

STUGA

Glue Down Installation Instructions

JOBSITE AND SUBFLOOR PREPARATION

Owner/Installer Responsibility

Notes

These directions are based on industry standards and best practices. Warranty coverage may be lost due to failure to strictly follow all installation instructions and recommendations and/or the use of improper materials or tools. For complete warranty information visit www.stugastudio.com or call 1-844-MY-STUGA.

READ ALL INSTRUCTIONS CAREFULLY!

Owner/Installer Responsibility

The installer and customer must both ensure the product meets their expectations regarding appearance, quality, and grade prior to installation. The installer must use reasonable selectivity and set aside or cut off pieces with deficiencies, whatever the cause. Should an individual piece be doubtful as to grade, manufacture, or factory finish, the installer should not use the board.

Prior to installation of Stuga flooring, the installer must ensure that the jobsite and subfloor meet the requirements of these instructions. Flooring failure resulting from unsatisfactory jobsite and/or subfloor conditions is not covered under warranty.

Any decision not to proceed must occur within the first 10% or 100 square feet of flooring installed, whichever is less. Once installed, any board is considered as having been accepted by the installer and owner, even if owner is absent at the time of installation.

Owner must maintain the flooring in accordance with Stuga floor care guidelines, including maintaining recommended temperature and relative humidity levels year-round.

Always store the hardwood flooring in dry conditions and do not open the cartons until just before installation.

JOBSITE AND SUBFLOOR PREPARATION

Jobsite Conditions

Interior Conditions

- Stuga products must be installed only in a climate-controlled environment, with doors and windows installed and operational HVAC system.
- Wood flooring should be one of the last items installed for any new construction or remodel project. All work involving water or moisture should be completed before flooring installation.
- Relative Humidity at the job site must be, and remain, in the range of 30% - 60%. Temperature setting must be, and remain, in normal operating range of 55 °F - 85 °F. Test and record (photograph) RH readings in each area where Stuga products will be installed.
- Warning - humidity levels below 30% will likely cause movement in the flooring, including possible dry cupping, face checking and gapping between planks.

Exterior Conditions

- Carefully inspect the outside surroundings for improper drainage and predictable or obvious sources of moisture. The yard should be graded (at least 6" in 10 ft.) to slope away from the foundation. Be sure that gutters and eaves sufficiently prevent rain from penetrating the foundation.
- Under the house: In homes with crawl space or pier-beam foundations, foundation vents must provide cross-ventilation with no dead air space. Vents should be located throughout the foundation with opening area equal to 1.5% of the square-foot area within the crawl space. If excessive moisture exists underneath the house, you must lay a 6-mil black polyethylene moisture barrier on the ground in the crawl space below the installation area.
- Basement should be free of all moisture and be weather tight. Relative Humidity of basements should not be more than 10% higher than the upper floors.
- Exterior site/structure issues are NOT the responsibility of the flooring contractor/installer or Stuga.

JOBSITE AND SUBFLOOR PREPARATION

Subfloor Requirements

Moisture and Testing

The installer must confirm subfloor moisture conditions are suitable before installing any hardwood floor. Wood subfloor moisture must read under 12% and differential between boards and subfloor must be less than 4%. Concrete subfloor must be fully cured and at least 60 days old. Evaluate several areas, especially near exterior walls and walls containing plumbing. Document and keep all results.

Acceptable test methods for concrete subfloor moisture content include:

- TRAMEX Concrete Moisture Encounter Meter: Moisture readings should not exceed 4.5 on the upper scale. Concrete Moisture Meters give qualitative reading results-not quantitative ones. These results are a quick way to determine if the further testing is needed.

Note: The following tests are required in residential/commercial applications. Either or both tests are acceptable.

- Calcium Chloride Test (ASTM F 1869): The maximum moisture transfer must not exceed 3 lbs./1000 ft² in 24 hrs. (2lbs./1000 ft² for Radiant Heat installations).
- RH Levels in Concrete Using In-situ Probes (ASTM F 2170) should not exceed 75%.

JOBSITE AND SUBFLOOR PREPARATION

Subfloor Requirements

Preparation and Specifications

A floor can only be as good as the subfloor allows. All subfloors must be clean, structurally sound, dry, and flat. Address any movement, delamination, squeaks/noise, water damage, physical damage, etc. prior to install. Use a vacuum cleaner to remove any debris and dirt.

Subfloor flatness is different from 'level'. Level is typically not necessary, but it is extremely important to level the subfloor to achieve the flatness of 1/8" in an 8' radius. Check this by using the edge of a Stuga plank to find any high or low spots. Sand or grind high areas or joints. Fill low areas with a latex additive cementitious leveling compound of 3,000-PSI minimum compressive strength patch and underlayment. For more information on how to correct subfloor flatness, see NWFA Installation Guidelines.

