Product	
Supplier	Flooring2
Product Type	Wood Flooring
Number	CS
Name	Coast Collection

Engineered Hardwood Flooring Installation Guide

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Installation Methods: Nail-Down, Staple-Down, Glue-Down, and Floating

Legal Disclaimers

> **IMPORTANT: READ BEFORE INSTALLATION**

Limitation of Liability
This guide provides general installation information only. We are not responsible for installation errors, product damage, personal injury, or property damage resulting from the use of this guide. Actual results depend on site conditions, installer skill, and adherence to all applicable codes and standards.

General Information Notice
This guide covers installation methods for engineered hardwood flooring. Product specifications may vary between product lines.

Professional Consultation Recommended
Engineered hardwood installation requires skill and specialized tools. We strongly recommend professional installation, especially for nail/staple and glue-down methods.

Assumption of Risk
By proceeding with installation, you assume all risks associated with flooring installation, including but not limited to physical injury, property damage, and voiding of product warranties due to improper installation.

Safety Warnings

Regulatory Compliance

Before beginning any flooring installation, ensure compliance with:

- **OSHA Standards** - Follow workplace safety requirements (29 CFR 1926 for construction)
- **EPA Regulations** - Proper handling and disposal of materials
- **Building Codes** - Comply with International Building Code (IBC) and International Residential Code (IRC)
- **Lead Safety** - For structures built before 1978, follow EPA RRP Rule requirements
- **Asbestos Requirements** - For structures built before 1981, have existing flooring tested before removal

Personal Protective Equipment (PPE)

Equipment	When Required
Respiratory Protection	N95 mask when cutting, sanding, or working with finishes
Eye Protection	Safety glasses at all times, especially when using nailers
Hearing Protection	When using power tools and pneumatic nailers
Hand Protection	Work gloves when handling materials
Knee Protection	Knee pads for floor-level work
Foot Protection	Steel-toe boots recommended when using nailers

Health Hazards

> **Dust Exposure:**
>
> - Hardwood dust is a known respiratory irritant
> - Use dust collection on all power tools
> - Work in well-ventilated areas
> - Consider HEPA filtration for enclosed spaces
>
> **Pneumatic Tool Hazards:**
>
> - Nailers and staplers can cause serious injury
> - Never point at yourself or others
> - Disconnect air supply when not in use
> - Keep hands clear of discharge area
>
> **Chemical Exposure:**
>
> - Adhesives and finishes contain VOCs
> - Work in well-ventilated areas
> - Review Safety Data Sheets for all products
>
> **Physical Strain:**
>
> - Wood flooring is heavy
> - Use proper lifting techniques
> - Pneumatic nailers require repetitive force
> - Take regular breaks

Emergency Procedures

Situation	Action
Nail/Staple Injury	Do not remove, seek immediate medical attention
Adhesive Contact (Skin)	Wash with soap and water, use adhesive remover if needed
Adhesive Contact (Eyes)	Flush with clean water for 15 minutes, seek medical attention
Dust Inhalation	Move to fresh air, seek medical attention if symptoms persist

Emergency Contacts:

- Poison Control: 1-800-222-1222
- Local emergency services: 911

Pre-Installation Preparation

Tools and Materials Needed

Specialized Tools:

- □ Pneumatic flooring nailer (for nail-down method)
- □ Pneumatic flooring stapler (for staple-down method)
- □ Air compressor (3+ CFM at 70-100 PSI)
- □ Notched trowel (for glue-down method)
- □ Tapping block and pull bar (for floating method)
- □ Pin-type or pinless wood moisture meter

Basic Tools:

- □ Tape measure (minimum 25 ft / 7.6 m)
- □ Chalk line
- □ Miter saw or circular saw
- □ Jigsaw for irregular cuts
- □ Table saw (for ripping)
- □ Drill/driver
- □ Rubber mallet
- □ Pry bar
- □ Pencil

Materials:

- □ Engineered hardwood flooring (add 10% for waste)
- □ Appropriate fasteners (see specifications below)
- □ Underlayment (for floating method)
- □ Moisture barrier (for concrete installations)
- □ Wood flooring adhesive: **MAPEI ECO 995** (for glue-down)
- □ Glue-assist adhesive: **SikaBond Construction Adhesive or MAPEI ECO 907** (for wide planks)
- □ Transition strips and moldings
- □ Spacers (1/2" / 12 mm)

