

# Installation Instructions for Flooring

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# Installation Guidelines



For Hakwood Engineered Hardwood Flooring

## Introduction

Hakwood, located in Werkendam, The Netherlands, specializes in manufacturing premium engineered hardwood flooring. Our Duoplank® is renowned for its combination of stability and aesthetics, achieved through its unique construction of premium hardwood top layer on birch plywood.

## Definition of Glued Down Installation

Hakwood warranties exclusively apply to installations where flooring planks are fully glued down to the subfloor.

THIS ENTAILS:

- Complete adhesion across the entire surface of each flooring board
- Direct contact between flooring board and subfloor through the adhesive layer
- Use of adhesives and application methods specified by the adhesive manufacturer
- Proper subfloor preparation according to adhesive manufacturer specifications

Other installation methods, including floating installation, are not recommended and void the warranty.

## Key Principles

1. These instructions assume installation by qualified professionals with experience in premium hardwood flooring installation
2. Project-specific advice must always be obtained from the adhesive manufacturer
3. These guidelines supplement Hakwood's general terms and conditions
4. All installation steps must be documented according to requirements in Subfloor Requirements section

## Contact

FOR PROJECT SUPPORT AND TECHNICAL INQUIRIES:

GLOBAL OFFICE:

- Email: [sales@hakwood.com](mailto:sales@hakwood.com)
- Phone: +31 183 504 266

US OFFICE:

- Email: [ussales@hakwood.com](mailto:ussales@hakwood.com)
- Phone: +1 630 219 3388

Your Hakwood sales contact is also available for inquiries.

# Transportation and Storage



## Receipt and Inspection

1. Upon delivery, immediately check:

- Quantities match order
- Color and grade
- Dimensions
- Any transport damage

2. Report discrepancies to Hakwood within 24 hours of receipt.

## Product Information

- Technical specifications (Hakwood Technical Product Information) available on our website
- Color reference sheet and spec sheet available upon request and on our website
- Grading standards available in Grade Descriptions and on our website
- Review these documents before starting installation

## Environmental Requirements for Storage

- Temperature: 18-24°C (65-75°F)
- Relative humidity: 40-65%
- These conditions should be maintained at least 72 hours before, during, and after installation
- These conditions apply to:
  - Storage
  - Acclimation
  - Installation
  - Post-installation environment

## Storage and Acclimation

1. Store material in the room where it will be installed as soon as possible and allow to acclimate for a minimum of 72 hours
2. Installation space requirements:
  - Building envelope must be complete (windows and doors installed)
  - Meeting and able to maintain required climate conditions (18-24°C/65-75°F, 40-65% RH)
3. Stack packages horizontally on a flat surface
4. Protect stored materials from damage:
  - Prevent exposure to moisture
  - Provide adequate support to prevent sagging
  - Ensure stacks are stable and cannot fall over
  - Shield from construction activities

## Additional Material

REQUIRED CUTTING WASTE IS PROJECT-DEPENDENT. GUIDELINES FOR ORDERING:

- Plank flooring: 5-8%
- Herringbone pattern: 10-12%
- Other patterns: to be determined based on pattern complexity and site conditions

# Project Conditions and Requirements



## Standards and Regulations

INSTALLATION MUST COMPLY WITH:

- Local industry standards
- Local building codes and regulations
- Project-specific requirements

## Installer Requirements

INSTALLATION MUST BE PERFORMED BY A QUALIFIED PROFESSIONAL WHO:

- Has proven experience with premium engineered hardwood flooring installation
- Is knowledgeable about various installation methods and patterns
- Understands technical aspects of subfloors and adhesive systems
- Can assess project-specific risks

## Climate Requirements

1. BEFORE INSTALLATION:

- Building envelope must be complete
- All wet construction work (plastering, concrete, tiling, painting) must be finished and dry
- Climate control systems must be operational

2. DURING AND AFTER INSTALLATION:

- Temperature: 18-24°C (65-75°F)
- Relative humidity: 40-65%
- Maintain these conditions for several days before installation
- Continue maintaining these conditions after installation