Note: Subfloor deflection and movement are the main cause of squeaking floors. If subfloor deflection exists measures must be taken to correct. Check NWFA guidelines for joist spacing and plywood thickness.

Please refer to 'NWFA Wood Flooring Installation Guide' for more information on subfloor types and recommendations.

TOOLS + TECHNIQUES

Glue Down Installation

Techniques

Stuga flooring can be directly glued to concrete or wood subfloors on or above the ground level. If Acoustical Membrane is needed, use Stuga Glue Down Underlayment.

Installing Stuga floors via the glue down method requires no expansion breaks in the floor and is not limited in size. A 1/2" gap at perimeter walls is required to allow engagement of last boards.

Adhesive Tape on Stuga Floors

The use of adhesive tape on any Stuga floor for any reason (i.e., to fasten temporary protection) is not recommended and is not covered in our warranty.

ATTENTION INSTALLERS

Sawing, sanding, and machining wood products can produce wood dust that can cause respiratory, eye and skin irritation.

The International Agency for Research on Cancer (IARC) has classified wood dust as a carcinogen in humans. Drilling, cutting, and grinding of concrete generates concrete dust, containing crystalline silica, a substance known to cause cancer, birth defects, or other reproductive harm.

Precautionary Measures: If power tools are used, they should be equipped with a dust collector. If high dust levels are encountered, use an appropriate NIOSH-designated dust mask. Avoid dust contact with eye and skin.

First Aid Measures in Case of Irritation: In case of irritation, flush eyes or skin with water for at least 15 minutes.

INSTALLATION

Glue Down Installation

Important Installation Notes

- For glue down installations, it is required to use an adhesive with a built-in moisture barrier. Since underlayment is not often used in glue down installations, it is essential that the adhesive acts as a barrier to protect the flooring from moisture below. Recommended adhesives include (but are not limited to) Bostik Greenforce and Bona 2851.
- Do not open packages until ready to begin installation! Inspect boards as you go. Stuga flooring is sealed at the factory with a moisture content of 7%. Opening cartons to acclimate the flooring (as with some solid strip flooring) could result in a difficult installation.
- It is the installer's responsibility to be aware of the grade, Relative Humidity of the room, and Moisture Content of the subfloor. You should check that each plank is free of damage or manufacturing defects. Any unusable boards should be set aside for later replacement.
- When possible, preselect and set aside boards that blend best with all horizontally mounted moldings (reducer/stair nose etc.) This will assure a uniform final appearance. Install these boards adjoining the moldings.
- Always install the floor from several cartons at the same time to ensure good color and shade mixture.
- Cut door jambs and casings after subfloor leveling is completed to avoid difficult scribe cuts.
- Do not use rubber mallets or hammers on the finished edge of the floors.
- Stuga flooring is approved for installations in half bathrooms only (no bathrooms including showers or bathtubs).
- See Jobsite/Subfloor Preparation section and follow all requirements before installation.
- Read float-in instructions to familiarize yourself with proper end joint locking techniques.
- Vacuum subfloor thoroughly.
- Recommendations for adhesives should come directly from the adhesive manufacturer of your choice. Stuga recommends choosing a high quality hardwood flooring adhesive. Follow the adhesive manufacturer's instructions for proper use of the adhesive, application methods, flash-time, working-time, warranties etc.

