IBS EUROFloor

December 2025

Design & Installation Guide

IBS SUSTAINABLE BUILDING PRODUCTS

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IBS
SUSTAINABLE BUILDING PRODUCTS

Welcome to Independent Building Supplies (IBS), your trusted partner in the New Zealand building industry. Since our inception in 1993, IBS has been dedicated to sourcing and providing the highest quality building materials from around the globe. As a family business with four generations active in the building industry in New Zealand, we bring a wealth of experience and a deep commitment to excellence.

One of the key aspects that set IBS apart is our commitment to innovation. We are constantly on the lookout for new and improved building materials that can enhance the efficiency and effectiveness of construction projects. Our team of experts works closely with suppliers to bring cutting-edge products to the New Zealand market, ensuring that our customers have access to the latest advancements in building technology.

But our commitment to excellence doesn't stop at our products. At IBS, we pride ourselves on providing unparalleled customer service. Our knowledgeable and friendly team is always on hand to offer expert advice and support, helping you choose the right materials for your project.

ABOUT IBS

At IBS, we recognise that the foundation of any great building project lies in the quality of the materials used. That's why we meticulously select our suppliers, ensuring that every product meets our stringent standards for durability, performance, and sustainability. Our extensive range of offerings includes everything from plywood and panels to flooring and cladding, all tailored to meet the diverse needs of the New Zealand market.

OUR PRODUCT RANGE

We seek to develop the most innovative, professional and profitable experience for our clients.
Our passion is for providing our customers with the best products, the best service, and the best experience

In addition to our exceptional product range and customer service, IBS is also dedicated to sustainability. We recognise the importance of protecting our environment and are committed to sourcing eco-friendly building materials. Our sustainable product offerings help reduce the environmental impact of construction projects, allowing our customers to build responsibly without compromising on quality or performance.

IBS is more than just a supplier of building materials; we are a partner in your success. Our comprehensive range of services includes everything from product sourcing and logistics to technical support and training. We work closely with our customers to understand their unique needs and provide tailored solutions that help them achieve their objectives.

Join the countless builders, contractors, and homeowners who trust IBS for their building material needs. Discover the difference that quality, innovation, and exceptional service can make in your next project. Choose Independent Building Supplies – your partner in building excellence for over 30 years.

- **IBS RigidRAP®**
- **IBS RigidRAP®- XT**
- **IBS EUROFloor**
- **IBS FutureFloor**
- **IBS EUROLine**
- **IBS FIBRE® Range**
- **IBS Structural Ply**
- **IBS Builders Grade® Ply**
- **IBS Decorative Ply**
- **IBS Formply**
- **IBS PanelLine®**
- **IBS Showerline**
- **IBS Softboard**
- **IBS Hardboard**
- **IBS Peg Board**
- **IBS Acoustic Panels**
- **IBS Mini Panels**

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NZBN 9429000097253

Contact us for more information or to talk to our team.

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1. Introduction

1.1 Introduction

IBS EUROFloor is a high-quality, moisture-resistant Oriented Strand Board (OSB) panel designed specifically for the New Zealand market. Made from sustainably sourced Scots Pine logs from PEFC forests in Germany, it consists of three layers of wood strands bonded together with heat-cured adhesives. This construction provides strength, durability, and dimensional stability, making it resistant to delamination and warping.

IBS EUROFloor is suitable for various applications, including flooring in timber or steel-framed buildings, stair construction, shelving, cabinetry, and even wet areas like bathrooms and laundries when used with appropriate waterproofing. IBS EUROFloor sheets are available in sizes of 2400 or 3600 x 1200 x 20mm and have a plastic tongue and groove jointing system along the long edge of the sheet. IBS EUROFloor is manufactured in accordance with EN13986:2004, it is suitable for use in humid conditions where the panel in-service moisture content does not exceed 20%. Compliance with the NZ Building Code (NZBC) is established through product certification (CodeMark).

1.2 Scope

EUROFloor is suitable for use in both timber and steel framed buildings, provided that:

- The overall building design complies with the New Zealand Building Code (NZBC) and relevant standards, including NASH where applicable
- The installer or designer confirms the suitability of the existing structure for the proposed application
- Floor systems are designed for loads not exceeding 3.0 kPa uniformly distributed load (UDL)
- The product is used as a structural floor diaphragm for the transfer of wind and seismic loads in accordance with NZS 3604

In addition, EUROFloor may be used in non-structural and secondary applications, including:

- Stair construction
- Packaging and crate manufacturing
- Shelving systems
- Cabinetry and furniture manufacture

1.3 Sizes & Applications

TABLE 1 | IBS EUROFloor Technical Specifications

Length (mm)	Width (mm)	Thickness (mm)	Weight (kg)
3600	1200	20	57.4
2400	1200	20	38.4

IBS EUROFloor Product Details		
Untreated	**Tongue & Groove**	**Exposure (days)**
Yes	Plastic tongue, long edge	90

1.4 Benefits of IBS EUROFloor

Enhanced Strength and Durability: OSB4 offers higher load-bearing capacity and bending strength compared to OSB3, making it ideal for demanding structural applications.

Improved Moisture Resistance: OSB4 panels are more resistant to moisture, reducing the risk of swelling and warping, which ensures long-term stability and performance

Sustainability: Made from sustainably sourced wood, IBS EUROFloor is an environmentally friendly choice. It contributes to reducing deforestation and promotes responsible forest management.

Better Environmental Performance: OSB4 is manufactured with lower formaldehyde emissions, contributing to a healthier indoor environment and meeting stricter environmental standards

Versatility: IBS EUROFloor can be used in a wide range of applications, including floor framing, stair construction, and cabinetry, providing a reliable and versatile solution for your building needs.

Easy Installation: The product's precision-engineered design ensures a seamless fit and easy installation, saving you time and labour costs.

Advantages of OSB4 over OSB3

Higher Load-Bearing Capacity: OSB4 products like IBS EUROFloor are designed to handle greater loads, making it ideal for demanding construction projects.

Improved Moisture Resistance: OSB4 offers better protection against moisture, ensuring that your flooring remains intact and performs well even in challenging conditions.

Longer Lifespan: The enhanced durability and moisture resistance of OSB4 products result in a longer-lasting flooring solution, providing better value for your investment.

1.5 Supporting Info & Documents

This document must be read in conjunction with the:

- IBS EUROFloor Warranty

All other information including any updates are available at www.ibs.co.nz.

2. Best Practice

The information contained within this Design and Installation guide has been specifically designed in accordance with AS/NZS 1170 to comply with the appropriate design loadings for domestic and commercial buildings

2.1 Design Considerations

Where IBS EUROFloor is specified by a designer, the designer shall have the appropriate skills, knowledge of the product and access to all IBS EUROFloor technical information. The designer must consider the floor loading (kPa) to design the appropriate structural floor framing. Where span tables are outside the scope of NZS3604:2011 or Nash Design Standard, the floor must be designed in accordance with AS/NZS 1170.2. The designer is responsible for considering the building work including but not limited to;

- Drainage and building services within the structural floor framing design
- Structural framing requirements with respect to spans and loadings
- Ventilation of the sub-floor Visit www.ibs.co.nz for all resources

2.2 Installation Considerations

The installer will need to have knowledge of basic carpentry skills, knowledge of the product and access to all IBS EUROFloor technical information. Consideration should be taken depending on the use and scope of the job whether the installer should be an LBP. Visit www.ibs.co.nz for all resources.
Homepage

2.3 Health & Safety

For further information on Health & Safety, please refer to:

- The Absolutely Essential Health and Safety Toolkit
- Worksafe New Zealand Quick Guide.

2.4 Handling & Storage

Installation Considerations The installer will need to have knowledge of basic carpentry skills, knowledge of the product and access to all IBS EUROFloor technical information. Consideration should be taken depending on the use and scope of the job whether the installer should be an LBP. Visit www.ibs.co.nz for all resources.

Loading and Unloading

IBS EUROFloor panels are usually supplied on pallets suitable for forklift. If crane offloading by slings is envisaged, special notification must be made in advance or upon placing orders.

All pallets and crates can be safely handled by using a barge lift or hoisting equipment and straps. Steel cables should not be used as it will damage both the pallet and the panels within.

Transport to Site

Always drive the delivery vehicle as close as possible to the location where the panels are to be installed. When transporting the panels, it is essential to firmly secure the pallets to prevent the panels from sliding or moving while in transit.

Storage

IBS EUROFloor should be stored indoors and under cover whenever possible. If outdoor storage is necessary, it should be limited to short periods. Additionally, panels should not be stacked on wet concrete floors.

When stored outdoors, panels must be shielded from the weather. Use a breather-type cover, ensuring it is supported above the top and sides of the panels with battens to allow air to circulate freely around the pack.

Before installation please check panels for defects.

Site considerations:

- Selection of the right equipment for working from a height
- Safe working with ladders and stepladders
- Maintain a clear unobstructed work area

2.5 Cutting/ Drilling

Cutting and drilling IBS EUROFloor panels must be performed with attention to safety, precision, and compliance with the New Zealand Building Code (NZBC), specifically NZBC B2 (Durability) and E3/AS2 (Internal Moisture). All work should be carried out in a dry, well-ventilated environment, with dust control measures in place to protect installers and occupants.