Safety Equipment:

- □ Safety glasses
- □ Hearing protection
- □ Work gloves
- □ Knee pads
- □ Dust mask or respirator
- □ Steel-toe boots

Acclimation Requirements

IMPORTANT: CRITICAL: Engineered Hardwood Requires Extended Acclimation

Requirement	Specification
Acclimation Time	48-72 hours minimum in installation area
Room Temperature	60F - 80F (15C - 27C)
Relative Humidity	35% - 55% RH
HVAC Requirement	Must be operating for at least 14 days prior to delivery
Wet Work	All concrete, plastering, and painting must be complete and dry

Acclimation Procedure:

1. Store flooring in the room where it will be installed
2. Open boxes and spread bundles if possible
3. Allow air to circulate around all pieces
4. Do not store in garage, basement, or unconditioned space
5. Measure moisture content before installation

Moisture Testing Requirements

IMPORTANT: CRITICAL: Wood Flooring Has Strict Moisture Requirements

Flooring Moisture Content:

- Wood flooring moisture content must be within **2-4%** of subfloor moisture content
- Use a pin-type or pinless wood moisture meter to verify
- Document all readings before proceeding

Subfloor Moisture Limits:

Subfloor Type	Maximum Moisture Content
Wood subfloor	12-13% maximum
Concrete (CaCl test)	3 lbs per 1,000 sq ft / 24 hrs
Concrete (RH test)	75% RH

> **Note:** If moisture readings exceed limits, installation cannot proceed. Moisture mitigation is required.

Subfloor Requirements

IMPORTANT: CRITICAL RESTRICTION: Engineered hardwood is NOT approved for installation over particle board subfloors. If particle board exists, either remove it entirely OR install 5/8" (16mm) plywood over it.

Flatness Specification:

- Maximum variance: 3/16" over 10 feet (4.7 mm over 3 m)
- Sand down high spots
- Fill low spots with wood floor patch

Acceptable Subfloor Types:

Subfloor	Nail/Staple	Glue-Down	Floating
Plywood (5/8" min)	Yes	Yes	Yes
OSB (23/32" min)	Yes (with care)	Yes	Yes
Concrete	No	Yes	Yes
Existing hardwood	Yes (if perpendicular)	Yes	Yes

Minimum Thickness for Nail/Staple:

- Plywood: 5/8" (16 mm) minimum
- OSB: 23/32" (18 mm) minimum

NOT Acceptable:

- **Particle board (absolutely prohibited)**
- Carpet or carpet pad
- Cushion-backed vinyl
- Unsealed concrete
- Below-grade concrete (for nail/staple methods)

Climate Requirements

Required Conditions:

- Temperature: 60F - 80F (15C - 27C)
- Relative Humidity: 35% - 55% RH
- Maintain conditions before, during, and permanently after installation

> **Important:** Wood flooring expands and contracts with humidity changes. Maintaining consistent humidity is essential for floor performance.

Expansion Gap Requirements

IMPORTANT: CRITICAL: Engineered Hardwood Requires Larger Expansion Gaps

Location	Gap Size
All walls	1/2 inch (12 mm)
Fixed objects (columns, cabinets)	1/2 inch (12 mm)
Transitions	1/2 inch (12 mm)
Large rooms (over 20 ft / 6 m)	Consider T-molding break

Why Larger Gaps:

- Wood has greater expansion/contraction than vinyl products
- Prevents buckling, cupping, and board damage
- Essential for long-term floor performance

Fastener Specifications (Nail/Staple Methods)

IMPORTANT: CRITICAL: Use Correct Fasteners for Flooring Thickness

Fastener Size by Flooring Thickness

Flooring Thickness	Fastener Type	Length
3/8" - 1/2" (10-13mm)	18-gauge staple, 1/4" crown	1-1/2" (38mm)
9/16" - 5/8" (14-16mm)	18-gauge cleat	1-1/2" - 1-3/4" (38-44mm)
3/4" (19mm)	16-gauge cleat or 15.5-gauge staple	1-3/4" - 2" (44-50mm)

Fastener Spacing Requirements

- **Along plank length:** Every **3-4 inches** (7-10 cm)
- **From end joints: 1-2 inches** (2.5-5 cm)
- **Minimum per board: 2 fasteners** per plank
- **Never fasten within:** 2" (5 cm) of plank ends to prevent splitting

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Glue-Assist Requirements (Wide Planks)

REQUIRED: For Planks 7.5 Inches (19 cm) or Wider

When installing planks **7.5" (19 cm) or wider** using nail/staple method, glue-assist is **REQUIRED** in addition to mechanical fastening.