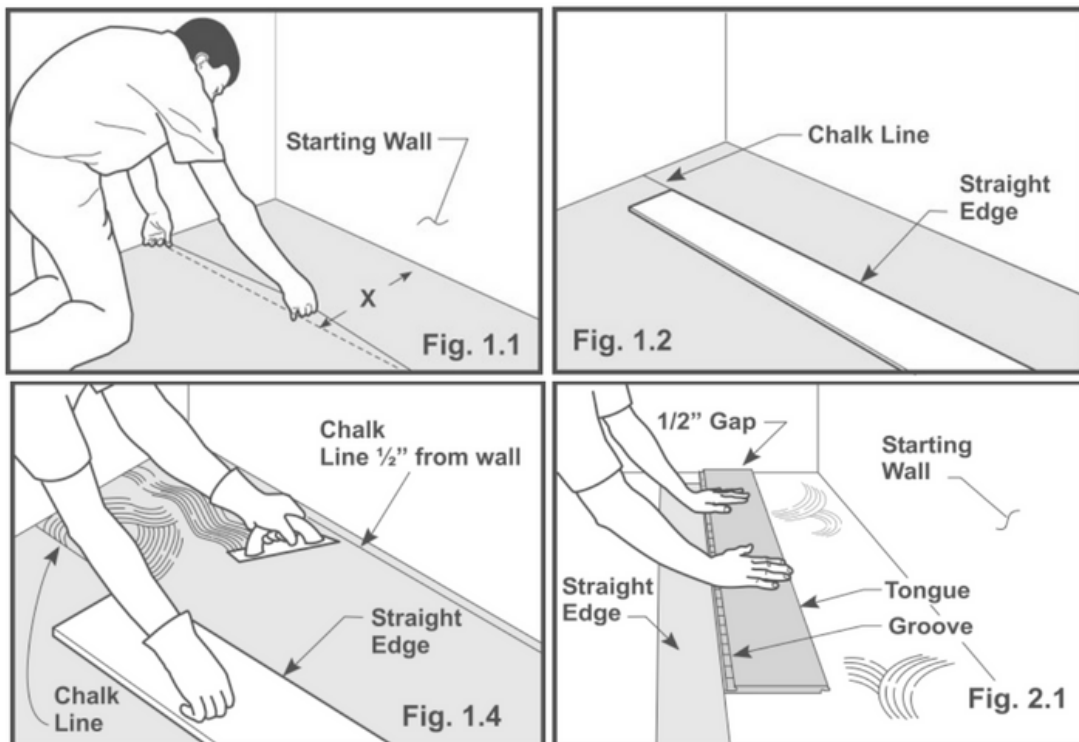
INSTALLATION

Glue Down Installation

Step 1 - Layout

1.1 Using starting wall as reference, snap chalk line on subfloor at distance X from wall as shown in Fig. 1.1. To calculate X, engage two boards together (refer to Step 2.1 on locking procedure) and measure total width, including exposed groove, then add 1/2".

1.2 Align straight edge (Stuga board or any solid material with straight edge) with chalk line and secure to subfloor (Fig. 1.2)



1.3 Measure 1/2" from starting wall and snap another chalk line (Fig. 1.4).

1.4 Spread adhesive in area between straight edge and second chalk line (Fig. 1.4). Use only as much adhesive as can be used during manufacturer's open time of adhesive.

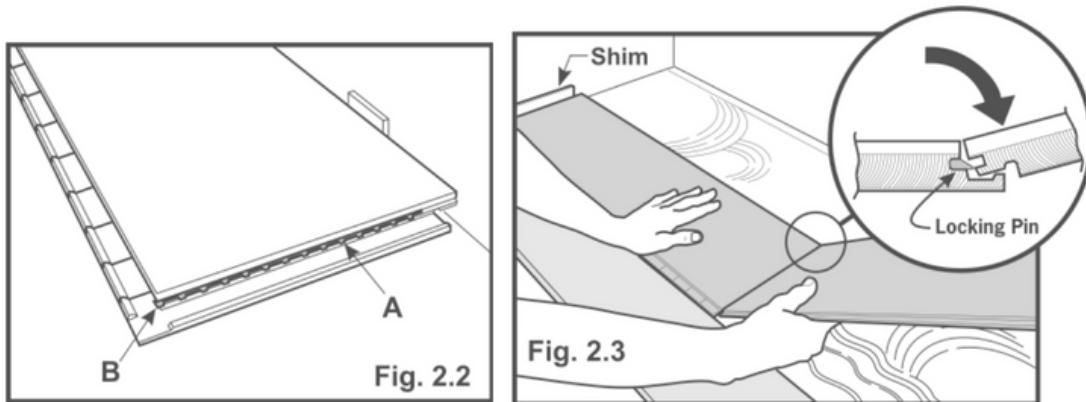
INSTALLATION

Glue Down Installation

Step 2 - Installation

2.1 Start with tongue side facing wall and long groove side directly up against straight edge as seen in Fig. 2.1 Lay board into adhesive. Remember to allow 1/2" expansion gap at wall.

2.2 Most Stuga flooring employs a sliding locking pin (A, Fig. 2.2) to engage short end of boards. Ensure sliding locking pin is in proper alignment - parallel to board edge and flush or slightly protruding (1/16" or less) from wear layer on long side of board (B, Fig. 2.2). The sliding locking pin is automatically pre-set.

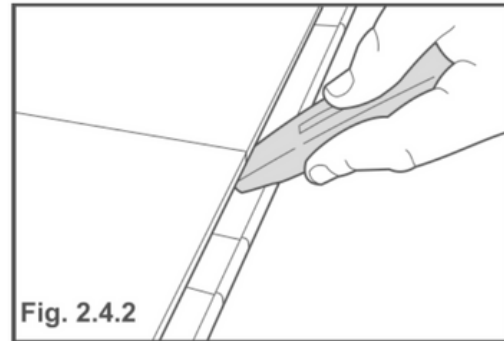
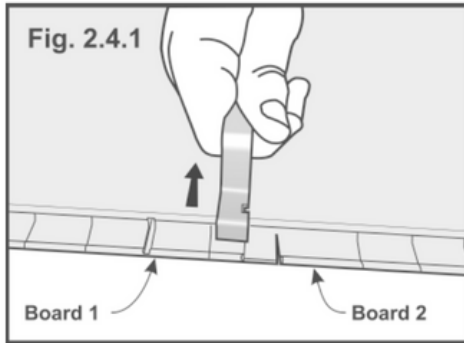


2.3 Hold second board against first board at approx. 30° angle (Fig. 2.3). If sliding locking pin is not positioned correctly board will not engage. Lay second board flat into adhesive. Note: Compression pin products have a pre-set locking pin which does not need to be engaged as noted above for sliding locking pin products. When compression pin boards are engaged properly at the end joints you will hear an audible click, this is indication that the boards are locked.