Tools and Blades:

Panels can be cut using stationary table saws, circular saws, handsaw, or jigsaws. Always use a dust-reducing circular saw connected to an M Class or higher vacuum to minimise airborne particles.

Drilling:

Drilling should be performed with high-speed drills and hole saws for circular holes. Mark the center, pre-drill a guide hole, and use a hole saw fitted to an electric drill. For small or irregular holes, create a series of small holes around the perimeter, tap out with a chisel, and finish with sandpaper or a rasp. Tungsten carbide-tipped drills with point angles of 60° to 80° are preferred for efficiency and clean results.

Indoor Cutting:

Ensure that you always use dust-reducing saws and ensure that you are cutting in a well ventilated area using breathing protection as well as eye protection. If exposure levels are a concern, consult a qualified industrial hygienist.

Safe Working Practices:

- Always wear a properly fitted dust mask or respirator (P1 or higher), safety glasses, and hearing protection.
- Keep others at least 2 metres away from the cutting station.
- Warn others before cutting to minimise dust exposure.
- Expose only the necessary blade depth for the material thickness.

Finishing Cut Edges:

After cutting, reseal any exposed edges with a water-based polyurethane to maintain the integrity of the wax-sealed edge and ensure compliance with NZBC durability requirements.

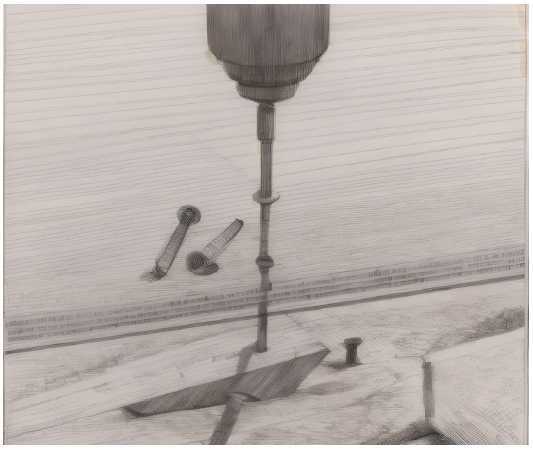
General Advice:

Always follow tool manufacturers' safety guidelines and the IBS EUROFloor installation guide. Proper cutting and drilling not only ensure a professional finish but also maintain the product's warranty and compliance with NZBC standards.

2.6 Penetration

For smooth, clean cut circular holes:

- Mark the centre of the hole on board.
- Pre-drill a hole to be used as a guide.
- Cut hole to the required diameter using a hole saw fitted to an electric drill where the central bit is inserted into the pre-drilled hole.



For small irregular holes:

- Small rectangular apertures can be achieved by forming a series of small holes around the perimeter of the opening.
- Tap out with a chisel and clean up with sand paper or a rasp.

3. Durability

3.1 Compliance

When IBS EUROFloor is stored, handled and maintained in accordance with this Design and Installation Guide then the durability and performance requirements will be met for NZBC (a) B2.3.1 for 50 years.

It is important to note that all details and methods should be followed and observed as well as good building practice to avoid non-compliance.

3.2 Responsibility

Designers and/or contractors responsible for the intended project should follow the details and recommendations specified in this manual.

It is also wise to keep in mind that all designs and constructions should comply with appropriate and relevant requirements of current legal building codes, regulations and standards, both domestic and international.

**The information provided in this installation guide is valid at the time of publication.*

3.3 Conditions

1. **90 Days Exposure:** IBS EUROFloor panels must not be exposed to the weather conditions for any longer than 90 days.
2. **No Pooling of Water:** IBS EUROFloor must not be allowed to have water pooling on the surface during the 90 days maximum exposure period. In the deepest part of the puddle drill a hole to allow any water to drain or sweep off any puddles.
3. **Indoor Use Only:** IBS EUROFloor panels must not be used in uncovered exterior areas, such as open verandas or decks. They are designed for interior flooring and protected soffit applications only.
4. **Moisture Content:** Panels must not be installed on timber framing with a moisture content greater than 18%. Once installed, the panel moisture content must not exceed 16%.
5. **Substrate Preparation:** The substrate must be structurally sound, level, and dry. All framing must fully support sheet edges and comply with NZBC and manufacturer specifications.
6. **Ventilation:** Suspended floors require a minimum ground clearance of 550mm and adequate sub-floor ventilation to maintain panel moisture content below 16%.
7. **Wet Areas:** IBS EUROFloor may be used in wet areas (bathrooms, laundries, shower rooms) only when a compliant waterproof membrane is installed in accordance with NZBC E3/AS2.
8. **Cutting & Drilling:** All cutting and drilling must be performed in a dry, well-ventilated area using appropriate dust control measures. Exposed cut edges must be resealed with water-based polyurethane.

9. **Fixings:** Use only approved fasteners—minimum 60mm annular grooved nails (galvanised or stainless) or self-tapping screws (45mm x 8 ga).
   Follow recommended fixing patterns and distances.
10. **Expansion Gaps:** Leave a 10mm gap around the perimeter of installed boards and provide expansion joints every 10 metres in either direction. Use a 13mm PEF backing rod and sealant for expansion joints.
11. **Panel Protection:** Panels should be stored flat, off the ground, and covered prior to installation. Avoid stacking on wet concrete floors and limit outdoor storage to short periods.
12. **Compliance & Warranty:** All installation must comply with the IBS EUROFloor Design & Installation Guide and relevant NZ Building Code requirements. Failure to follow these conditions may void the product warranty.

3.4 Defects

Before Installation, please ensure you check the panels for defects or damage.

3.5 Differing Installation

To ensure the warranty on the product remains valid, it is crucial to follow the design and installation guidelines provided. Failure to adhere to these instructions may result in the warranty being voided.

3.6 Prohibited Uses

1. **Uncovered Exterior Areas:**
   IBS EUROFloor panels must not be used in uncovered exterior locations, such as open verandas, decks, or any area exposed directly to the weather.
2. **Excessive Moisture Content:**
   Panels must not be installed if their moisture content exceeds 16% at the time of installation, or if installed on timber framing with a moisture content greater than 18%.
3. **Decking Membranes:**
   IBS EUROFloor must not be used as a substrate for decking membranes or as a base for waterproof deck systems.
4. **Continuous Weather Exposure:**
   Panels should not be exposed to weather conditions for more than 90 days during construction. Extended exposure can compromise durability and performance.
5. **High-Temperature Environments:**
   Panels must not be exposed to temperatures above 50°C for extended periods, and must be kept clear of fuel-burning appliances, flues, and chimneys.
6. **Unprotected Storage:**
   Do not store panels outdoors for long periods or stack them on wet concrete floors. Panels must be protected from moisture and weather at all times.
7. **Unsupported Edges:**
   Panels must not be installed where sheet edges are unsupported by framing, nogs, or dwangs, as this can lead to structural failure.

8. **Improper Use in Wet Areas:**
   IBS EUROFloor must not be used in wet areas (bathrooms, laundries, shower rooms) without a compliant waterproof membrane system installed as per NZBC E3/AS2.
9. **Non-Compliant Installations:**
   Panels must not be installed in any way that deviates from the IBS EUROFloor Design & Installation Guide or relevant NZ Building Code requirements. Any unapproved variations may void the warranty.
10. **Exterior Decks or Balconies:**
    IBS EUROFloor is not suitable for use as a structural or finished surface on exterior decks, balconies, or other outdoor platforms, even if covered.

3.7 Fire ratings

IBS EUROFloor is manufactured from Swiss Krono OSB 4 panels produced in Berlin, Germany, and is engineered to meet stringent European and New Zealand fire safety standards.

According to EN 13501-1, the reaction-to-fire classification for standard OSB 4 panels is **D-s2, d0** when installed without flooring, which means the product is classified as having limited combustibility, produces moderate smoke, and does not form burning droplets. When used as a flooring substrate, the classification is **Dfl-s1**, indicating limited contribution to fire, low smoke production, and no flaming droplets.

IBS EUROFloor panels are not fire-retardant and should not be used where a specific fire resistance rating is required by the NZ Building Code (except for detached dwellings in purpose group SH).

Panels must be kept clear of fuel-burning appliances, flues, and chimneys, and should not be exposed to temperatures above 50°C for extended periods. Always refer to project-specific fire engineering requirements and consult with local authorities for compliance in higher-risk or multi-storey applications.

Clause C3.4(b) of the New Zealand Building Code (NZBC) is part of the fire safety requirements under Clause C3: “Fire affecting areas beyond the fire source.” Specifically, C3.4(b) addresses the **critical radiant flux** for floor surfaces.

In summary:

- **Clause C3.4(b)** requires that floor surfaces in certain buildings must achieve a minimum critical radiant flux value to limit the spread of fire across the floor.
- The **critical radiant flux** is a measure of how much heat energy is needed to sustain flame spread on a floor surface. The higher the value, the more resistant the floor is to fire spread.
- For most occupied spaces (other than those in risk group SH, which are detached dwellings), the minimum required value is **2.2 kW/m²**.