## Subfloor Requirements

### 1. BASIC SUBFLOOR REQUIREMENTS:

- Permanently dry
- Sufficiently level
- Adequate tensile and compressive strength
- Homogeneous
- Free from substances that may affect adhesion

### 2. DURING AND AFTER INSTALLATION:

Before installation, the concrete subfloor must be:

- Minimum 6 – 8 weeks old
- Tested and documented using one of these approved methods:
  - Relative Humidity (ASTM F-2170): maximum 75% RH
  - Cement-based floors (sand-cement screed)
    - Maximum moisture content: 2.0% (measured with a CM device).
    - For floors with underfloor heating: maximum 1.8%.
  - Gypsum-based floors (anhydrite screed)
    - Maximum moisture content: 0.5% (measured with a CM device).
    - For floors with underfloor heating: maximum 0.3%.

Document all test locations, dates, and results.

### 3. LEVELNESS AND FLATNESS:

- Levelness (horizontal plane): maximum deviation of 3-5mm over 3 meters (1/8"-3/16" over 10ft)
- Flatness (surface regularity): no sudden irregularities exceeding 2mm over 20cm (1/12" over 8")
- High spots must be ground down and low spots filled with an approved leveling compound according to adhesive manufacturer's recommendations

### 4. STRUCTURAL REQUIREMENTS

- Minimum compressive strength: 20 N/mm<sup>2</sup> (3000 psi)
- Surface must be solid and sound throughout
- No powdery or soft areas
- Free from:
  - Non-compatible sealers or waxes
  - Oil, paint, and drywall compound
  - Other surface contaminants

### 5. SURFACE PREPARATION

- Clean and dry
- Remove all debris and loose material
- Repair any cracks or damaged areas
- Highly polished or troweled surfaces may require mechanical abrading with 30-grit abrasive
- Any repair compounds must be fully cured before installation



## Underfloor Heating and Cooling

### 1. SYSTEM REQUIREMENTS:

- The Hakwood pre-installation heating protocol must be completed (minimum 14 days before installation)
- All milled grooves must be filled with suitable filling compounds specifically rated for heating systems
- Standard leveling compounds or tile adhesives are not acceptable for filling heating system grooves
- Surface temperature must never exceed specifications detailed in [Hakwood's Installation Guidelines - Subfloor Heating and Cooling](#)
- Free from substances that may affect adhesion

### 2. ADDITIONAL CONSIDERATIONS:

- Moisture content limits for heated subfloors are lower than standard installations
- Suitable adhesive systems rated for heated floors must be used
- Regular temperature monitoring is required during and after installation

## Adhesive Manufacturer's Responsibility

For each project, the adhesive manufacturer must provide written advice,

### REGARDING:

- Suitable adhesive type and application method
- Subfloor preparation
- Primer and leveling systems
- Climatic conditions during application
- Curing times

## Specific Situations

### 1. BELOW GROUND LEVEL INSTALLATION:

- Only permitted in basement/cellar spaces if there is no risk of rising damp or hydrostatic pressure moisture
- If in doubt: install vapor barrier membrane according to adhesive manufacturer's recommendations

### 2. INSTALLATION ON WOODEN SUBFLOORS:

- Substructure must be completely stable
- Any squeaking floorboards must first be mechanically fixed to supporting joists using appropriate screws
- For traditional wooden plank subfloors: first install an adequately thick, adhesively bonded sheet material
- Maximum moisture content of wooden subfloor: 12% (measured with a calibrated moisture meter)
- Proper ventilation must be ensured in all crawl spaces beneath wooden subfloors to prevent moisture accumulation and enable continuous air circulation.