2.4 Engage locking pin to secure second board. Note: With glue-down installations of sliding locking pin, there are a few methods for engaging the pin (note: these methods n/a for compression pin products): a) Use standard size utility knife or a flat screwdriver to engage pin as shown in Fig. 2.4.2. With knife blade in retracted position, run knife along inside of groove to push locking pin into locked position. b) Alternate Method: After installation of entire first row, boards in subsequent rows will engage locking pins of previous row as they are installed. Refer to Fig. 2.5. Lay entire first row and cut end board to correct length (allow for expansion gap).

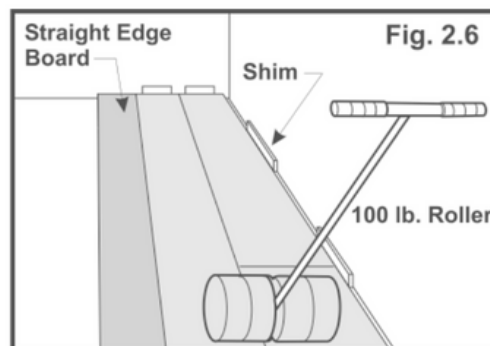
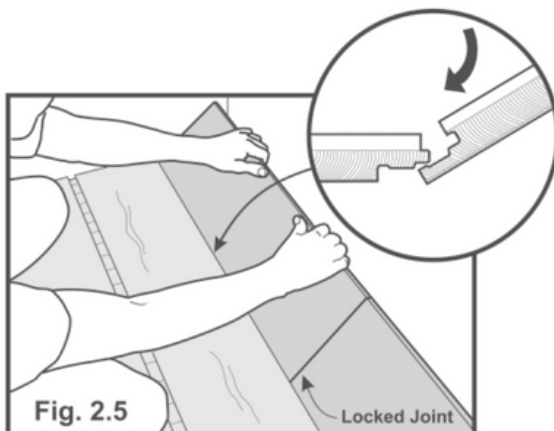
INSTALLATION

Glue Down Installation



2.5 On dry, flat surface, lay out entire second row starting with cut-off piece from last board in first row, if possible. Be sure to allow for expansion gaps at both ends. Ensure end joint stagger from row to row is a minimum of 25% of boards length. Lock short side of each board as described in Steps 2.2 through 2.4. With groove side facing first row, hold entire row at approx. 20° - 30° angle and press inward, completely engaging long side joint (Fig. 2.5). Now lay entire row flat into adhesive. If necessary, use Last Board Puller to assist with engagement of long joint. If necessary, use Last Board Puller to assist with engagement of long joint.

2.6 Once first two rows are installed, ensure expansion gap between walls and boards are shimmed securely. If recommended by adhesive manufacturer, roll flooring with 100# roller to ensure contact between flooring and subfloor (Fig. 2.6). Place weight (e.g., unopened cartons of boards) along perimeters until adhesive sets up. Then remove straight edge board.