Required Products

Product	Specification
Adhesive	SikaBond Construction Adhesive or MAPEI ECO 907
Application	Serpentine bead along full length of each plank

Application Method

1. Apply serpentine bead of adhesive along the full length of plank
2. Install fasteners per standard nail/staple schedule
3. Press plank firmly to ensure adhesive contact

IMPORTANT: Glue-assist is **in addition to** nail/staple fastening, not a replacement. Both fasteners AND adhesive are required for wide planks.

Why Glue-Assist is Required

- Provides additional stability for wide boards
- Prevents cupping and movement
- Eliminates squeaks
- Essential for warranty compliance

Adhesive Requirements (Glue-Down Method)

REQUIRED PRODUCTS - NO SUBSTITUTIONS

Required Products

Product	Specification
Adhesive	MAPEI ECO 995 (wood flooring adhesive)
Primer	Appropriate MAPEI primer for subfloor type
Application	Troweled only (rolling NOT permitted)

IMPORTANT: MAPEI ECO 995 is specifically formulated for wood flooring. Do NOT use MAPEI ECO 399 or ECO 373 for engineered hardwood.

Application Method

1. **Apply primer first** - Allow to dry completely per MAPEI specifications
2. **Trowel adhesive** - Use recommended notch trowel size
3. **Do NOT roll adhesive** - Troweling is required
4. **Follow open time guidelines** - Per MAPEI technical data sheets
5. **Spread manageable sections** - Only what you can cover within working time

WARNING: Using non-approved adhesives or improper application methods will void the product warranty.

Installation Methods

Method 1: Nail-Down Installation

Best For: Wood subfloors, traditional installation, maximum stability

Requirements:

- Wood subfloor minimum 5/8" (16 mm) plywood
- Pneumatic flooring nailer
- Appropriate cleats for flooring thickness

Step-by-Step Instructions

Step 1: Plan Layout

- Install perpendicular to floor joists when possible
- Plan first row 1/2" (12 mm) from starting wall
- Calculate row count; adjust start for optimal last row width
- Stagger end joints minimum 6" (15 cm)

Step 2: Install First Rows

- Snap chalk line 1/2" (12 mm) plus plank width from wall
- Face-nail first row through pre-drilled holes
- Countersink nails and fill with color-matched filler
- Blind-nail second row at 45-degree angle into tongue

Step 3: Continue with Nailer

- When sufficient room, switch to pneumatic flooring nailer
- Position nailer on tongue edge
- Strike actuator with mallet to drive cleat
- Fasten every 3-4" (7-10 cm) along plank
- Fasten 1-2" (2.5-5 cm) from each end joint

Step 4: Wide Plank Glue-Assist (7.5" or wider)

- Apply serpentine bead of SikaBond or MAPEI ECO 907
- Then fasten with nailer as normal
- Press plank firmly to spread adhesive

Step 5: Install Final Rows

- Face-nail last 2-3 rows through pre-drilled holes
- Maintain 1/2" (12 mm) expansion gap

Method 2: Staple-Down Installation

Best For: Thinner engineered products, faster installation

Requirements:

- Wood subfloor minimum 5/8" (16 mm) plywood
- Pneumatic flooring stapler
- Appropriate staples for flooring thickness

> **Note:** Installation procedure is same as nail-down, using stapler instead of nailer.

