



Muskoka Warranty and Maintenance Information

This Installation, maintenance and Warranty Card is for all Muskoka Product lines.

General Installation Instructions for all products



3/4" (19 mm)
Solid

For all Gallery Floors

- Product Specifications: 3/4" (19 mm) Solid
- Grades Available: Select & Better, Classic and Frontier
- Widths Available: 2 1/4" (57 mm), 3" (76 mm), 3 1/4" (83 mm), 4 1/4" (108 mm)
- Lengths: Random lengths 10" - 84" (254-2134 mm), Averages: 32" - 38" (813-965 mm) depending on grade
- Installation: Nail - At or above ground
- Radiant Heat: No, can use Architectural, Solid Sawn or Northern Solid Sawn



9/16" (13.7 mm)
Engineered

For all Architectural Floors

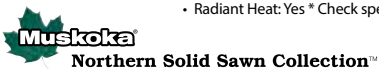
- Product Specifications: 9/16" (13.7 mm) Engineered
- Grades Available: Select & Better and Classic,
- Widths Available: 3 1/2" (89 mm), 5" (127 mm)
- Lengths: Random lengths 14" - 72" (356-1829 mm), Average: 32" (813 mm)
- Installation: Nail, glue or float - At, above or below ground level
- Radiant Heat: Yes * Check species list



3/4" (19 mm)
Solid Sawn

For all Smooth, Hand Sculpted, Wire Brushed and Etched Solid Sawn floors

- Product Specifications: 3/4" (19 mm)
- Grades Available: Select & Better, Classic and Character
- Width Available: 3 1/4" (83 mm), 4" (100 mm), 5" (127 mm), 7" (180 mm),
- Lengths: Random lengths 16" - 84" (406 - 2134 mm), Averages: 38" - 48" (965 - 1219 mm) depending on species and grade
- Installation: Nail, glue or float - At, above or below ground level
- Radiant Heat: Yes * Check species list



3/4" (19 mm)
Northern Solid Sawn

For all Smooth, Hand Sculpted, Wire Brushed and Etched Northern Solid Sawn floors

- Product Specification: 3/4" (19 mm)
- Grades Available: Select & Better, Classic and Character
- Widths Available: 3 1/4" (84 mm), 4 3/8" (112 mm), 5" (127 mm)
- Lengths: Random lengths 15" - 84" (381 - 2134 mm), Averages 32" - 42" (813 - 1066 mm) depending on species and grade
- Installation: Nail, glue or float - At, above or below ground level
- Radiant Heat: Yes * Check species list

For more details or technical specifications, please contact a Muskoka Dealer or our Website.

Muskoka Wear Warranties		
	Opal & Semi Gloss	UV Urethane Oil
Residential Wear Warranty	25-Year	10-Year
Commercial Wear Warranty	3-Year	1-Year

Congratulations on purchasing one of the highest quality prefinished hardwood floors. Your premium Muskoka Hardwood Floor will provide you with a lifetime of memorable moments. Products may be manufactured in one of Muskoka's worldwide manufacturing facilities, but all are prefinished in Canada. Contact a Muskoka dealer for more information.

Warranty Program takes effect: February 2014 replacing all previous versions.

Warranties

Lifetime Structural Warranty for Residential Installations

Muskoka Hardwood Flooring has strict processing controls and every piece is put through a rigorous quality control system. Muskoka warranties all the product collections to the original owner of a non-commercial floor in its original manufactured condition to be free from; delamination, milling defects and grading for the lifetime of the floor. This warranty excludes the standard defect allowance of 5% for widths below 4" and 8% for 4 1/4" and over. The relative humidity in the residence must be targeted at 45% and the maximum ranges in the specific product warranty never exceeded. Radiant heat warranty is limited as specified in the radiant heat section. The warranty does not cover the normal movement and reactions of wood to humidity and damages as listed in the exclusion list. To fulfill this warranty, the owner must ensure the pre-installation, installation, maintenance and care guidelines are complied with. Muskoka Hardwood Flooring's liability for this warranty is limited solely to the defect amount in excess of the standards above and is for the flooring material only.

Residential Wear Warranty: 25-Year for Opal & Semi gloss finished floors

This warranty guarantees to the original purchaser that the standard Muskoka Semi-gloss and Opal finishes will not wear through or peel for 25 years from the date of purchase. Oil and Custom gloss finishes are not covered by this warranty. The product must be in its original purchased condition. The wear warranty is applicable to non-structural defects only. Checks, lines or peeling that appear on the surface of knots, checks, cracks, holes, color variation and other related natural character allowed for in the grades are not covered under this warranty. The floor must be installed and maintained in accordance to Muskoka's installation and maintenance guidelines. See warranty exclusions for other limitations.

3 Year Finish Wear through Warranty for Commercial Installations

(Special Ordered as "Commercial Finish")

This warranty guarantees to the original commercial purchaser that the standard Muskoka Semi-gloss and Opal finish will not wear through or peel for 3 years from the date of purchase in a commercial environment. Heavy traffic environments, including exterior main access ways are excluded. Oil and Custom gloss finishes are not covered by this warranty. The product must be in its original purchased condition. The wear warranty is applicable to non-structural defects only. Checks, lines or peeling that appear on the surface of knots, checks, cracks, holes, color variation and other related natural character allowed for in the grades are not covered under this warranty. The floor must be installed in accordance to Muskoka's installation guidelines.

The floor must be regularly maintained in accordance with Muskoka Hardwood Floorings guideline to validate this Warranty. The sole remedy pursuant to this warranty shall be limited to the repair, refinishing or replacement of the floor at the discretion of Muskoka Hardwood Flooring to correct the issue. Any attempt to modify, repair or replace products prior to authorization of Muskoka Hardwood Flooring will void this warranty. See warranty exclusions for other limitations.