## Preparation and Planning

### 1. BEFORE STARTING INSTALLATION:

- Measure the space(s) accurately
- Create an installation plan considering:
  - Structurally sound installation pattern
  - Important sight lines
  - Optimal material usage
  - Minimal cutting waste
- Check batch numbers and mix packages to ensure even distribution of natural color variations and wood characteristics

### 2. DETERMINE STARTING POINT BASED ON:

- Floor type and pattern
- Spatial layout
- Important sight lines
- Any special patterns or design details
- Presence of fixed elements (such as doors, columns)

## Expansion Gaps and Structural Movement Joints

### 1. GENERAL PRINCIPLES:

- Standard perimeter expansion gap of approximately 10mm (3/8") should be maintained where the flooring meets walls (will be covered by skirting/baseboards)
- In specific situations (transitions to other flooring materials, door frames, etc.), precision fitting with minimal gaps is possible under ideal conditions
- All structural movement joints in the subfloor must be carried through to the hardwood flooring
- Position and width according to structural specifications
- Use suitable profiles (e.g., Küberit) for finishing structural joints

### 2. EXCEPTION FOR PRECISION FITTING:

- Only if the subfloor allows it
- Only when climate conditions meet and can be maintained within the specified requirements
- Flooring can be precision-fitted with minimal expansion gap of 2-3mm (1/8")
- For widths >5 meters (15 feet): follow specific adhesive manufacturer's advice

## Protection and Final Inspection

### 1. AFTER INSTALLATION:

- Clean the floor thoroughly according to Hakwood's maintenance instructions
- Allow adhesive to cure sufficiently according to manufacturer's specifications
- Inspect for visual defects and installation imperfections
- Repair where necessary
- Hand over the cleaned floor to client
- Document condition at handover
- Provide end user with maintenance instructions

### 2. PROTECTION AFTER HANDOVER:

- Important warning: Floor protection often leads subsequent trades to forget they are working on a finished floor.  
The presence of protective covering does not mean the floor can be treated as a construction surface
- Even protected floors must be treated with care
- Use non-woven breathable protective covering for hardwood floors
- Use only tapes specifically designed for freshly finished surfaces, as plasticizers in standard tapes can damage the finish
- Prevent dirt or moisture from getting under protection
- Check and vacuum protection daily

### 3. FOR HEAVY LOADS:

- Apply additional protection (e.g., plywood)
- Distribute concentrated loads
- Prevent direct contact between hard materials and the floor

### 4. DOCUMENT AND RETAIN:

- Final inspection results
- Photographs of completed installation
- All test results and preparation records
- Maintenance instructions provided to client



## General

- For detailed maintenance instructions, see [Hakwood Care and Maintenance](#) document
- Maintenance is essential for floor preservation and warranty validity
- Specific maintenance requirements are determined by the finish type

## Climate Requirements

- Maintain constant relative humidity between 40-65%
- Keep temperature between 15-24°C (59-75°F)
- Deviating values can lead to damage such as cracking, warping, or delamination
- When relative humidity is too low, use a humidifier with sufficient capacity to restore required humidity levels for the volume of the spaces concerned

## Protection

- Apply felt pads to furniture legs
- Place entrance mats at all entrances
- Avoid direct contact between metal objects and floor surface
- Use office chair casters suitable for hardwood floors
- Never place flower pots directly on the floor

## Cleaning Schedule

The cleaning frequency depends on the intensity of use. For tailored advice specific to your project, please consult your sales contact.

Below are general guidelines:

### RESIDENTIAL:

- Vacuuming: daily
- Regular cleaning: 1-4 times per month
- Intensive cleaning: 1-2 times per year
- Periodic maintenance with Oil Care or Finish Care: 1-2 times per year

### COMMERCIAL:

- Vacuuming: daily
- Regular cleaning: daily
- Intensive cleaning: 2-3 times per month
- Periodic maintenance with Oil Care or Finish Care: 1-2 times per month



## Specific Maintenance Instructions

FOR DETAILED INSTRUCTIONS PER FINISH TYPE, CONSULT:

- Instructions Clean - Hakwood Complete
- Instructions Finish Care - Hakwood Complete
- Instructions Oil Care - Hakwood Complete
- Instructions Oil Transparent - Hakwood Complete

## Warnings

- Use only Hakwood maintenance products
- Avoid non-approved cleaning agents
- Never use excessive water when cleaning
- Remove spilled liquids immediately
- Do not use steam cleaners
- Note when using microfiber cloths:
  - Most microfiber cloths clean too aggressively for oiled surfaces
    - Check with the microfiber cloth supplier if they are suitable for oiled surfaces
    - Lacquered surfaces are less sensitive to intensive cleaning with microfiber cloths