How this applies to IBS EUROFloor:

IBS EUROFloor is assigned a critical radiant flux value of **2.2 kW/m²** to comply with NZBC Clause C3.4(b). This means it meets the minimum fire performance requirement for floor surfaces in most building types, except where a higher fire resistance rating is required (such as in multi-storey or special-use buildings).

4. Design

4.1 Sustainability Statement

IBS EUROFloor, manufactured from Swiss Krono OSB4, is designed with sustainability at its core, considering the entire product life cycle from raw material sourcing to end-of-life. The manufacturing process employs formaldehyde-free binders, significantly reducing emissions and contributing to healthier indoor air quality. Each panel is engineered for durability and dimensional stability, which extends the product's service life and reduces the need for frequent replacement, thereby minimising waste over time.

Throughout its life cycle, IBS EUROFloor demonstrates a low environmental impact. The use of wood, a renewable resource, means that the panels store carbon, helping to offset greenhouse gas emissions. The production process is optimised for efficiency, with minimal waste and energy use, and the panels themselves are recyclable at the end of their service life. By choosing OSB4 over less sustainable alternatives, builders and homeowners are supporting a product that not only meets stringent performance standards but also aligns with global efforts to reduce environmental footprints and promote circular economy principles. The benefits of using IBS EUROFloor extend beyond individual projects to the broader environment. By specifying a product that is both durable and eco-friendly, New Zealand builders contribute to healthier homes and a more sustainable built environment.

The panels' superior moisture resistance and structural integrity help maintain indoor air quality and building longevity, while their sustainable sourcing and manufacturing support global environmental stewardship. IBS EUROFloor is a testament to how thoughtful product design and responsible sourcing can deliver high performance while genuinely considering the needs of the planet as a whole.

4.2 Check the substrate

Structural Support:
Ensure the framing is structurally sound, square, and true. All short and perimeter edges must be fully supported by framing, nogs, or dwangs. The substrate must not rely on the flooring panel for stability.

Compliance:
The substrate and framing must comply with the New Zealand Building Code (NZBC) and be suitable for the intended building work. Timber framing must meet the specifications in the NZBC and be fit for the intended purpose.

Moisture Content:
Timber framing must have a moisture content of 18% or less at the time of installation. Higher moisture can cause shrinkage, movement, and squeaking.

Surface Condition:
The substrate should be level, clean, dry, and free from protruding nails, debris, or contaminants. Existing floors (e.g., tongue and groove or particleboard) should be refixed, re-punched, and sanded flat.

Substrate Type

Wooden floor overlay:

IBS EUROFloor can be installed over an existing wooden floor, provided the underlying structure is compliant with the New Zealand Building Code and is fit for the intended use. Moisture content of the substrate must be no more than 18%.

Concrete overlay:

IBS EUROFloor may be laid over a concrete substrate, provided the concrete is structurally sound, level, and meets all NZ Building Code requirements for the application.

Timber joists:

When installing IBS EUROFloor on timber joists, confirm that the joist framing is designed and constructed in accordance with the NZ Building Code and is suitable for the intended floor loads. Moisture content of the joists must be no more than 18%.

Steel joists:

IBS EUROFloor can be fixed to steel joists, provided the joist system is compliant with the NZ Building Code and is appropriate for the building's use and occupancy.

Ventilation:

For suspended floors, ensure a minimum ground clearance of 550mm and adequate sub-floor ventilation to keep the panel moisture content below 16%.

Joist Spacing:

Confirm that joist spacing does not exceed 600mm and that all edges and ends are supported as per the guide.

Defect Inspection:

Inspect all panels and substrate for defects or damage before installation. Replace any damaged sheets.

Dry Layout:

Perform a dry layout to ensure proper fit and alignment before final installation.

Preparation for Wet Areas:

In wet areas, confirm that a compliant waterproof membrane will be installed over the substrate as required by NZBC E3/AS2.

4.3 Design Considerations for Overlay on Timber Floor

Substrate Preparation:

The existing timber floor must be structurally sound, level, and free from protruding nails or defects.

Refix and re-punch existing floors as needed, then coarse sand to provide a flat substrate.

Moisture Content:

Ensure the timber substrate has a moisture content of 18% or less at the time of installation to prevent shrinkage and movement.

Overlay Method:

Use a combined nail and full-spread adhesive method for direct overlay. This eliminates “drumming” (hollow sound) and improves floor stability.

Apply construction adhesive as a full spread, following the manufacturer’s instructions.

Panel Joint Staggering:

When overlaying, ensure that the joints in the new IBS EUROFloor panels do not occur directly above parallel joints in the base floor. This prevents weak points and improves load distribution.

Expansion Gaps:

Leave a 10mm gap around the perimeter of the installed boards and provide expansion joints every 10 metres in either direction to accommodate movement.

Fixings:

Use only approved fasteners (e.g., 60mm annular grooved nails or 45mm x 8 ga self-tapping screws) and follow the recommended fixing pattern and distances.

Surface Condition:

- The substrate must be clean, dry, and free from contaminants before overlaying.
- Consider a quick sand of the existing floor to ensure adequate adhesion of the glue.

Finishing:

- After installation, seal or overlay the IBS EUROFloor with an appropriate protective covering (e.g., tile underlay, membrane, carpet, or polyurethane finish).

Compliance:

- All work must comply with the IBS EUROFloor Design & Installation Guide and the New Zealand Building Code.

Acclimatisation

- Store IBS EUROFloor panels on site for at least 48 hours before installation to acclimatise to site conditions.

4.4 Design Considerations for Overlaying on Concrete

Concrete Must Be Fully Dried Out

- The concrete substrate must be completely dry before installation. Any residual moisture can lead to swelling, warping, or adhesive failure. It is critical that the concrete is not subject to rising damp or moisture ingress from below or through the slab.

Moisture Protection

- If there is any risk of moisture coming through the concrete, a suitable damp-proof membrane or moisture barrier must be installed prior to overlaying with IBS EUROFloor.

Surface Preparation

- The concrete surface must be level, clean, and free from dust, oil, grease, or any contaminants that could affect adhesion.
- Remove any laitance, loose material, or old adhesive residues.

Adhesive Application

- Use a full-spread construction adhesive method for overlaying on concrete. This reduces panel movement and eliminates “drumming” (hollow sound).
- Follow the adhesive manufacturer’s instructions for application and curing times.

Mechanical Fixing

- Mechanical fixing of IBS EUROFloor directly to concrete is not recommended. The adhesive alone should provide sufficient bond if the substrate is properly prepared.

Expansion Gaps

- Leave a 10mm gap around the perimeter of the installed boards and provide expansion joints every 10 metres in either direction to accommodate movement.

Finishing

- After installation, seal or overlay the IBS EUROFloor with an appropriate protective covering (e.g., tile underlay, membrane, carpet, or polyurethane finish).

Compliance

- All work must comply with the IBS EUROFloor Design & Installation Guide and the New Zealand Building Code.

Acclimatisation

- Store IBS EUROFloor panels on site for at least 48 hours before installation to acclimatise to site conditions.

4.5 Design Considerations for IBS EUROFloor on Timber Joists

Joist Spacing

- Ensure joist spacing does not exceed 600mm. Closer spacing increases floor rigidity and reduces deflection.

Full Edge Support

- All short and perimeter panel edges must be fully supported by joists or nogs/ dwangs. Unsupported edges can lead to movement and squeaking. There is no need to support the long edges as long as the IBS EUROFloor has the T&G installed correctly.

Moisture Content

- Timber joists must have a moisture content of 18% or less at the time of installation to prevent shrinkage and movement.

Panel Orientation

- Lay IBS EUROFloor panels with the long edge spanning across the joists (major axis at right angles to joists) for maximum strength.

Fixing Method

- Use approved fasteners: minimum 60mm annular grooved nails (galvanised or stainless) or 45mm x 8 ga self-tapping screws.
- Follow the recommended fixing pattern: perimeter fixings 10–15mm from the edge, at 150mm centres and intermediate fixings at max 200–300mm centres.

A minimum of 3 Joists for sheets to span

- When installing IBS EUROFloor, each sheet must span at least three joist spacings. This is important to ensure the structural integrity and load distribution of the flooring system. Fixing the sheets to a minimum of three joists helps prevent movement, reduces the risk of squeaking, and ensures the floor performs as designed.

Adhesive Application

- Apply a continuous bead of construction adhesive to all joists and between sheet ends and edges. For tongue & groove panels, also apply adhesive along the tongue.

Expansion Gaps

- Leave a 10mm gap around the perimeter of the installed boards and provide expansion joints every 10 metres in either direction to accommodate movement.

Panel Joint Staggering

- Stagger panel joints in a brickwork pattern to avoid continuous lines of weakness and improve load distribution.

Sub-floor Ventilation

- For suspended floors, ensure a minimum ground clearance of 550mm and adequate sub-floor ventilation to keep the panel moisture content below 16%.

Surface Preparation

- The joists must be level, clean, and free from debris or protruding fixings before laying the panels.

Acclimatisation

- Store IBS EUROFloor panels on site for at least 48 hours before installation to acclimatise to site conditions.

4.6 Design Considerations for IBS EUROFloor on Steel Joists

Joist Specification

- Steel joists must comply with Nash Design and NZS 3404 Steel Structures Standard.
- Ensure all joist sizes and spacing are as specified in the installation guide (maximum 600mm centres).