Staple-Specific Notes:

- Staples provide excellent holding power
- Less risk of splitting than cleats
- Preferred for thinner products (3/8" - 1/2")

Method 3: Glue-Down Installation

Best For: Concrete subfloors, maximum stability, soundproofing, radiant heat

Requirements:

- Concrete or approved wood subfloor (no particle board)
- **MAPEI ECO 995 adhesive only**
- Appropriate MAPEI primer

Step-by-Step Instructions

Step 1: Prepare Subfloor

- Clean thoroughly
- Apply MAPEI primer and allow to dry completely
- Snap chalk lines for layout

Step 2: Apply Adhesive

- Trowel MAPEI ECO 995 with recommended notched trowel
- Hold trowel at 45-degree angle for proper coverage
- Spread only 15-20 sq ft at a time (manageable section)
- Allow adhesive to tack per MAPEI guidelines

Step 3: Install Flooring

- Place planks firmly into adhesive
- Do not slide planks (this removes adhesive)
- Butt edges tight together
- Use 75-100 lb roller on each section
- Stagger end joints minimum 6" (15 cm)

Step 4: Complete Installation

- Roll entire floor after installation
- Clean any adhesive from surface immediately
- Maintain 1/2" (12 mm) expansion gap at walls

Method 4: Floating Installation

Best For: DIY projects, concrete subfloors, situations requiring easy removal

Requirements:

- Click-lock engineered hardwood designed for floating
- Appropriate underlayment
- Moisture barrier for concrete

Step-by-Step Instructions

Step 1: Install Moisture Barrier and Underlayment

- Install 6 mil moisture barrier on concrete
- Install underlayment per manufacturer instructions
- Tape all seams

Step 2: Begin Installation

- Start from left corner of longest wall
- Place spacers (1/2" / 12 mm) at walls
- Angle first plank's tongue into room
- Click subsequent planks into place

Step 3: Continue Installation

- Stagger end joints minimum 6" (15 cm)
- Use tapping block to fully engage locks
- Use pull bar for final row and tight spaces
- Never strike locking edges directly

Step 4: Complete

- Remove spacers
- Install transitions and moldings
- Quarter round covers expansion gap

Finishing Touches

Transitions and Moldings

Transition Type	Use Case
T-Molding	Between rooms of equal height flooring
Reducer	Transition to lower flooring
Threshold	At exterior doorways
Stair Nosing	For stair edges
Quarter Round	Along walls to cover expansion gap

Final Steps

1. **Clean the floor** - Sweep or vacuum thoroughly
2. **Inspect all joints** - Check for gaps or raised edges
3. **Fill nail holes** - Use color-matched filler for face-nailed areas
4. **Install transitions** - At all doorways and floor changes
5. **Install quarter round** - Cover 1/2" expansion gaps
6. **Clean final** - Use neutral pH hardwood floor cleaner
7. **Replace furniture** - Use felt pads under all legs

Traffic Restrictions

Installation Method	Light Traffic	Normal Use	Heavy Furniture
Nail/Staple	Immediately	24 hours	48 hours
Glue-Down	24 hours	48 hours	72 hours
Floating	Immediately	Immediately	24 hours

Room-Specific Considerations

Kitchens

- Glue-down or nail-down recommended
- Wipe spills immediately (water damages wood)
- Use mats at sink and dishwasher
- Consider waterproof finish

Bathrooms

IMPORTANT: CAUTION: Engineered hardwood is generally NOT recommended for full bathrooms due to moisture exposure.

For powder rooms/half-baths only:

- Glue-down installation required
- Excellent ventilation essential
- Seal all edges and joints

Basements

- Floating or glue-down methods only (no nail/staple)
- Thorough moisture testing required
- Moisture barrier essential
- Monitor humidity seasonally
- Consider products rated for below-grade

Radiant Heat Systems

Pre-Installation Requirements:

- Verify product is rated for radiant heat
- Only hydronic radiant heat approved
- Maximum surface temperature: 85F (29C)
- System must be operational 2 weeks before installation
- Reduce temperature to 65F (18C) 5 days before installation

Installation Notes:

- Glue-down method provides best heat transfer
- Floating installation also acceptable
- No nail/staple method over radiant heat

Post-Installation:

- Gradually increase temperature (5F / 2.8C per day max)
- Never exceed maximum surface temperature
- Monitor for gapping or cupping