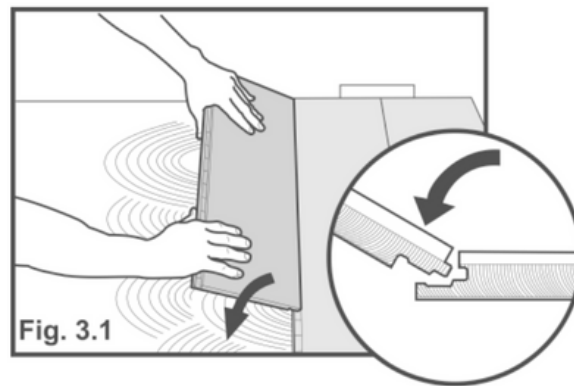
INSTALLATION

Glue Down Installation

Step 3 - Subsequent Rows

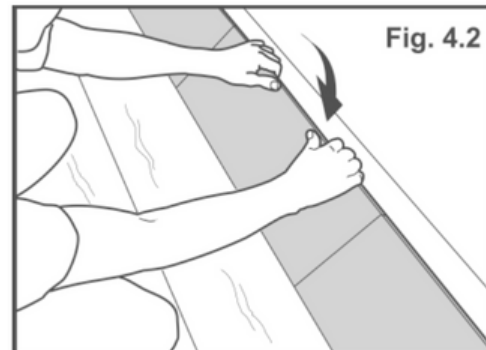
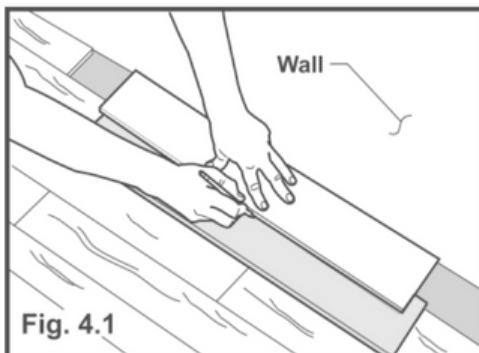
3.1 After starting two rows are firmly in place, apply adhesive in a “wet lay” method. Do not apply more adhesive than can be used within open time of adhesive.

3.2 Start each row with cut-off end of last board from previous row (Fig. 3.1). Immediately place flooring in wet adhesive and proceed with installation, engaging locking pins of each board as you proceed.

**Step 4 - Custom Fitting Last or First Row**

4.1 Since last row will generally not fit perfectly, scribe the entire row and cut to fit, allowing 1/4" (minimum) expansion gap (Fig. 4.1)

4.2 After sawing last (or first) row to shape, engage and lock all end joint locking pins, lift entire row and install to adjacent row (Fig. 4.2).

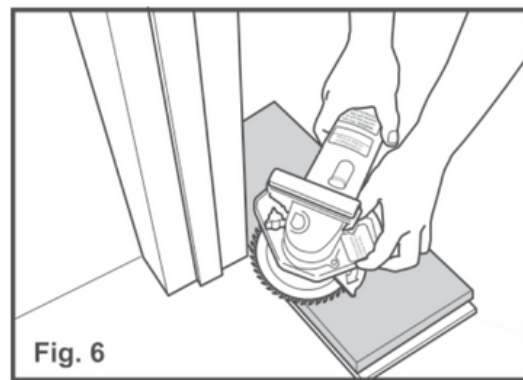
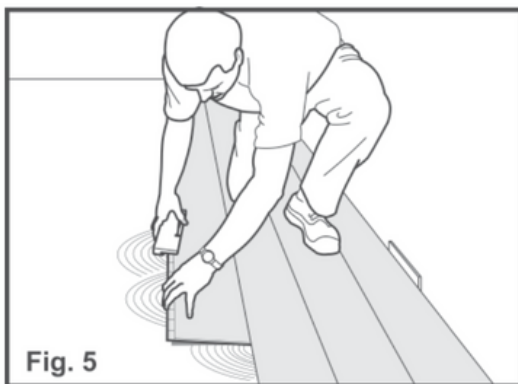


INSTALLATION

Glue Down Installation

Installation Tips

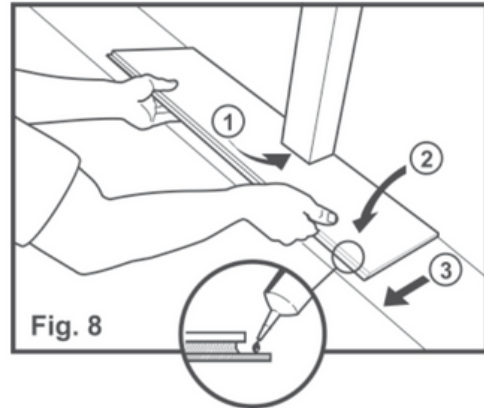
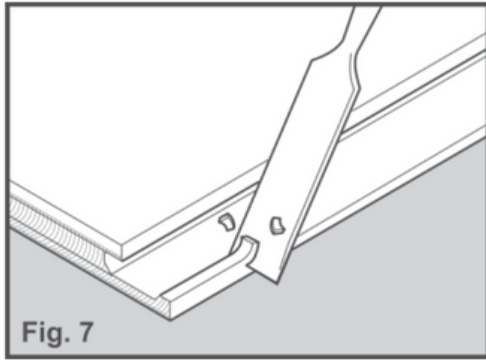
- After first three rows are laid, have one installer work on installing flooring while others spread adhesive and cut boards as needed.
- Installation of boards with locking systems is easier while standing/working on top of already-installed flooring (Fig. 5). Working in this manner lessens the chance of accidentally transferring adhesive onto subfloor surface, thereby reducing clean-up time.

**Doorway Installation**

- If doorjamb (or similar) needs to be cut, use piece of board and piece of underlayment to obtain correct height (Fig. 6). If new board needs to be tapped into place, be sure to protect edges with scrap of wood before tapping with handblock.
- If boards cannot be easily angled under door frame or similar, cut away locking edge as shown in Fig. 7, then apply Landobond adhesive and install board as shown in Fig. 8.