Full Edge Support

- All panel short edges and ends must be fully supported by steel joists or nogs/ dwangs. Unsupported edges can lead to movement and squeaking. There is no need to support the long edges as long as the IBS EUROFloor has the T&G installed correctly.

Fixings

- Use corrosion-resistant Tek self-drilling screws, minimum 10 gauge x 45mm.
- Fixings at panel edges: 150mm centres, minimum 15mm from the square edge or 25mm from tongue & groove edge.
- Intermediate supports: screws at maximum 300mm centres.

Adhesive Application

- Use a construction-grade adhesive compatible with steel. Apply a continuous 5mm bead to all joists and between sheet ends and edges.
- For tongue & groove panels, also apply a 2mm bead along the tongue before joining panels.

A minimum of 3 Joists for sheets to span

- When installing IBS EUROFloor, each sheet must span at least three joist spacings. This is important to ensure the structural integrity and load distribution of the flooring system. Fixing the sheets to a minimum of three joists helps prevent movement, reduces the risk of squeaking, and ensures the floor performs as designed.

Panel Orientation and Layout

- Lay panels with the long edge spanning across the steel joists (major axis at right angles to joists).
- Stagger panel joints in a brickwork pattern to avoid continuous lines of weakness.

Expansion Gaps

- Leave a 10mm gap around the perimeter of the installed boards and provide expansion joints every 10 metres in either direction.

Surface Preparation

- Ensure steel joists are level, clean, and free from debris or protruding fixings before laying the panels.

Acclimatisation

- Store IBS EUROFloor panels on site for at least 48 hours before installation to acclimatise to site conditions.

Finishing

- After installation, seal or overlay the IBS EUROFloor with an appropriate protective covering (e.g., tile underlay, membrane, carpet, or polyurethane finish).

Compliance

- All work must comply with the IBS EUROFloor Design & Installation Guide and the New Zealand Building Code.

4.7 Design Considerations for IBS EUROFloor in Wet Areas

Waterproof Membrane

- A water-impervious membrane must be installed over the IBS EUROFloor substrate. This membrane must cover the entire floor and be coved up at the walls to prevent water ingress. Refer to NZBC Acceptable Solution E3/AS2 for details.

Sheet Acclimatisation

- Store the boards on site for at least 48 hours before installation to allow them to acclimatise to the site's moisture level.

Substrate Preparation

- Ensure the substrate is clean, dry, level, and free from contaminants before laying the sheets.

Support for All Sheet Edges (Including T&G Joins)

- All sheet edges must be fully supported by joists, nogs, or dwangs even at tongue & groove (T&G) joins. This is critical to prevent movement, flexing, or failure at the joints, especially under wet area finishes.

Expansion Gaps

- Leave a 10mm expansion gap around the perimeter of the installed boards and at fixed objects to allow for movement.

Adhesive and Fixings

- Use a construction-grade adhesive compatible with timber or steel, and fix the panels with the recommended fasteners (e.g., 60mm annular grooved nails or 45mm x 8 ga screws). Fix panels within 15 minutes of positioning to ensure the adhesive does not set before mechanical fixing.
- Always use Stainless Steel fixings in Wet areas

Sealing Cut Edges

- Reseal any cut edges with a water-based polyurethane to maintain moisture resistance.

Finishing

- IBS EUROFloor should not be left in its raw state in wet areas. It must be sealed or overlaid with an appropriate protective covering, such as a wet area membrane system or tile underlay.

Compliance

- All work must comply with the IBS EUROFloor Design & Installation Guide and the New Zealand Building Code.

Summary:

When using IBS EUROFloor as a wet area substrate, it is critical that all sheet edges including tongue & groove joins are fully supported, and that a compliant waterproof membrane is installed over the substrate to protect against moisture ingress.

4.8. Floor Diaphragms (NZS 3604)

Purpose and Scope

A floor diaphragm is a horizontal structural element that transfers inplane wind and earthquake shear to bracing lines, tying walls together so the building acts as one unit. EUROFloor may be used **as a floor diaphragm within the scope of NZS 3604** in timber or steelframed buildings when designed and installed in accordance with this Guide.

Design intent: This section provides layout rules, fixing schedules and construction notes for typical NZS 3604 buildings. For projects **outside NZS 3604** or where diaphragm demand is high (e.g., long, open floor plates), a **Specific Engineer Design (SED)** is required. See NZS 3604 Section 7 (Floors) and Clause 7.3 (Floor diaphragms). For practical background on bracing lines and diaphragm behaviour, see BRANZ guidance.

Applicability (NZS 3604 checks)

Before detailing a EUROFloor diaphragm, confirm the following NZS 3604 checks:

- **Plan dimensions / aspect ratio:** Diaphragms must comply with NZS 3604 limits on maximum length and lengthtowidth ratio. Typical practice is **maximum length ≤ 12 m** and aspect ratio limits of **≤ 2.5 (single storey)** and **≤ 2.0 (two storey)**; sheet joints must be **staggered in a brick pattern**.
- **Bracing lines:** Lay out bracing lines per NZS 3604. Subfloor bracing lines are **nominally ≤ 5 m apart**, evenly distributed, and aligned with walls above.
- **Ventilation & ground clearance:** Provide subfloor ventilation per NZS 3604 and maintain **≥ 550 mm** clearance to ground (EUROFloor best practice).
- **Within NZS 3604 scope:** Use NZS 3604 span and loading assumptions.

EUROFloor sheet specification

- **Panel:** EUROFloor OSB4 panel, **2400/3600 × 1200 × 20 mm**, plastic **T&G** along long edges; installed **laser print face down.**
- **Service class:** OSB4 suitable for humid service (panel MC ≤ 20% in service).
- **Exposure:** Max exposure before closingin **90 days.**
- **Joist spacing: ≤ 450 mm** (closer spacing increases stiffness). Sheets must span **≥ 3 joists.**

Diaphragm layout

- **Orientation:** Lay sheets with **long edge perpendicular to joists** (major axis spanning supports).
- **Staggering:** Form a **brickwork pattern**—stacked end joints offset between adjacent rows.
- **Perimeter gaps / expansion joints:** Provide **10 mm perimeter gap** and **expansion joints every 10 m** with 13 mm PEF backing rod and sealant.

- **Nogs/blocking:** Where T&G is used, **sheetedge blocking is typically not required** for diaphragm action; however, provide nogs where needed for **joist lateral stability** and service support per NZS 3604. (Practical note echoed in technical advice; designer to confirm for each project.)

Diaphragm fasteners & adhesive

Use **constructiongrade adhesive plus mechanical fixings** to achieve composite action and limit squeaks/creaks:

Adhesive

- Continuous **5 mm bead** on top of every joist; **2 mm bead on the tongue**; beads at **ends and edges** of sheets. Remove squeezeout.

Timber joists – pick one fastener type and use consistently:

- **Annulargrooved timber flooring nails 60 mm;** edge centres **150 mm,** intermediate centres **300 mm**.
- **Galvanised jolt head nails 60 mm;** same centres as above.
- **Selfdrilling screws (corrosion resistant) 8 g × 45 mm;** same centres.

Steel joists

- Tek selfdrilling screws (corrosion resistant) **10 g × 45 mm;** edge **150 mm,** intermediate **300 mm.**

Edge distances

- Min **15 mm** from square edge; 25 mm from T&G edge. Fix sheets **within 15 minutes** of placement to lock adhesive.

Diaphragm capacities and loads

- **Uniformly distributed vertical loads (UDL)**—EUROFloor span table:
    - **Diaphragm construction** maximum vertical load: 400 mm: **10.18 kN/m²;** 450 mm: **7.04 kN/m².**

Note: EUROFloor diaphragm performance depends on correct **adhesive + mechanical fixing, sheet layout,** and joist spacing. For **nonstandard geometries** (steps, large openings, reentrant corners) or **length/aspect exceeding NZS 3604,** obtain SED.

Openings, penetrations and edge conditions

- **Small service penetrations:** Keep clear of sheet edges and joist lines where practicable; maintain minimum edge distances to fasteners. Seal penetrations to maintain membrane integrity in wet areas.
- **Large openings (stairs, voids):** Frame all cutouts; treat the surrounding floor as diaphragm chord/collector regions with increased fixing density as required by the designer. (SED if beyond NZS 3604 geometry.)
- **Perimeter:** Maintain 10 mm movement gaps; provide collector connections to bracing lines per wall bracing design.

Wet areas and finishing

Where the diaphragm floor serves wet areas (bathrooms, laundries), protect EUROFloor with an **approved impervious membrane;** cove at walls per **E3/AS1.** Sand lightly before clear coatings (≤ 2 mm).

Inspection and documentation

- **Preinstallation:** Confirm framing moisture content **≤ 18%,** sheet acclimatisation (48 h), and ventilation openings.
- **During installation:** Check adhesive bead continuity; fastener **type/length, centres** (150/300 mm), **edge distances,** sheet staggering, and "laser print down" orientation.
- **Postinstallation:** Record diaphragm layout, fastener schedule, expansion gaps, and any engineered details. Reference this Guide and the project's structural documentation (NZS 3604 / SED) in producer statements.

