

STUGA

Floating Installation Instructions

JOBSITE

Underlayment



Stuga Floating Underlayment

The width of a row of [Floating Underlayment](#) is comprised of 40” of underlayment plus an 8” overlap flap. The overlap flap guards the flooring from moisture at the seams, where the rows of underlayment are laid side by side. The overlap flap has a peel and stick strip to aid the installation process.

Step 1: Lay out first row of underlayment (logo side down, blue side up) with the overlap flap facing the starting wall. Allow the underlayment to wrap up the wall, on the ends, approx. 2”.

Step 2: Reach under and grab the overlap flap and pull it up so it lies against the starting wall. Trim this overlap flap back to leave approx. 2” of plastic up the wall. (Use this cut off section to repair damage in the underlayment as needed*, see note below).

Step 3: Lay second row of underlayment flush to first row. Make sure the overlap flap is next to first row, and the ends wrap up the walls. (If flooring installation has already begun, make sure to stop the flooring approx. 8 inches from the side of the underlayment to allow for the installation of the overlap flap.)

Step 4: Again, reach under and grab the overlap flap. Pull the flap up and fold it back to expose the peel and stick strip. Remove the white protective cover from the adhesive strip. Lay overlap flap across the first row of underlayment and press into place.

Step 5: Continue this procedure row by row until the entire floor area is covered.

JOBSITE

Underlayment

*Note: When connecting a new roll of underlayment to the end of the roll you are working on, or for repairing any tears or cuts in the underlayment; overlay the butt joints or the damaged area with a spare piece of overlap plastic. This spare piece should overlap by approx. 8". Hold the spare piece in place with tape. Do NOT overlap underlayment. Overlap flap only.

Cover the entire floor area and run the underlayment up the perimeter walls approximately 2". This provides a secure enclosure for the flooring. After the floor is installed and before the installation of the baseboards, the excess underlayment should be trimmed to the height of the floor surface using a fine trimming blade. The use of the Floating Underlayment is also approved for radiant heat applications.

Stuga Nature All-In-One Underlayment

[Nature All-In-One Underlayment](#) can be installed utilizing the floating or nail-down installation method with the film side up, fabric side down. NOTE: Nail-down installation method compromises the vapor barrier. Do NOT glue down Nature All-In-One Underlayment.

Step 1: Be sure the sub-floor is clean and dry.

Step 2: Roll out one section of the Nature All-In-One Underlayment parallel to the wall and in the same direction as you plan to install the wood flooring. The product will roll out with the film up and the foam side down to the subfloor.

Step 3: Next install the wooden planks atop the underlayment in accordance with the specific installation instructions for that product. Be sure that you can still see the edge of the underlayment so that you can properly line up the next roll.

Step 4: Install the next section of underlayment, butting the underlayment seams together. Remove the release film and press the overlapping film into the pre-applied adhesive, making certain the film is securely bonded to the adjacent section of underlayment. Repeat the above steps until the installation is complete.

Important: Stuga does not guarantee the performance of any underlayment not sold by Stuga. The Stuga Moisture Guarantee only applies to floors installed using Stuga underlayment.

LAYOUT

Required Expansion

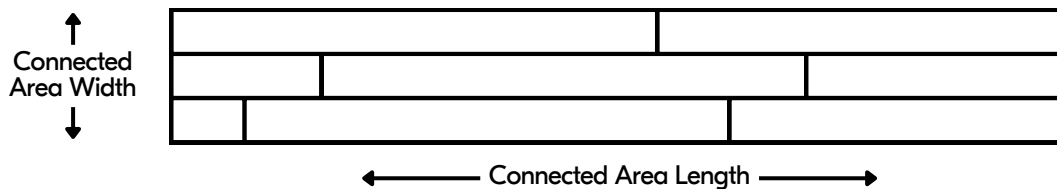
Purpose: To ensure proper expansion space around all walls, doors, and obstructions.