INSTALLATION

Glue Down Installation



TOOLS + TECHNIQUES

After Installation

Notes

- Oil Finish Floors must be oiled with Stuga Satin Oil or Freshen Up Oil (see product page for details) immediately after installation and prior to use.
- Immediately clean any adhesive spilled on wood flooring during and right after installation. Regularly vacuum or clean floor using dry dust mop or cloth, use Stuga spray cleaner as needed. Do not use oil soap or water-emulsion, self-polishing waxes or water mixed with vinegar. NEVER wet mop floor. Place floor Protectors on furniture legs to prevent damage.
- Maintain the Relative Humidity levels within 30%-60% range to avoid unwanted climate-related damage and movements in the wood floor, e.g., cracks, gaps, noise, cupping etc. In summer you may need to dehumidify the air, while in winter it may instead be necessary to increase the humidity in the air. At a too high or too low Relative Humidity, permanent shape changes of the wood floor can occur. It is important to ensure that even in empty and uninhabited spaces, the temperature and humidity are correct. This is especially important when installing in connection with e.g., new constructions or major renovations. Damage caused by failing to maintain the proper humidity levels is not manufacturing related and will void the floor's warranty. Not only do wood floors thrive best with a relative humidity in this range, but also us, as humans thrive due to better indoor air quality.
- Adhesive Tape on Stuga Floors: The use of adhesive tape on any Stuga floor for any reason is not recommended and is not covered in our warranty. After installation, if a protective cover over the floor is needed, cover the floor completely. Do not use plastic. Any protective covering should be taped, using a low-adhesion tape, to base or shoe moldings. When taping paper or sheets together, tape them to each other, not to the floor. NEVER apply tape to finished flooring. Do not allow the floor covering to sit on the installed floor for an extended period.

TOOLS + TECHNIQUES

After Installation

- **Additional Finishing Coating:** For additional wear protection, a waterborne urethane finish is compatible with Stuga factory finishes. Contact Arboritec or Bona Kemi USA, Inc. for recommended products, application, and warranty information. Follow manufacturer's instructions for recoating a prefinished wood floor. Stuga does not guarantee the performance and/or durability of these products.



STUGA

Subfloor Prep Instructions

SUBFLOOR + INSTALLATION PREPARATION

Subfloor Preparation

IMPORTANT

Note: Warranty coverage may be lost due to failure to strictly follow all installation instructions and recommendations and/or the use of improper materials or tools. **READ ALL INSTRUCTIONS CAREFULLY!**

Subfloor Specifications

A. The surface of the subfloor must be level to within 1/8" in an 8ft. radius. Check this by using the edge of a Stuga plank to find high/low spots. To fill excessive voids or variations in the subfloor, use leveling compounds approved for your application. Consult the compound manufacturer to be sure it is appropriate. Allow the compound to dry thoroughly before beginning wood floor installation. Fifteen-pound felt or roofing paper is also appropriate to level a floor for a float-in installation. Cut small pieces to fit the shape of the depression and then stack as many sheets as necessary to level the area. **DO NOT** use this method to correct extensive variations in concrete subfloors.

B. You must test concrete subfloors prior to installation by one of the following methods. Concrete subfloors must not contain more than 3 lbs. moisture on a dry-weight basis (calcium chloride test). Subfloor must read 4.5 or less with Tramex meter. Follow ASTM2170 - subfloor relative humidity not to exceed 75% with in-situ probe. Moisture content of wood subfloors must be less than 12% Moisture Content (MC). Document and keep ALL test results. Subsequent excessive moisture after pre-installation documented testing is evidence of moisture intrusion and will not be covered under Stuga warranty.

C. The subfloor must be clean.

D. Relative humidity at the job site must be, and remain, minimum 30%, maximum 60%. Temperature setting must be, and remain, within 15° F of normal operating range.

Evaluation

Before installing a Stuga floor, inspect the job site thoroughly. With the help of the Installation Environment Chart determine if grade, subfloor, and subfloor conditions are acceptable for

SUBFLOOR + INSTALLATION PREPARATION

Subfloor Preparation

the installation method you plan to use.

Exterior: Carefully inspect the outside surroundings for improper drainage and predictable or obvious sources of moisture. The yard should be graded (at least 6" in 10 ft.) to slope away from the foundation. Be sure that gutters and eaves sufficiently prevent rain from penetrating the foundation.

Under the house: In homes with crawl space or pier-beam foundations, foundation vents must provide cross-ventilation with no dead air space. Vents should be located throughout the foundation with opening area equal to 1-1/2% of the square-foot area within the crawl space (eg. a 1000sq. ft. crawl space must have 15 sq. ft. of vents that remain open all year). If excessive moisture exists underneath the house, you must lay a 6 mil black polyethylene moisture barrier on the ground in the crawl space below the installation area.