5. Installation

5.1 Installing IBS EUROFloor

When stored, handled, installed, and maintained according to the guidelines in this document, IBS EUROFloor panels will meet the durability performance requirements of NZBC B2.3.1 (a) for 50 years. The specifications, details, and methods outlined here must be strictly followed to ensure compliance with the building code. IBS will not be held liable if the storage, handling, installation, and maintenance conditions for IBS EUROFloor panels, as specified in this document, are not adhered to.

Note: IBS EUROFloor only comes as untreated panel.

Wet Areas

IBS EUROFloor can be used in all wet areas including bathrooms, laundries and shower rooms, this is provided that it has the necessary waterproof membrane. The water impervious membrane must cover the floor and be coved at the walls. Refer to Acceptable Solution E3/AS2.

Important Note:
Before installing, store the boards on site for 48 hours to acclimatise to the installation site moisture level. Where IBS EUROFloor is exposed to excess moisture, mechanical sanding may be required if swelling has occurred at the panel joints. Ensure that you follow all the handling and storage conditions to ensure that the warranty is not compromised.

5.2 Ancillary Products

Adhesive - must be construction grade and compatible with wood or steel products.

Nails - must be a minimum of 60mm annular grooved and either galvanised or stainless depending on the exposure zone.

Screws - must be self-tapping, countersunk head and 45mm x 8 ga.

Important Note:
Mild steel or light zinc coated fixings can be used, however this is not recommended where the floor is exposed to the elements or where a visual finish is required. For the best results, stainless steel fixings are recommended.

Also ensure that the right fixings are used taking into consideration the exposure zone.

Recommended Adhesive Options

TABLE 2 - IBS EUROFloor recommended Adhesives	
Sikaflex®-123 MS Bond	Continuous beads to the top of each joist and between the sheets at the ends and edges of 5 mm. Continuous bead on top of the tongue of 2 mm *Important to follow manufacturers install guide for all adhesives.
Holdfast - Gorilla Grip	
Bostik - Alpha Grip	
Selleys - Liquid Nails	

5.3 Joist Spacing

Maximum joist spacing is 600mm. The closer the joists are the more rigid the floor.

5.4 Expansion Gaps

IBS EUROFLoor should have one expansion joint every 10 metres in either direction. You will also need to leave a 10mm gap around the perimeter of the installed boards to allow for expansion and contraction. An expansion gap consists of a 13mm PEF backing rod and then filled with a sealant or caulking compound.

The PEF backing rod and sealant should be installed as per the manufacturer's installation guide. IBS does not have a preference to any one PEF system, if it is an approved and recognised system.

5.5 Insulation

IBS EUROFloor panels used to create an on-ground platform floor will contribute to the building performance index of the building envelope; however, additional insulation will be required to meet the thermal insulation standards outlined in NZBC H1/AS1.

The thermal resistance (R value) of 20mm OSB 4.

- **Swiss Krono specifies the thermal conductivity (λ) of OSB/4 as 0.13 W/mK.**

- The R value is calculated as:
  R = Thickness (metres) divided by
  λ = Thermal conductivity (W/mK) of the specified material
  R (0.02) / λ (0.13) = 0.15 m^2 K/W

Therefore, the R value for 20mm Swiss Krono OSB 4 is approximately 0.15 m^2K/W.

5.6 Top Tips for Laying Out IBS EUROFloor Sheets

Lay with Laser print face down

- This way the panels are installed correctly as well as providing important information that may need to be relied on at a later date.

Acclimatise Sheets Before Installation

- Store IBS EUROFloor panels on site for at least 48 hours before installation to allow them to acclimatise to the site's moisture level.

Plan a Dry Layout

- Perform a dry layout of all sheets before fixing to ensure the best fit, minimise waste, and avoid small offcuts at edges or doorways.

Lay Sheets with Long Edge Across Joists

- Always lay the long edge of the sheet perpendicular to the joists (major axis at right angles to joists) for maximum strength.

Stagger End Joints

- Stagger panel end joints in a brickwork pattern so that joints do not align in adjacent rows. This increases floor strength and reduces the risk of movement or squeaking.

Leave Expansion Gaps

- Leave a 10mm expansion gap around the perimeter of the installed boards and at fixed objects. For large floors, provide expansion joints every 10 metres in either direction.

Support All Edges and Ends

- Ensure all sheet ends and perimeter edges are fully supported by joists or nogs/dwangs. Unsupported edges can lead to deflection and floor noise.

Use Correct Fasteners and Adhesives

- Use the recommended fasteners and adhesives (e.g., construction-grade adhesive, 60mm annular grooved nails, or 45mm x 8 ga screws). Fix panels within 15 minutes of positioning to ensure adhesive does not set before mechanical fixing.
- Ensure a 5mm bead of adhesive around each short edge as well as a 2mm bead on the T&G prior to installation.
- Ensure that sheets are mechanically fixed no longer than 15 minutes after glue has been applied.

Seal Cut Edges

- If you cut sheets, reseal the cut edges with a water-based polyurethane to maintain the integrity of the wax-sealed edge and moisture resistance.

Remove Excess Adhesive and Clean Up

- Remove any excess adhesive from sheets during installation. After laying, clean the surface thoroughly to prepare for finishing.

Protect and Finish the Floor

- IBS EUROFloor should not be left in its raw state. Seal or overlay with an appropriate protective covering (e.g., tile underlay, membrane, carpet, or polyurethane finish) as soon as practical after installation.

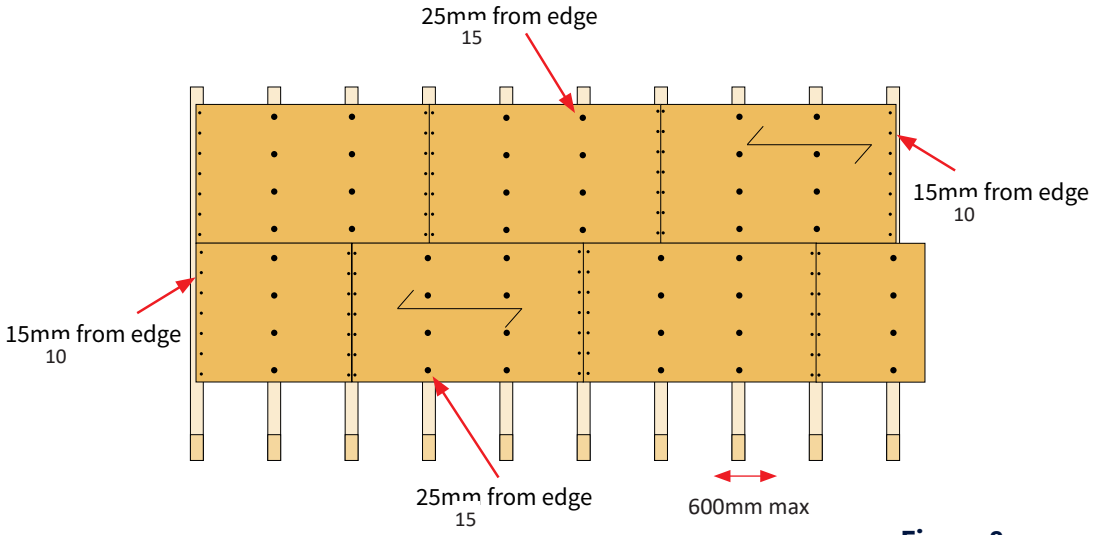


Figure 8
Joist Spacing

5.7 Ground Clearance

A minimum clearance of 550mm must be maintained between the ground surface beneath the building and the underside of the flooring panels to ensure adequate sub-floor air circulation and allow for inspection of the sub-floor structure.

This 550mm clearance cannot be reduced, even when vapour barriers are installed. While vapour barriers may reduce the ventilation requirements, they do not affect the clearance dimension.

5.8 Top 10 Tips for Finishing IBS EUROFloor

Seal or Overlay the Floor

- IBS EUROFloor must not be left in its raw state. Apply a suitable finish such as a polyurethane system, wet area membrane, tile underlay, carpet, or other approved floor covering.

Fill any Screw or nail holes

- Ensure that any and all nails or screws are counter sunk to allow for any filler to be installed.
- Ensure that you fill and allow to dry prior to sanding any Screw holes to ensure a nice smooth finish is achieved.

Sand Before Finishing

- Sand the boards prior to applying polyurethane or other finishes. Limit sanding to a maximum of 2mm off the face of the board to maintain integrity.

Protect During Construction

- If a clear finish is planned, protect the boards from soiling and wear during the construction period to avoid damage.

Clean Thoroughly

- Wipe down all surfaces with warm, soapy water to remove construction marks, dirt, and residual materials for a professional finish.

Seal All Joints and Edges

- Use appropriate sealants for joints, especially in wet areas. Ensure all sealants comply with NZBC requirements and follow the manufacturer’s instructions.

Use the Right Underlay

- For sheet vinyl or laminate flooring, install a flexible underlay or sheet underlay as required by the vinyl manufacturer’s technical data.

Remove All Debris

- Remove all unused materials, debris, and elements from the site to leave a clean, safe work area.