Required Expansion

- All Stuga floors require 1/16" of expansion space for every 3' of Connected Area width or 9' of Connected Area length (whichever is greater). This expansion space must be left around all walls, doors and obstructions. Minimum expansion requirement is 1/2".
- No connected flooring can span greater than 80' in width or 160' in length. If the area is greater than 80' wide or 160' long, a break is required to allow for expansion. Typically, a transition piece (such as a t-mold) is used at this break. If the area is less than 80' wide and 160' long, however, a transition piece is not required.

Notes

- 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.
- The direction of the flooring must be determined prior to calculating the required expansion space.



LAYOUT

Required Expansion

Required Expansion Reference Chart			
Connected Area Width	Required Expansion Space*	Connected Area Length	Required Expansion Space*
Up to 24'	1/2"	Up to 72'	1/2"
24'-40'	3/4"	72'-120'	3/4"

EXPANSION TIPS

- Determine the required expansion space for both width and length, then use the larger of the 2 on all sides, and around all obstructions.
- Want to skip the transition pieces? Floating floors only need transitions if the span of your room is wider than 80' x 160'.
- Expansion gaps allow your floor to naturally move as humidity fluctuates.
- Obstructions are the most common cause of problems with floating floors. Make sure that trim is sufficiently undercut and that no railings or furniture pieces are affixed to a floating floor. These obstructions can cause excessive squeaking or buckling as the floor is "pinched".

TOOLS + TECHNIQUES

Before You Begin

Good to Know

A minimum of one end joint is required in every row, regardless of width (e.g. hallways).

Never attach any permanent object through the flooring, affixing it to the subfloor. A floating floor must be free to expand and contract in all directions. Examples of this include screwing cabinets or an island into the floor, screwing a stair railing into the flooring (as opposed to a stair nosing).

Stuga flooring is approved for installations in half bathrooms only (no bathrooms including showers or bath tubs).

Expansion in Large Areas

You may be able to attain the necessary added expansion by trimming the drywall (i.e. sheetrock). This will allow the floor to expand underneath the wall.

For complete information please refer to Required Expansion Reference Chart in the layout section of this guide. Floating floors require 1/16" expansion for every 3' across width and 1/16" expansion for every 9' along length. For example, a 28'x 28' space requires an expansion gap of 9/16" around the edge of the flooring.

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.

Additional Finishing Coating

For additional wear protection, a waterborne urethane finish is compatible with Stuga factory finishes. Contact Bona for recommended products, application and warranty information. Follow manufacturers instructions for recoating a refinished wood floor. Stuga does not guarantee the performance and/or durability of these products.

TOOLS + TECHNIQUES

Before You Begin

Subfloor Prep

For subfloor and environmental specifications and requirements, please read the Subfloor Prep section of this guide. Floating installation requires the use of Stuga underlayments. Refer to the Underlayment section of this guide.

Stuga Limited Lifetime Warranty

Stuga flooring is covered by a [Limited Lifetime Warranty](#). However, Warranty coverage may be lost due to failure to strictly follow all installation instructions and recommendations or the use of improper materials or tools. Please read all instructions carefully.

Packaging + Acclimation

Do not open packages until ready to begin installation. Inspect boards as you go. Stuga flooring is sealed at the factory with a 7% moisture content. Opening cartons to acclimate the flooring (as with some solid strip flooring) could result in a difficult installation.

Opened the boxes too early? Don't worry. Your flooring can still be installed right away without the need for acclimation.

Relative Humidity + Grade

As an installer, it is your 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 defective boards that are installed are considered accepted. Any unusable boards should be set aside or trimmed down for additional uses (start/end boards).