Quality Control Checklist

Pre-Installation

- □ Subfloor is NOT particle board (verified)
- □ Subfloor thickness adequate for installation method
- □ Subfloor flatness verified (3/16" over 10 ft maximum)
- □ Moisture testing completed and documented
- □ Flooring moisture within 2-4% of subfloor
- □ Materials acclimated for 48-72 hours
- □ HVAC operating for 14+ days
- □ Environmental conditions verified (60-80F, 35-55% RH)
- □ All wet work complete and dry
- □ Correct fasteners/adhesive on site

During Installation

- □ 1/2" (12 mm) expansion gaps maintained
- □ Stagger pattern minimum 6" offsets
- □ Planks from multiple boxes mixed
- □ Fasteners properly spaced (3-4" apart, 1-2" from ends)
- □ Glue-assist applied to wide planks (7.5"+)
- □ Adhesive troweled (NOT rolled) for glue-down
- □ Floor rolled after glue-down sections
- □ Face nails countersunk and filled

Final Inspection

- □ No gaps between planks
- □ No raised edges or lippage
- □ Expansion gaps consistent
- □ Nail holes filled and matched
- □ Transitions properly installed
- □ Quarter round installed
- □ Floor clean and finished

Troubleshooting

Cupping (Edges Higher Than Center)

Cause: Moisture imbalance - bottom of plank has more moisture

Solution:

- Identify and eliminate moisture source
- Allow floor to dry and may flatten naturally
- Severely cupped boards may need replacement

Prevention:

- Proper moisture testing and acclimation
- Use moisture barrier on concrete
- Maintain consistent humidity

Crowning (Center Higher Than Edges)

Cause: Cupped floor was sanded before drying, or top moisture exposure

Solution:

- Allow to stabilize; may need replacement

Prevention:

- Never sand cupped floor until fully dried
- Address moisture issues before installation

Gapping Between Boards

Cause: Low humidity causing wood shrinkage

Solution:

- Increase room humidity to 35-55% RH
- Gaps may close as humidity increases

Prevention:

- Maintain consistent 35-55% RH year-round
- Use humidifier in dry seasons

Squeaking

Cause: Inadequate fastening, loose subfloor, or movement

Solution:

- Add fasteners in squeaky areas
- Check and secure subfloor
- May need to remove and reinstall affected sections

Prevention:

- Proper fastener spacing
- Use glue-assist on wide planks
- Secure subfloor before installation

Professional vs DIY

DIY May Be Suitable For

- Floating installation method only
- Small rooms with simple layouts
- Experienced DIYers
- Click-lock products designed for DIY

Professional Installation Required For

- Nail-down and staple-down methods
- Glue-down installations
- Planks wider than 5" (often)
- Rooms with complex layouts
- Stairs
- Commercial installations
- When warranty requires professional installation

Care and Maintenance

Daily Care

- Sweep or dust mop to remove loose dirt
- Wipe spills immediately - water damages wood
- Use floor protectors on furniture

Regular Cleaning

- Damp mop with neutral pH wood floor cleaner
- Never use wet mop or excessive water
- Avoid vinegar, ammonia, or soap-based cleaners

Products to Avoid

- Water (excessive)
- Steam cleaners
- Wax or oil-based polishes (unless specified)
- Vinegar or ammonia cleaners
- Abrasive cleaners or pads
- All-purpose household cleaners

Long-Term Maintenance

- Maintain 35-55% relative humidity year-round
- Refinish wear layer when needed (if applicable)
- Use felt pads under all furniture
- Use chair mats under rolling chairs
- Protect from direct sunlight (UV causes fading)
- Trim pet nails regularly
- Re-coat wear layer every 3-5 years (depending on wear)

Additional Resources

Industry Associations

- National Wood Flooring Association (NWFA)
- World Floor Covering Association (WFCA)
- Hardwood Plywood & Veneer Association (HPVA)

Certification Programs

- NWFA Certified Professionals
- CFI Certified Flooring Installers
- INSTALL Flooring Certification

Adhesive Technical Support

- MAPEI Technical Services: 1-800-42-MAPEI
- SikaBond Technical Support: 1-800-933-7452

Warranty Information

See separate warranty brochure for complete warranty terms and conditions.

This installation guide is provided for general reference. Always consult local building codes before installation.