Inspect the Finished Floor

Check that all boards are securely fixed and finished. Address any issues before proceeding with further construction or decoration.

Follow Manufacturer's Recommendations

- Always follow the manufacturer's recommendations for adhesives, finishes, and sealants to ensure warranty and compliance.

5.9 Tips for Installing IBS EUROFloor on Large Floors

Plan for Expansion

- Large floors that are pre-laid and exposed to weather, you must provide for panel expansion.

There are 2 options

1. This can be achieved by leaving out one row of flooring panels across the building width at centres not exceeding 25 metres until the structure is completely closed in.

2. By providing a 40mm wide expansion gap under partition lines or other hidden locations at no greater than 25m intervals. Insert a filler strip on completion.

Normal Expansion Needed for Post-Laid Floors

- If the large floor is post-laid, as in not exposed to weather at all, normal expansion provisions are required or 10mm around the perimeter. However, it is essential that no exposure of any type occurs during installation.

Expansion Gaps

- Always leave a 10mm expansion gap around the perimeter of the installed boards to allow for movement.

Support for Heavy Loads

- When using a part panel, consider the location and potential loads. In areas with regular foot traffic or heavy loads, install nogs/dwangs at joist spacing intervals to provide extra support.

Double Joists or Nogs at Expansion Gaps

- Where a 40mm expansion gap is provided, use double joists or nogs to support the edges of the panels on either side of the gap.

Stagger Joints

- Stagger panel joints in a brickwork pattern to avoid continuous lines of weakness and improve load distribution.

Weather Protection

- Minimise weather exposure during installation. If panels are exposed, ensure they are protected and that expansion provisions are in place.

Seal Cut Edges

- Reseal any cut edges with a water-based polyurethane to maintain moisture resistance.

Check for Consistency

- When using clear finishes, ensure panel sizes, types, and batches are consistent to avoid shading differences between panels.

Follow Manufacturer's Guidelines

Always follow the IBS EUROFloor Design & Installation Guide for all details regarding expansion, fixing, and finishing to maintain warranty and compliance.

6. Fixing

6.1 Nail Fixing Details for IBS EUROFloor

The type and position of the fastening chosen is important for long-term performance. Incorrectly fixed panels and high moisture content in timber may lead to squeaking floors which can be difficult to remedy at a later date.

Type of Nails

Use a minimum of 60mm annular grooved nails (timber flooring nails), either galvanised or stainless steel depending on the exposure zone.

In coastal or high-corrosion zones, stainless steel nails are required for durability and compliance with NZBC E2/AS1.

Nail Placement and Spacing

- Panel ends and edges: Nail at 150mm centres, 10mm from the edge (increase to 15mm from the edge for tongue & groove panels to avoid tongue damage).
- Intermediate supports: Nail at maximum 200mm centres, with all nails slightly skewed except for corner vertical nails.
- Minimum fixing distance: 10mm from the board's square edge, 15mm from tongue & groove edge.

Driving Nails

- Hand-driven nails: Initially drive flush with the surface. Final punching of nails should be done after the building is closed in and just prior to sanding. This allows for timber shrinkage and reduces the risk of squeaky floors. It also minimises the moisture entering the sheet if it does get wet.
- Power-driven nails: Set the depth adjuster to drive nails flush with the panel surface. Hand punch just prior to sanding for best results.
- Nails should be slightly angled and driven parallel to the sheet edge.

When to Use Different Nails

1. **Galvanised nails:** Suitable for most internal environments.
2. **Stainless steel nails:** Required in coastal, high-humidity, or corrosive environments, and wherever the New Zealand Building Code specifies enhanced durability.

3. **Mild steel or light zinc-coated fixings:** Not recommended where the floor is exposed to the elements or where a visual finish is required.

General Best Practice

- Always use construction adhesive in conjunction with mechanical fixing for best performance.
- Ensure that a 2mm bead of construction adhesive is placed in the T&G edge joint prior to installation.
- Ensure all fixings comply with the NZ Building Code and the IBS EUROFloor Design & Installation Guide.

Summary Table: Nail Fixing for IBS EUROFloor				
Location	**Nail Type**	**Spacing (mm)**	**Distance from Edge (mm)**	**Notes**
Panel ends/ edges	60mm annular grooved	150	10 (15 for T&G)	Stainless in corrosive zones & wet areas
Intermediate supports	60mm annular grooved	200		

6.2 Nails

Hand-driven nails shall initially be driven flush with the surface. Punching of nails must take place after building is closed in – just prior to sanding. This allows for the moisture content of joists to dry during building construction.

Hand-driven nail fastening usually provides a better finish for clear coatings than power-driven nails.

To improve lateral holding, nails shall be slightly angled and be driven parallel to the sheet edge (refer figure 7).

When using power-driven nails, set the depth adjuster attachment on the power tool to drive nails flush with the surface of the panel. This will allow hand punching to take place just prior to sanding.

The use of the pre-punching mechanism increases the risk of squeaky floors, as any timber shrinkage that occurs as the supports dry out is not taken up later as is the case when the punching process is carried out at sanding and floor finishing stage.

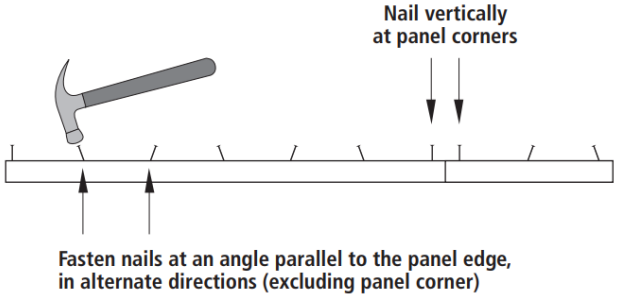


Figure 7

6.3 Screw Fixing Details for IBS EUROFloor

Type of Screws

Timber Joists:

- Use self-tapping, countersunk head screws, minimum size 8 gauge x 45mm, corrosion-resistant.

Steel Joists:

- Use Tek self-drilling screws, minimum size 10 gauge x 45mm, corrosion-resistant.

Screw Placement and Spacing

Panel ends and edges:

- Screws at 150mm centres, 10mm from the edge (increase to 15mm from the edge for tongue & groove panels to avoid tongue damage).

Intermediate supports:

- Screws at maximum 200mm centres.

Minimum fixing distance:

- 10mm from the board's square edge, 15mm from tongue & groove edge.

Driving Screws

- Screws should be driven so the head is not more than 2mm below the surface of the panel. This ensures a flush finish without damaging the board.
- Pre-drill the panel for screw fixing to avoid splitting.

When to Use Different Screws

Galvanised screws:

- Suitable for most internal environments.

Stainless steel screws:

- Required in coastal, high-humidity, or corrosive environments, and wherever the New Zealand Building Code E2/AS1 specifies enhanced durability.

Mild steel or light zinc-coated screws:

- Not recommended where the floor is exposed to the elements or where a visual finish is required.

General Best Practice

- Always use construction adhesive in conjunction with mechanical fixing for best performance.
- Always use construction adhesive along the T&G edge of the board prior to installation.
- Ensure all fixings comply with the NZ Building Code and the IBS EUROFloor Design & Installation Guide.

Screw Fixing

Summary Table: Screw Fixing for IBS EUROFloor				
Frame Type	**Screw Type & Size**	**Spacing (mm)**	**Distance from Edge (mm)**	**Notes**
Timber Joists	8g x 45mm self-tapping, countersunk	150 (edges), 200 (intermediate)	10 (15 for T&G) / 25 (T&G edge)	Stainless in corrosive zones & wet areas
Steel Joists	10g x 45mm Tek self-drilling	150 (edges), 200 (intermediate)	10 (15 for T&G) / 25 (T&G edge)	

Type of Fasteners

Timber Joists	Minimum Size (mm)	Fixing Centres (mm)	
		Edges	Centres
Annular Grooved Timber Flooring nails	60	150	200
Galvanised Jolt head nails	60	150	200
Self Drilling Screws (Corrosion Resistant)	8 gauge x 45	150	200

Steel Joists	Minimum Size (mm)	Fixing Centres (mm)	
		Edges	Centres
Tek Self Drilling Screws (Corrosion Resistant)	10 gauge x 45	150	200

7. Finishing

7.1 Top 10 Finishing Tips for IBS EUROFloor

Seal All Joints and Edges

- Use appropriate sealants for joints, especially in wet areas. All sealants must comply with NZBC requirements and be applied per the manufacturer's instructions.

Fill all holes

- Counter sink all fixings to leave a 2mm space for filler.
- Fill IBS EUROFloor with a suitable wood filler to match the colour prior to sanding.

Sand Before Finishing

- Sand the boards prior to applying polyurethane or other finishes. Limit sanding to a maximum of 2mm off the face of the board to maintain integrity.

Protect During Construction

- If a clear finish is planned, protect the boards from soiling and wear during the construction period to avoid damage.
- It is during the construction period that all the difference will be made for the final look of your job. The cleaner and more careful you are with the sheets then the better that they will look after finishing.

Clean Thoroughly

- Wipe down all surfaces with warm, soapy water to remove construction marks, dirt, and residual materials for a professional finish.