Interior: Check the moisture content of the subfloor. See item "B" above as well as "Moisture" at the end of this section. Room conditions can also indicate high moisture and relative humidity. Look for water stains, peeled paint near windows and doors, and rusty metal, especially nails.

Preparation

Wood Subfloors: Moisture Content (MC) must be less than 12%. To prepare the subfloor for installation, re-nail any loose areas with squeaks. Sand or plane any high spots and fill any low areas. The subfloor should not vary more than 1/8" in an 8' radius. Check this by using the edge of a Stuga plank to find any high or low spots. See Installation Environmental Chart for Approved Subfloors.

Preferred Subflooring: 3/4" (23/32", 18.3 mm) CDX grade plywood subfloor/underlayment 4' x 8' sheets OR 3/4" (23/32" 18.3mm) OSB subfloor/underlayment grade, with joint spacing 19.2" (475mm) on center joint construction or less. Direct Glue-Down installations: 2 layers 1/2" (11.9mm) CDX plywood.

Minimum Subflooring: 5/8" (19/32", 15.2mm) CDX plywood subfloor/underlayment 4' x 8' sheets, maximum 16" (400mm) on center joint construction. Direct Glue-Down installations: 2

SUBFLOOR + INSTALLATION PREPARATION

Subfloor Preparation

layers 3/8" (10mm) CDX plywood.

Follow panel manufacturer recommendations for spacing and fastening. Typical panel spacing for joint systems is 1/8" (3.2mm) around perimeter and fastened every 6" (150mm) on bearing edges and every 12" (300mm) along intermediate supports.

Door casing should be notched or undercut to avoid difficult scribe cuts.

If nailing/stapling the floor, (Stuga 10mm thru 20mm Traditional Tongue & Groove or Woodloc®) we suggest you cover the sub floor with 15 lbs. or higher asphalt felt to retard moisture and to help alleviate variations in the subfloor.

Concrete Subfloors: Lightweight (float-in only) and standard-density (float-in and glue-down concrete subfloors are ideal applications for a Stuga floor. Concrete subfloors are generally acceptable for floating installation if the subfloor appears to be dry (i.e. no standing water or discoloration of concrete) and [Stuga Floating Underlayment](#) is used and installed properly. Be sure that, as a minimum, any concrete subfloor is at least 50-60 days old before installing a wood floor over it.

Moisture

To curb the adverse effects moisture will have on a Stuga floor and to determine the source of moisture problems, use the following checklist:

- Inspect the gutters, drains, and down spouts outside the house. Clear out any clogs caused by leaves, dirt, or other substances. Down spouts are designed to transport water away from a foundation.
- Check the landscaping surrounding the home to be sure the yard is sloped away from the foundation (at least 6" in 10 ft.).
- Check windows and doors for proper drainage and waterproof caulking.
- Inspect concrete subfloor for cracks or buckling. Sometimes the water table (water beneath the surface) may rise and force water up through the concrete floor with

SUBFLOOR + INSTALLATION PREPARATION

Subfloor Preparation

hydrostatic pressure.

- Check the ventilation system in the crawl space, basement, and attic. Moisture will collect on walls and floors if dead air (i.e. little or no ventilation) is present. As a rule, ventilation per sq. ft. should equal 1-1/2% of the sq. ft. of the area in question.
- Inspect pipes, water heater tank, dishwasher, and any other plumbing fixtures in the affected area.
- Remember to take seasonal changes in relative humidity into consideration when installing a Stuga floor.
- Signs that the moisture content is too high include discolored (darker) concrete and evidence of actual water droplets

Required moisture testing for ALL Stuga radiant heat installations and direct glue-down flooring:

Calcium Chloride test with a reading of 3 lbs. or less on a dry weight basis (2 lbs. or less for Radiant Heat Installations). Call the NWFA at 800-422-4556 (or 800-848-8824 in Canada) for the testing kit source nearest you. Follow test kit manufacturer's instructions for conducting test and measuring results.

Concrete Moisture Barrier System*

* If moisture is present an alternative is a barrier of inexpensive sheet vinyl or "slip sheet" (PVC). Use the manufacturer's recommended adhesive for a full spread application to completely adhere the vinyl to the subfloor. Since Stuga cannot guarantee the bond of the vinyl to the subfloor, or subsequent performance of the vinyl, a patch test is strongly advised. Install several 3" x 3" pieces of vinyl in different areas of the installation. Wait 72 hours. Remove the vinyl. If the backing remains attached to the concrete, the subfloor should be acceptable for full spread vinyl installation. Note: Concrete sealers are typically NOT approved for Radiant Heat installations.

