footing/slab junction. Instead, it is recommended D-ANG50 PVC angles are installed on either side of the walls (both sides for self-compacting concrete (SCC)) to maximise full concrete to concrete bearing surfaces.

Assembly: Conform to the *Dincel Construction Manual*. Make sure vertical joints clip together to provide a secure connection along the entire length of the joint.

Orientation: Position the Dincel modules so the end containing the half web holes are located at the bottom of the wall.

This will align all web holes of adjacent modules, which will assist with the free flow of concrete. This is essential to avoid air voids and bulging, and maximises concrete to concrete bonding, resulting in better watertightness capabilities.

Openings: Form door and window openings using Dincel accessories. Make sure cut edges are smooth and square.

Accessories include end caps and corner pieces.

Bracing: Conform to the following:

- Design: By a professional engineer to suit the site conditions.

- Bracing method: One of the following:
 - . Secure top of Dincel wall modules to the formwork deck.
 - . Provide horizontal timber or steel walers fixed to the face of the Dincel wall at panel joints, braced diagonally to ground with timber or metal braces.

3.2 DINCEL WATERPROOF WARRANTY SYSTEM

Dincel Waterstop (DWS)

Preparation: Before installation, inspect the DWS accessory to make sure it is clean, straight and free of any physical damage or deformation.

Installation: Conform to the *Dincel Construction Manual* and the following:

- Securely fix the DWS accessory within the slab rebate.
- Make sure the DWS is correctly aligned and continuously supported.

Continuous support is important to prevent displacement of the subsequent Dincel all panel installations and during concrete pour.

Dincel wall and injectable hose assembly

Requirement: Conform to the *Dincel Construction Manual* and use a Dincel approved installer.

Resin injection

Requirement: After completion of the building structure, inject resin through the hose assembly to seal the wall to slab connection. Make sure this process is completed by Dincel.

3.3 OTHER FORMWORK

General

Requirement: Conform to *0315 Concrete finishes*.

Bolt holes

Formwork tie bolts left in the concrete: Position to achieve minimum 50 mm concrete cover to bolt.

Corners

Work above ground: Chamfer re-entrant angles and provide fillets at corners.

Face of chamfer/fillet: 25 mm.

Cambers and presets

Requirement: Provide as documented.

Embedments

Fixing: Fix embedments through formwork to prevent movement, or loss of slurry or concrete, during concrete placement.

Joints

Requirement: Provide joints that prevent loss of grout.

Openings

Vertical formwork: Provide openings or removable panels for inspection and cleaning, at the base of columns, walls and deep beams.

Access: For thin walls and columns, provide access panels for placing concrete.

Release agents

Application: Before placing reinforcement, apply a release agent to the formwork and liners. Spread the coating uniformly in a thin film and remove any surplus before placing concrete.

Staining: If oil or grease is used, make sure that surfaces to be exposed will not be stained or discoloured.

Unlined timber formwork: Thoroughly wet timber before oiling.

Climbing formwork

Provision for inspection: Provide access below the movable formwork, from which surface treatment and inspection may be carried out.

Profiled steel sheeting composite formwork

Fixing: If sheeting cannot be fixed to structural steel supports with puddle welds, or with welded shear studs, provide details of proposed fixing method.

Steel liners

Rust: Clean off any rust and apply rust inhibiting agent before re-use.

Visually important surfaces

Surface finish classes 1, 2 or 3: Set out the formwork to give a regular arrangement of panels, joints, bolt holes, and similar visible elements in the formed surface.

Void formers

Protection: Keep void formers dry until use, install on a firm level surface and place reinforcement and concrete with minimum delay.

3.4 COMPLETION**Dintel walls**

Cleaning: Clean exposed surfaces promptly after concrete placement, removing concrete slurry, splashes or debris, without damaging the polymer surface.

Protection: Protect Dintel wall panels from damage and prolonged UV exposure in conformance with Dintel's recommendations. Leave the Dintel wall panels intact as a permanent, protective surface for the life of the structure.

Formwork removal

Extent: Remove formwork, other than permanent and trapped formwork, including those in concealed locations.

Timing: Do not disturb formwork until concrete has reached sufficient hardness to withstand formwork movements and removal without damage.

Stripping:

- General: To AS 3600 (2018) where it is more stringent than AS 3610.1 (2018) and AS 3610.2 (Int) (2023).
- Vertical formwork: To the recommendations of AS 3610.1 (2018) Table C2.
- Multi-storey work: Remove formwork without disturbing props supporting succeeding floors.
- Post-tensioned concrete: Remove formwork supporting post-tensioned concrete members to AS 3600 (2018) clause 17.6.2.7.

Removable bolts: Remove tie bolts without damaging the concrete.

Bolt hole filling: Provide material with durability and colour matching the concrete.

Recessed filling: Fill or plug the hole to 6 mm below the finished surface.

Curing: If formwork is stripped before the minimum curing period for the concrete has elapsed, continue curing the exposed faces as soon as the stripping is completed, within an hour of exposure.

Warranties

Dintel walls: Void Free Warranty.

Complete and submit the application form available on Dintel's website.

Dintel waterproof warranty system: Waterproof Warranty.

The warranty is contingent upon full installation oversight by Dintel, who must supervise the process from the footing construction stage through to the final resin injection.

A pre-qualification checklist is available on Dintel's website.

Period: As offered by the manufacturer.