Use the Right Underlay

- For sheet vinyl or laminate flooring, install a flexible underlay or sheet underlay as required by the vinyl manufacturer's technical data.

Remove All Debris

- Remove all unused materials, debris, and elements from the site to leave a clean, safe work area.

Inspect the Finished Floor

- Check that all boards are securely fixed and finished. Address any issues before proceeding with further construction or decoration.
- Follow Manufacturer's Recommendations.
- Always follow the manufacturer's recommendations for Polyurethane to ensure warranty and compliance.

Take a picture of your job and send it in to us we love to see the finished product: info@ibs.co.nz

8. Care & Maintenance

8.1 Care & Maintenance

Under normal conditions, IBS EUROFloor will not need maintenance. Ensure that the protective coating is not compromised in any way and that the ventilation is not blocked.

Address any water damage, if water damage occurs to any area where IBS EUROFloor panels have been used, those panels may need to be replaced to maintain performance and appearance. Fix the water issue and allow to dry. If any panels have been compromised then they will need to be replaced.

Maintain the finish, keep the protective finish in good condition according to the manufacturer's requirements. This may include regular washing or wiping and ensuring any paint or sealant system is maintained.

As a general precaution avoid dragging heavy or sharp objects across the floor to prevent scratches or gouges and place mats at entry points to reduce dirt and grit tracked onto the floor.

Periodically inspect the floor for signs of wear, damage, or moisture ingress, and address any issues promptly to extend the life of the floor.

By following these care and maintenance steps, you can help ensure the long-term durability and appearance of your IBS EUROFloor installation.

9. Warranty

9.1 Warranty

Independent Building Supplies Limited (IBS) supplies sustainable building products, which when used and installed in accordance with all relevant instructions and specifications, will be fit for purpose.

As part of our commitment to performance, IBS provides a warranty in respect of IBS EUROFloor (Product) in accordance with the following terms and conditions.

These terms and conditions must be read in conjunction with all product specific relevant and applicable technical documentation, information and guidelines published or referenced by IBS from time to time (Specifications) in relation to the Product.

1. IBS warrants that:

1.1 At the time of delivery to the merchant or site (where applicable) the IBS supplied Product will:

(a) be free from freight related defects;

(b) be free from defects that may have arisen through defective factory workmanship or materials; and

(c) conform to the performance characteristics listed on the applicable pass™ (warranted condition).

1.2 Once installed properly and in accordance with all appropriate Specifications the Product will continue to meet the relevant provisions of the building code as described on the applicable pass™ (warranted performance).

2. Date warranty valid:

2.1 IBS warrants:

(a) the warranted performance for 50 years from proven date of purchase or dispatch from IBS whichever date is the earlier; and

(b) the warranted performance for the durability period as specified by the NZ Building Code.

The durability period begins from the date the product is first installed or two months after the date of delivery, whichever is the earlier.

2.2 All enquiries relating to this warranty must (in the first instance) be directed to the place of purchase, the supplier or the installer.

2.3 By submitting a claim under the warranty, you grant IBS and its agents, consultants and contractors full rights of access, at no cost and at any reasonable time, to the relevant building to inspect the Product and the installation method for the purpose of determining the validity of the claim.

3. In the event a breach of the warranty is proven, the following applies:

3.1 For any valid and accepted breach of a warranty, IBS will, in its sole discretion, either:

(a) repair, replace or rectify the defective Product; or

(b) refund the purchase price of the defective Product. Where applicable the value will be reduced pro-rata, based on the remaining life of the Product (as set by the relevant durability requirements of the NZ Building Code).

3.2 Any action taken by IBS in satisfaction of a warranty claim shall constitute full and final settlement of all claims and IBS's total liability related to a breach of the warranty is limited to the direct cost to IBS of performing either of the above options.

3.3 IBS reserves the right to supply other comparable materials or products should the warranted Product no longer be supplied by IBS.

4. This warranty is subject to the following:

4.1 Receipt of evidence of the date of purchase of the Product.

4.2 Evidence satisfactory to IBS of failure of the Product.

4.3 Receipt of a written claim from the claimant either within 30 days of when the defect or failure of the Product would have become reasonably apparent or, if the defect was reasonably apparent prior to installation, then the claim must be made prior to installation.

4.4 The claim must include full details of the alleged defect in the Product.

4.5 Evidence satisfactory to IBS that all design, storage, transport, installation and maintenance requirements for the Product have been met or carried out in accordance with the Specifications and in terms of best building practice and the building code.

4.6 The warranty does not cover failure or problems caused by defective use, failure relating to improper design of the project structure, structural failure, settlement, movement of materials to which the Product is attached or dependent on, acts of God including but not limited to earthquakes, cyclones, floods or other severe weather conditions, inadequate maintenance, growth of mould, mildew, fungi, bacteria or any organism on any Product , or acts or omissions of a third party over whom IBS has no control.

4.7 The warranty does not cover failure or loss arising from the failure to follow all relevant IBS advice and requirements or failure to adhere to the Specifications.

4.8 Normal wear and tear, including non- performance related changes, are excluded from this warranty.

4.9 All relevant information relating to the Specifications is uncontrolled in printed format and is available from IBS (refer to www.ibs.co.nz).

5. Limitations

5.1 IBS will not be liable for a warranty claim unless:

the use of the Product meets the installation, storage, transport, use and maintenance requirements and Specifications in respect of the Product and the customer is responsible to ensure these are received and understood; and (b) the claim procedure set out in these terms is correctly followed and the required information is provided.

5.2 IBS will in no circumstances be liable for:

(a) any damage or loss caused by a person other than IBS, or by any other factor outside IBS's reasonable control, including without limitation fire, moisture, lightning, liquid, strike or lockout, chemicals, insects or animal;

(b) any damage or loss caused or contributed to by incorrect or improper use or a failure to comply with all Specifications and all applicable building codes, regulations and legislation;

(c) neglect, abuse, misuse, growth of mould/ mildew/fungi/bacteria or other organism; or

(d) any direct or indirect loss, or consequential loss or damage, of any kind.

5.3 All warranties, conditions, liabilities and obligations implied by law or custom (other than the warranties in these terms) are excluded to the fullest extent permitted by law, and without limitation, where the Product is provided for the purposes of trade, the provisions of the Consumer Guarantees Act 1993 shall not apply.

5.4 Except as provided in these terms, IBS will not be liable (under legislation, contract, tort, or otherwise including in equity) in respect of any defects in the Product or for any other cost, expense or liability caused by or related to the use of the Product.

10. Technical Properties

Max, point load in the middle of the space [kN] in span distance (e)	
Property	**OSB4**
Shear modulus	70 N/mm2
Modulus of Elasticity	7200 N/mm2
Bulk density	620kg/m3
Thickness swelling	<8%
Coefficient of expansion 1% moisture change in wood Mc	0.02%
Emission class	E1, 100% Formaldehyde free binders
Max, point load in the middle of the space [kN] in span distance (e)	
450mm	5.03 [kN]
500mm	4.16 [kN]
600mm	2.88 [kN]

SWISS KRONO OSB/4 premium EN300 - characteristic values

For non-load bearing, high load bearing and stiffening/bracing applications in dry and humid conditions

		Strand direction					
		Major axis			Minor axis		
		Thickness range [mm]					
	d	12 - < 18	18 - 25	30	12 - < 18	18 - 25	30
Strength values [N/mm²]							
Stresses on board							
Bending	$f_{m,k}$	24.0		23.0	16.0		12.5
Shear	$f_{v,k}$	1.5			1.5		
Plate loading							
Bending	$f_{m,k}$	18.5		17.0	15.0		12.5
Tensile force	$f_{t,k}$	10.5		10.5	9.5		7.5
Compression	$f_{c,k}$	16.0		12.5	14.0		10.5
Shear	$f_{v,k}$	9.5		7.0	8.0		7.0
Stiffness/bracing values [N/mm²]							
Stresses on board							
Bending modulus of elasticity	E_m[a]	7200		6500	3000		
Shear modulus	G_r[a]	70			90		
Plate loading							
Bending modulus of elasticity	E_m[a]	4200		-	3200		-
Tensile force modulus of elasticity	E_t[a]	4200		3500	2500		2500
Compression modulus of elasticity	E_c[a]	6000		3500	6000		2500
Shear modulus	G_v[a]	1100		1000	1100		1000
The characteristic stiffness values E_{05} and G_{05} are calculated as follows: E_{05} = 0.9 x E and G_{05} = 0.9 x G							
General and building physics values							
Bulk density acc. to EN 323	m	620kg/m³					
Max. deviations in board thickness [mm] **sanded		± 0,8 ± 0,3**			± 0,8 ± 0,3**		
Tolerance in length and width		± 3mm					
Thermal conductivity acc. to EN 13986	λ	0.13W/mK					
Water vapour resistance	sd	≥ 2.0m - dry (μ x d)					
Air tightness acc. to EN 12114 at 50 Pa		0.12[m³/m²h]					
Thickness swelling acc. to EN 317		≤ 9%	≤ 8%	≤ 9%	≤ 9%	≤ 8%	≤ 9%
Coefficient of expansion for 1% change in wood moisture content		0.015%					
Waste code		03 01 05					
Emissions class		E1 – 100% Formaldehyde-free binders < 0.03 ppm					
VOC-emission / DIBt-Certificate: G-160-18-0001		Compliance with the Health Protection Requirements for Building Structures in acc. with Annex 8 of the German Model Administrative Regulation on Technical Construction Requirements (MVVTB 2017/1)					
EPD as per ISO 14025 and EN 15804		EPD-KRO-20200203-IBD1-EN					
Service classes acc. to EN 1995-1-1		1 + 2					
Reaction to fire acc. to EN 13501-1		D-s2, d0					

11. Additional Resources

11.1 Compliance and Information

For compliance & information of IBS EUROFloor refer to:

- IBS Product Specification
- IBS EUROFloor Warranty
- www.ibs.co.nz
- 0800 367 759

11.2 Designing outside of scope

If you're designing or installing a product that deviates from these specifications or the guidelines in this design and install guide, please note that this will void any warranty claims unless specifically approved by IBS prior to any works starting.