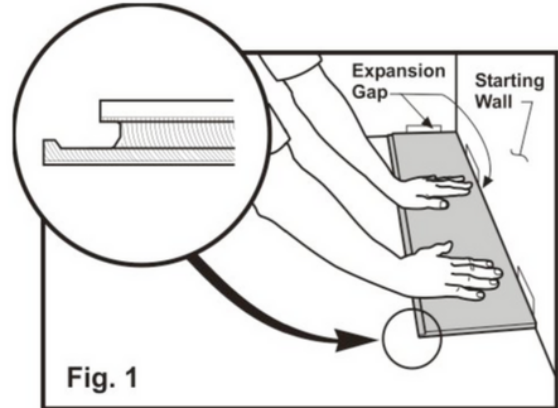
Rooms that are on the ground floor of the home are considered "on grade". Rooms on any floor above ground level are considered "above grade". Rooms below (typically a basement) are considered "below grade". A range of 30%-65% relative humidity ensures your floor will perform wonderfully. Learn more on the Subfloor Preparation portion of this guide.

TOOLS + TECHNIQUES

Floating Installation

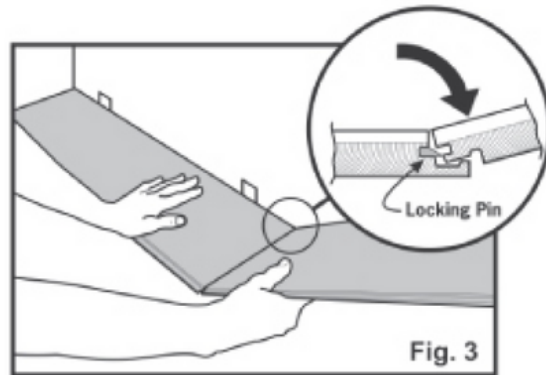
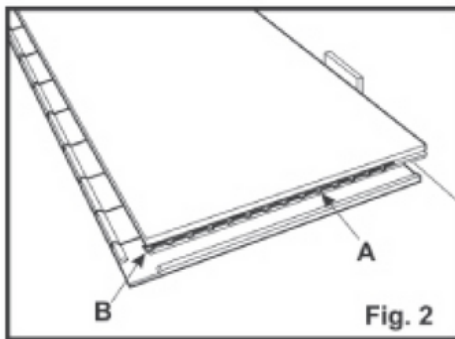
Step 1

Start in corner and lay first board with tongue side toward walls (Fig 1). Proper expansion space can be achieved by pull-ing floor away from wall once first three rows have been installed (reference Step 6). For proper expansion refer to calculation worksheet.



Step 2

Kährs Woodloc 5S employs a locking pin (Fig. 2, A) to engage short end of boards. Ensure locking pin is in proper alignment - parallel to board edge and flush or slightly protruding (1/16" or less) from top layer on long side of board (Fig. 2, B). See video below for tips.



TOOLS + TECHNIQUES

Floating Installation

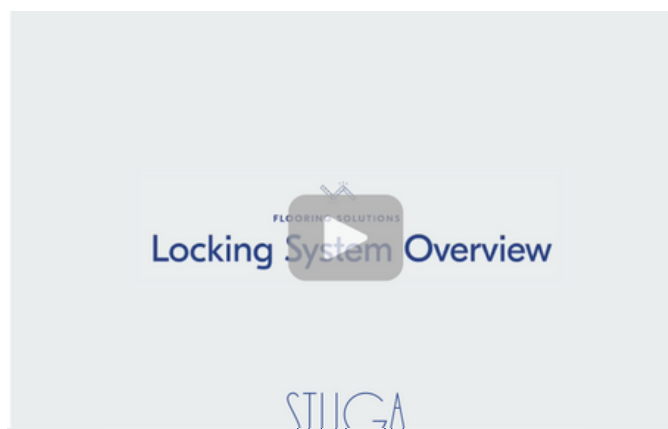
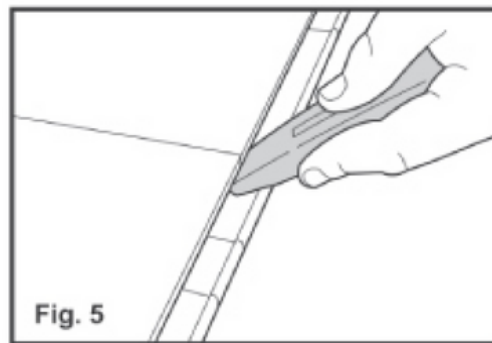
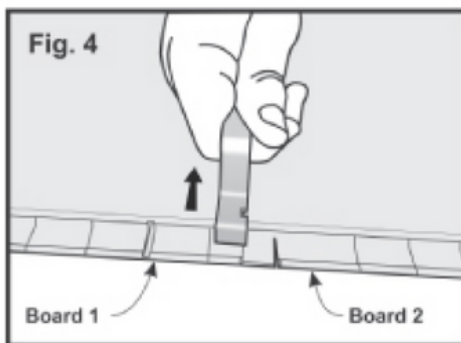
Step 3