SUBFLOOR + INSTALLATION PREPARATION

Subfloor Preparation

Other Subfloors: Stuga floors can be installed directly over some existing floors (i.e. vinyl and rubber tile, steel plates, terrazzo, and existing wood floors). The subfloor or existing floor must meet the requirements listed in “Subfloor Specifications.” A Stuga floor installed over existing floors must be installed with the float-in method.

INSTALLATION ENVIRONMENT CHART			
Grade Type	Float	Staple	Glue
Above Grade	Yes	Yes	Yes
On Grade	Yes	Yes	Yes
Below Grade	Yes	No	Call First
Over Radiant Subfloor	Yes	No	Call First
Subfloor Type	Float	Staple	Glue
Concrete (70lbs ft ³ density or higher)	Yes	No	Yes
Light-weight concrete	Yes	No	No
Association grade underlayment plywood	Yes	Yes	Yes
Association grade underlayment particle board	Yes	No	Yes
Stamped Underlayment Grade OSB	Yes	Yes	Yes
Old wood floors - above grade	Yes	No	No
Asphalt Tile	Yes	No	No
Inlaid linoleum	Yes	No	Call First
Vinyl asbestos tile	Yes	No	No
Cushion vinyl	Yes	No	No
Rubber tile	Yes	No	No
Solid vinyl tile	Yes	No	No
Steel	Yes	No	No
Marble	Yes	No	No
Ceramic	Yes	No	No
Carpet	No	No	No

CALCULATION WORKSHEET

Minimum Board Width

Purpose: To ensure last board of the installation (or long board at an obstruction) is not too narrow.

General Rule: Stuga requires that no board have a width less than 3" or .38" of a full board width.

Notes on Equation: This rule applies to boards with an original thickness of 5/8" x 3-strip wide. This equation should be used when a board 4' or more in length meets an obstruction.

WORKSHEET

Step 1

Measure width of connected area* from starting wall to finish wall or obstruction, in inches. Round to the nearest 1/4".

Connected Area Width in inches with fraction: _____

Step 2

Convert "inches with Fraction" to "inches with Decimal". Use conversion chart below.

Connected Area Width in inches with decimal: _____

Step 3

Multiply "Required Expansion Space" by 2. Use chart below.

Total Expansion Needed from above: _____

Connected Area Width (From Step 2)	Expansion Space		Total
Under 144"	¼"	x2=	0.5"
144" - 288"	½"	x2=	1.0"
288" - 480"	¾"	x2=	1.5"

Step 4

Subtract Total Expansion Needed from Connected Area Width to determine Actual Floor Width.

Total from Step 2: _____"

Total from Step 3: - _____"

Actual floor Width in inches with decimal: = _____"

Step 5

Determine total # of rows of flooring needed.

Actual floor width (Step 4): _____"

Board width in decimal - measure ÷ _____"

board and use chart below to convert: = _____"

Step 6

If the result in Step 6 contains a decimal less than .38", you must rip the starting row in half to ensure proper width of the last row.

WORKSHEET

Step 1

Measure width of connected area* from starting wall to finish wall or obstruction, in inches. Round to the nearest 1/4".

Connected Area Width in inches with fraction: _____ 325 ¼"

Step 2

Convert "inches with Fraction" to "inches with Decimal". Use conversion chart below.

Connected Area Width in inches with decimal: _____ 325.25"

Step 3

Multiply "Required Expansion Space" by 2. Use chart below.

Total Expansion Needed from above: _____ 1.5"

Connected Area Width (From Step 2)	Expansion Space		Total
Under 144"	¼"	x2=	0.5"
144" - 288"	½"	x2=	1.0"
288" - 480"	¾"	x2=	1.5"

Step 4

Subtract Total Expansion Needed from Connected Area Width to determine Actual Floor Width.

Total from Step 2: _____ 325.25"

Total from Step 3: - _____ 1.50"

Actual floor Width in inches with decimal: = _____ 323.75"

Step 5

Determine total # of rows of flooring needed.

Actual floor width (Step 4): _____ 323.75"

Board width in decimal - measure ÷ _____ 7.875"

board and use chart below to convert: = _____ 41.11 rows*

*The first board in this installation would be ripped in half.

Step 6

If the result in Step 6 contains a decimal less than .38", you must rip the starting row in half to ensure proper width of the last row.

Ripping the starting row in half will increase the last board width by .50 of a board. In this case the last board will end up being .61 of a board or approx. 5", instead of .11 or 1" wide.

CALCULATION WORKSHEET

Minimum Board Width

*** From Step 1**

Connected Area is defined as all areas connected without a break. If Room A and Room B both are to have flooring installed and are directly connected, or connected by a hallway, without a t-molding, the connected area is the width of both Room A and Room B, and the hallway (if applicable).

Obstructions can include cabinets, islands, and the wall opposite the starting wall in the same room, if the flooring continues to another room without a break. Multiple calculations may need to be made to best determine the amount cut from the starting row.