12. Frequently Asked Questions

Q. What is IBS EUROFloor?

A. IBS EUROFloor is a high-quality, moisture-resistant Oriented Strand Board (OSB4) panel designed for flooring and lining applications in New Zealand. It is made from sustainably sourced wood and offers enhanced strength, durability, and dimensional stability.

Q. Where can IBS EUROFloor be used?

A. It is suitable for flooring over timber or steel framing, stair construction, shelving, cabinetry, and wet areas (bathrooms, laundries, shower rooms) when used with a compliant waterproof membrane.

Q. Can IBS EUROFloor be used in wet areas?

A. Yes, IBS EUROFloor can be used in wet areas provided a compliant waterproof membrane is installed over the substrate as required by NZBC E3/AS2.

Q. What are the available sizes and thicknesses?

A. IBS EUROFloor panels are available in 2400 x 1200 x 20mm and 3600 x 1200 x 20mm sizes, featuring a tongue and groove jointing system for secure installation.

Q. What is the maximum in-service moisture content for IBS EUROFloor?

A. Panels must not be installed on timber framing with a moisture content greater than 18%. Once installed, the panel moisture content must not exceed 16%. The product is suitable for use in humid conditions where the panel in-service moisture content does not exceed 20%.

Q. How should IBS EUROFloor be stored before installation?

A. Store panels indoors and under cover whenever possible. If outdoor storage is necessary, it should be limited to short periods, and panels must not be stacked on wet concrete floors.

Q. What tools are required for installation?

A. Standard carpentry tools such as a high-speed cutting tool, drill, screws or nails, tape measure, and level are required. Use dust-reducing saws and appropriate PPE for safety.

Q. What is the recommended joist spacing?

A. Maximum joist spacing is 600mm. Closer spacing increases floor rigidity and reduces deflection.

Q. How do I handle expansion and contraction?

A. Leave a 10mm gap around the perimeter of installed boards and provide expansion joints every 10 metres in either direction. Use a 13mm PEF backing rod and sealant for expansion joints.

Q. Can IBS EUROFloor be used for exterior applications?

A. No, IBS EUROFloor is designed for interior flooring and protected soffit applications only. It must not be used in uncovered exterior areas, as a substrate for decking membranes, or on exterior decks or balconies.

Q. How do I finish IBS EUROFloor after installation?

A. Seal or overlay the floor with an appropriate protective covering (e.g., tile underlay, membrane, carpet, or polyurethane finish) as soon as practical after installation. Sand boards prior to finishing, limiting sanding to a maximum of 2mm off the face.

Q. What maintenance is required for IBS EUROFloor?

A. Under normal conditions, IBS EUROFloor will not need maintenance. Keep the protective coating intact, ensure ventilation is not blocked. Replace panels if water damage occurs.

Q. What is the warranty period for IBS EUROFloor?

A. IBS EUROFloor comes with a warranty covering defects in materials and workmanship for 50 years from the date of purchase or dispatch, provided installation and maintenance guidelines are followed.

Q. What are the environmental benefits of IBS EUROFloor?

A. IBS EUROFloor is made from sustainably sourced wood, uses formaldehyde-free binders, and is recyclable at the end of its service life. It contributes to healthier indoor air quality and supports responsible forest management.

13. Limitations

Installation Guide Compliance:

IBS EUROFloor must be specified and installed strictly in accordance with the official Installation Guide. Any deviation from the recommended procedures can compromise product performance and may void the warranty.

Timber Framing Moisture Content:

IBS EUROFloor should not be installed on timber framing where the moisture content exceeds 18%. Excessive moisture in the framing can lead to movement, warping, or other issues that affect the integrity of the floor system.

Wall Lining Stud Spacing:

When used as a wall lining, ensure that stud centres do not exceed 600mm. Exceeding this spacing can result in inadequate support and potential panel deflection or failure.

Critical Installation Checks:

All installation checks listed in the guide must be completed in full. This includes verifying compliance with the NZ Building Code, ensuring the framing is suitable for the intended work, and following all technical specifications.

Building Consent and Variations:

The construction must comply with the requirements of building consent. Any variations from the standard installation must be approved by the Building Consent Authority (BCA) before work is undertaken. Careful adherence to these limitations is essential for a successful and durable IBS EUROFloor installation.

IMPORTANT NOTES:
All sections of this checklist should be completed in full.

Careful adherence to technical specification literature is critically important for completing IBS EUROFloor construction. The construction shall comply with requirements of building consent. Any variations made should be approved by the BCA prior to work being undertaken.

14. Installation checklist

Installation checklist for IBS EUROFloor board based on the information available:

	Items to be checked	✓ Tick ☐	Notes
	1. Pre-Installation Checks		
1	The installation complies with the NZ Building Code.	☐	
2	Framing is suitable for the intended building work and is structurally sound, square, and true.	☐	
3	Timber framing moisture content is 18% or less at the time of installation.	☐	
4	All necessary tools and materials are available on site.	☐	
5	Dry layout performed to ensure proper fit and alignment before final installation.	☐	
6	Substrate is level, clean, dry, and free from protruding nails, debris, or contaminants.	☐	
7	Minimum ground clearance of 550mm for suspended floors is provided.	☐	
	2. Handling and Storage		
8	Panels stored flat, off the ground, and covered to protect from weather and onsite damage.	☐	
9	Outdoor storage (if necessary) is limited to short periods and panels are shielded from the weather.	☐	
10	Panels not stacked on wet concrete floors.	☐	
11	Panels acclimatised on site for at least 48 hours before installation.	☐	
12	Panels are checked for defects or damage before installation.	☐	

	Installer Details Name of installer: _____ LBP (Licensed Building Practitioner) Number: _____ Date of installation: ____ / ____ / _____ Address of installation: _____

	3. Installation		
13	Correct fasteners and adhesives compatible with IBS EUROFloor used: Nails: Minimum 60mm annular grooved (galvanised or stainless steel as required). Screws: Self-tapping, countersunk head, minimum 45mm x 8 ga.	☐	
14	Adhesive is applied to all joists and between sheet ends and edges.	☐	
15	Adhesive applied along the tongue for tongue & groove panels.	☐	
16	Sheets installed within 15 minutes of adhesive application.	☐	
17	All short and perimeter edges fully supported by joists, nogs, or dwangs.	☐	
18	Joist spacing does not exceed 600mm.	☐	
19	Panel joints staggered in a brickwork pattern.	☐	
20	10mm expansion gap left around the perimeter and at fixed objects.	☐	
21	Expansion joints are provided every 10 metres in either direction for large floors.	☐	
	4. Weather Conditions (During & After Installation Until Closed In)		
22	Panels not exposed to weather for more than 90 days during construction.	☐	
23	No pooling of water allowed on the surface during the exposure period.	☐	
24	Water control measures in place (e.g., holes drilled at the deepest part of the puddle, sweeping off puddles).	☐	
25	Panels are protected from rain and moisture until the building is closed in.	☐	

	5. Fixings and Adhesives		
26	Type of fixings used (tick all that apply): • Galvanised nails • Stainless steel nails • Self-tapping screws	☐	
27	Adhesive brand/type used: _____ Adhesive applied to tongue (for T&G panels): Yes / No	☐	
	6. Water Control Measures		
28	Water-impervious membrane installed in wet areas (bathrooms, laundries, shower rooms).	☐	
29	All sheet edges, including T&G joins, are fully supported for waterproof membranes	☐	
30	Cut edges resealed with water-based polyurethane.	☐	
	7. Finishing		
31	Floor sealed or overlaid with appropriate protective covering (e.g., tile underlay, membrane, carpet, polyurethane finish).	☐	
32	All joints and edges sealed, especially in wet areas.	☐	
33	Sanding is limited to a maximum of 2mm off the face of the board.	☐	
34	All screw/nail holes filled and sanded smooth before finishing.	☐	
	8. Post-Installation Inspections		
35	All boards are securely fixed and finished.	☐	
36	Floor inspected for signs of wear, damage, or moisture ingress.	☐	
37	Any issues should be addressed before proceeding with further construction or decoration.	☐	
38	Digital photos were taken of the completed installation for records.	☐	

IBS EUROFloor

Design & Installation Guide

SUSTAINABLE BUILDING PRODUCTS

Scan the QR code to view all IBS EUROFloor documents.

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