Hold second board against first board at approximately a 20° - 30° angle. If locking pin is not positioned correctly board will not engage. Lay second board flat.

Step 4

Engage locking pin to secure second board. Note: There are three (3) methods for engaging the locking pin:

1. Use [Stuga Tapping Block](#).
2. Use [Stuga Locking Tool](#) to push locking pin into locked position as shown in Fig. 4.
3. Use standard size utility knife to engage pin as shown in Fig. 5. With knife blade in retracted position, run knife along inside of groove to push locking pin into locked position.



TOOLS + TECHNIQUES

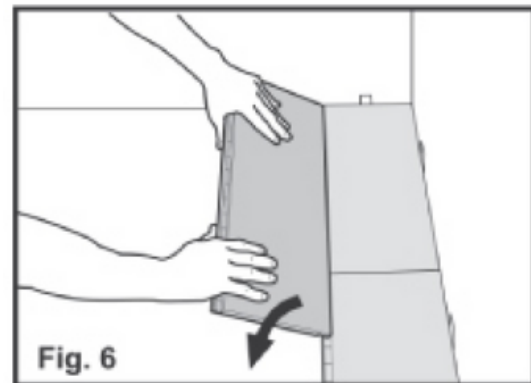
Floating Installation

*Locking pins in first row can be engaged as second row boards are installed, however best results may be obtained by using method 1 or 2, thereby locking first row boards as you go.

Step 5

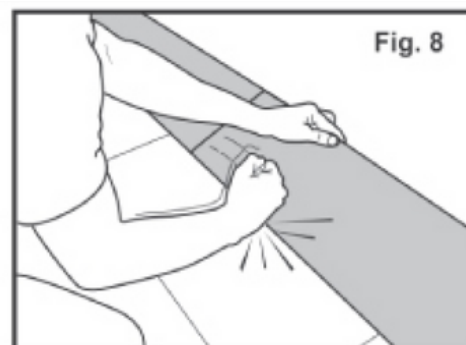
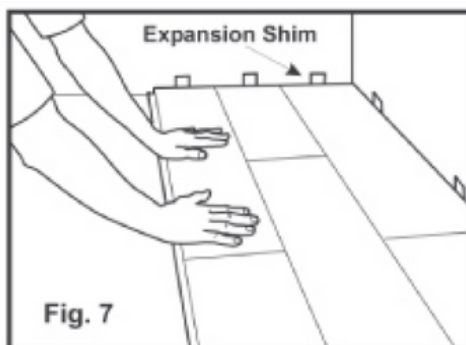
Install second row boards as shown in Fig. 6. If possible, start second row with left-over piece from last board of first row, ensuring any end joints of 2nd row boards are at least 20" away from end joints of any 1st row boards.

Hold board at approximately a 20° - 30° angle to board in front. Press forward to engage joint and lay flat on floor. Continue until entire second row is installed. End joints must be staggered by at least 20". Butt seam (end joint) must be placed in each row regardless of width, e.g. hallways.



Step 6

When three rows have been laid, pull floor away from starting wall until there is proper amount of expansion space. Place expansion shims between floor and wall to maintain this space, as shown in Fig. 7., then continue installation as described.