The Void Free Warranty provides coverage up until an occupation certificate is granted.

A warranty period of up to 50 years may be provided with the Waterproof Warranty.

4 SELECTIONS

Schedules are a tool to specify properties required for products or systems. If the principal permits documentation of the product or system by proprietary name, some of the properties may be unnecessary and can be deleted. Document the product or system's location or application here and/or on the drawings with a matching project code. Refer to NATSPEC TECHnote GEN 024 for guidance on using and editing schedules.

4.1 SCHEDULE**Dintel wall schedule**

	A	B	C
Thickness (mm)			

	A	B	C
Wall build up			
Additional information			

The codes in the header row of the schedule designate each application or location of the item scheduled. Edit the codes to match those in other contract documents.

Thickness (mm):

- 110 mm profile. Available in stock lengths of 2.85 m, 3 m, 3.3 m and 3.6 m, and custom lengths from 1.8 m to 7.95 m.
- 155 mm profile. Available in stock lengths of 2.85 m, 3 m, 3.3 m and 3.6 m, and custom lengths from 1.8 m to 7.95 m.
- 200 mm profile. Available in stock lengths of 2.85 m, 3 m, 3.15 m, 3.3 m, 3.45 m, and 3.6 m, and custom lengths from 1.8 m to 7.95 m.
- 275 mm profile. Available in stock lengths of 2.85 m, 3 m and 3.6 m, and custom lengths from 1.8 m to 6.525 m.

Special order lengths of 1.2 m to 1.65 m are available for all the above products. However these will be special request orders.

Note, the 110 mm and 155 mm profiles can accommodate a central layer of horizontal steel reinforcement if required by design. The 200 mm and 275 mm profiles can accommodate a front and back layer of horizontal reinforcement if required by design. It is also available with an additional central web hole to allow for closed ties to be inserted for columns and blade walls.

Wall build up: Nominate any other components of the wall system and cross reference the relevant NATSPEC worksection.

DinCEL waterproof warranty system schedule

	A	B	C
Thickness (mm)			
Additional information			

The codes in the header row of the schedule designate each application or location of the item scheduled. Edit the codes to match those in other contract documents.

Thickness (mm):

- 200 mm profile. Available in stock lengths of 2.85 m, 3 m, 3.15 m, 3.3 m, 3.45 m, and 3.6 m, and custom lengths from 1.8 m to 7.95 m.
- 275 mm profile. Available in stock lengths of 2.85 m, 3 m and 3.6 m, and custom lengths from 1.8 m to 6.525 m.

Formwork dimensional deviation schedule

Dimension or measurement	Location or element	Deviation (mm)

Dimension or measurement: e.g. Absolute position.

Location or element: e.g. Class 2 surface, Class 3 surface.

Deviation (mm): e.g. 15, 20, 25.

REFERENCED DOCUMENTS

The following documents are incorporated into this worksection by reference:

AS/NZS 1170		Structural design actions
AS 1397	2021	Continuous hot-dip metallic coated steel sheet and strip - Coatings of zinc and zinc alloyed with aluminium and magnesium
AS 1530		Methods for fire tests on building materials, components and structures
AS 1530.4	2014	Fire-resistance tests for elements of construction
AS 1530.8.2	2018	Tests on elements of construction for buildings exposed to simulated bushfire attack - Large flaming sources
AS/NZS 2327	2017	Composite structures - Composite steel-concrete construction in buildings
AS 3600	2018	Concrete structures
AS 3610		Formwork for concrete
AS 3610.1	2018	Specifications
AS 3610.2 (Int)	2023	Design and construction
AS 3735	2001	Concrete structures for retaining liquids
AS 5637		Determination of fire hazard properties
AS 5637.1	2015	Wall and ceiling linings
AS 6669	2016	Plywood - Formwork
BRAC V20/01-A3	2026	BRAC Certificate of Accreditation - Certificate number: V20/01 - A3

CM20242	2026	Dintel Wall
Dintel CM		Construction manual
Dintel DM		Dintel 3S Structural engineering design manual - Revision 6
The following documents are mentioned only in the <i>Guidance</i> text:		
AS 1530		Methods for fire tests on building materials, components and structures
AS 1530.4	2005	Fire-resistance tests for elements of construction
AS 3740	2021	Waterproofing of domestic wet areas
AS 4072		Components for the protection of openings in fire-resistant separating elements
AS 4072.1	2005	Service penetrations and control joints
BCA C1P2	2022	Fire resistance - Fire resistance - Spread of fire
BCA F8P1	2025	Health and amenity - Condensation management - Condensation and water vapour management
BCA H4P7	2025	Class 1 and 10 buildings - Health and amenity - Condensation and water vapour management
NCC	2025	National Construction Code
BlueScope TB-14	2022	Professional's guide to Australian Standards for steel sheet and strip products
CIA Z36	2016	Formwork handbook
Dintel GWJ Report	2023	Opinion with respect to Dintel wall and compliance with Section C (fire resistance) of the BCA
NATSPEC DES 010		Atmospheric corrosivity categories
NATSPEC DES 020		Fire behaviour of building materials and assemblies
NATSPEC GEN 006		Product specifying and substitution
NATSPEC GEN 008		Branded vs generic worksections
NATSPEC GEN 024		NATSPEC selections schedules
NATSPEC TR 03		Specifying design and construct for mechanical services
BS 8102	2022	Protection of below ground structures against water ingress - Code of practice