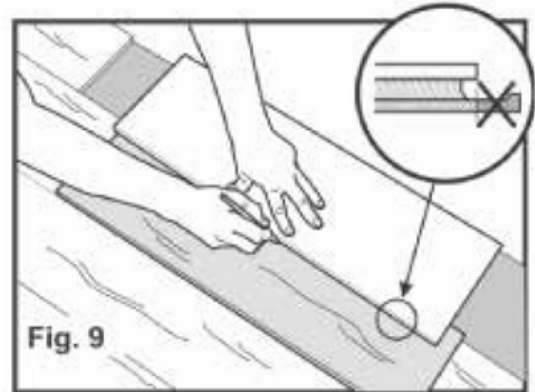


TOOLS + TECHNIQUES

Floating Installation

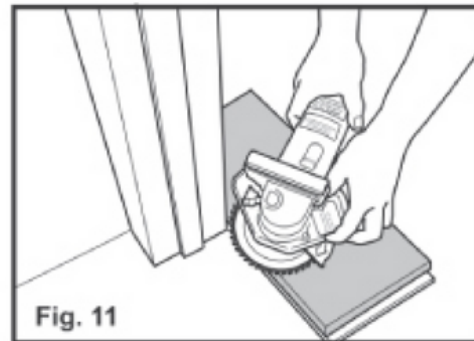
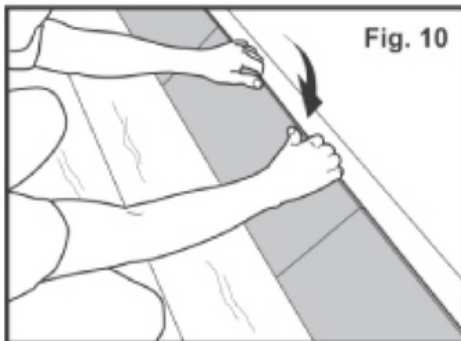
Step 7

Custom Fitting First or Last Rows: If first (or last) row must be cut to match crooked wall, first disengage row of boards adjacent to crooked wall by gripping long side and pulling upward while simultaneously giving long joint a light tap along entire length (Fig. 8). Now trace shape of wall onto first/last row boards, making sure space is allowed for expansion. See Fig. 9 at right. Saw to shape.



Step 8

After sawing row to shape, engage and lock all end joint locking pins and lift entire row and reinstall to adjacent row (Fig. 10). Slide rows back into position against wall. Place expansion shims between floor and wall.



Step 9

If doorjamb (or similar) needs to be cut, use piece of board and piece of underlayment to obtain correct height (Fig. 1). If new board needs to be tapped into place, be sure to protect edges with scrap of wood before tapping with handblock.

TOOLS + TECHNIQUES

After Installation

Cleaning + Maintenance

Clean floor using dry dust mop or damp (lightly misted or well rung out) mop or cloth. Regularly use [Stuga Floor Cleaner](#) for best results. Do not use oil soap or water-emulsion, self polishing waxes. NEVER wet mop floor. Place Peel & Stick Floor Protectors on furniture legs to prevent damage. See our Floor Care Guide for more details.



Oiled Floors

Oiled floors must be oiled with [Stuga Satin Oil](#) or [Stuga Freshen Up](#) after installation and prior to use.



TOOLS + TECHNIQUES

After Installation

Recoating your Stuga Floor

Stuga floors can be renewed without removing the factory finish. As a floor ages, normal wear and tear will cause a floor to lose its luster. This is natural—it happens to all wood floors. To renew the luster and extend the wear layer of the Stuga floor, recoat with water based urethane coating.

For additional wear protection, a waterborne urethane finish is compatible with Stuga factory finishes. Contact Arboritec (1-877-416-5972) or Bona Kemi USA, Inc. (1-800-574-4674) for recommended products, application and warranty information. Follow manufacturers 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: = _____"

Total rows of flooring: = _____"

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.