10 Year Limited Residential Wear Warranty - UV Urethane Oil finish

(Not an Oxidative Oil) (1-Year Commercial)

Muskoka warranties to the original purchaser that it's UV Urethane Oil will not wear through the finish in normal residential use within 10 years from the purchase date. The thin finish of UV Oil must be carefully maintained, including regular care and maintenance that cleans and protects the floor. Failure to care and maintain the floor for any period, as described in the Muskoka care instructions, can lead to failure of the floor and will void the warranty. Wear warranty excludes items listed under exclusions. Muskoka recommends refreshing the floor as soon as wear or dulling is observed to provide a protective coat to avoid or correct minor damages. Refreshing may cause variances in the finish if any residue is missed by cleaning or due to varying amounts of refresher applied. Muskoka does not warranty gloss variation or contamination resulting from the refresher application. Muskoka's thin UV Urethane Oil coat will wear through in heavy traffic areas or where sources of grit or damage are higher. Therefore place mats/rugs in such areas to protect the finish (i.e. Entrance ways, fridges, sink area, etc). In the event the raw wood is exposed due to damage or excessive wear, it is essential to carefully clean and refresh the area to avoid the "wash-out" and discoloration of the underlying stain. Repairs to damage and excessive traffic/wear are not covered by the warranty. Consult a professional when recoating or extensive repairs are required.

Humidity Control (Gapping, Cupping and Splits)

Relative Humidity is the ratio of the actual amount of water vapor contained in the air at a given temperature to the maximum amount of water vapor that the air at a given temperature can hold, expressed as a percent. In other words, relative humidity is the absolute humidity divided by the absolute humidity at saturation of air at the same temperature.

Wood is a hygroscopic material. Always containing water, it constantly exchanges water vapor with the air, picking it up when atmospheric relative humidity is high, and giving it off when relative humidity is low. Since wood swells as it adsorbs water, and shrinks as it releases water, both its moisture content and its dimensions are controlled by the relative humidity of the surrounding air. Wood moisture content is equal to the weight of water contained in the wood divided by the oven dry weight of the wood, expressed as a percent.

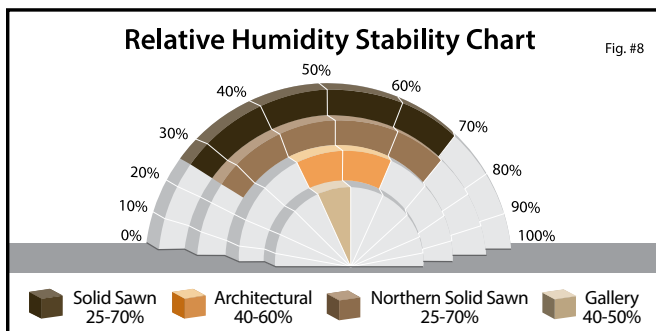
Inside homes however, where the relative humidity (RH) of outdoor air drawn inside is drastically altered by heating it and cooling it without humidification or dehumidification. Wide seasonal swings in relative humidity in wood moisture content and dimension changes occur. Since warm air can hold more water vapor than cold air, the relative humidity of air with a certain absolute humidity can be changed by simply changing its temperature. If in winter, for example, outside air at 20°F (-6°C) and 65% RH is drawn inside and warmed to 70°F (20°C) without humidification, its relative humidity drops to about 10%. In summer, outside air at 70°F (20°C) and 60% RH that flows into a basement at 60°F (15°C) will end up at 82% RH. In order to minimize this movement, the relative humidity must be maintained according to product specifications for Gallery solid anything higher and the flooring will start to cup, anything lower and the floor will start to gap and may check and split in winter months.

Special Note for Architectural, Solid Sawn & Northern Solid Sawn

Although these products are more stable, they can still react to changes in relative humidity according to the season. Minor cupping, crowing, face distortions, etc. is considered normal when near the limits of the stability warranty and is not covered under this warranty. Raising or lowering your humidity level towards the middle of the warranty range will resolve this issue.

Muskoka's Architectural, Solid Sawn & Northern Solid Sawn Hardwood Flooring will perform extremely well with high humidity. However, if the humidity drops below warranted levels the face lamella will start to contract. The construction of these products is such that the core material will minimize the face lamella's contraction. If the humidity drops below warranted levels the core will continue to do its job and minimize the contraction again. However, there comes a point where the face lamella is under so much stress, and the core is not allowing the face to move (minimize cupping) that the face lamella has no other choice but to relieve its pressure by stress cracking. Stress cracking is NOT covered under this warranty.

Muskoka manufactures and stores solid wood flooring in a controlled environment. It is important to check and document both the ambient humidity and the moisture of the subfloors in the rooms before installation. Humidity outside the allowed range or subfloors more than 2% difference in moisture on 3 1/4" and wider floors (4% difference on 3" and narrower) will cause the floors to expand/shrink and cup. Wet subfloors and high humidity environments can cause gapping and create splits as the wood dries and returns to a normal humidity levels. Un-insulated heat ducts or radiant heat also cause extreme drying leading to gapping and splitting. Gapping, Cupping and splits resulting from moisture & humidity excesses are not covered under Muskoka's Warranty. Generally, wood flooring should not be installed over crawl spaces. If necessary, ensure the crawl space has a 6 mil CGSB polyethylene over all exposed earth and that sufficient cross ventilation exists in order that no moisture accumulation occurs. Follow local building codes.



Radiant Heat Instructions & Warranty

New Concrete that is less than 60 days Old – Radiant heat must be turned on and left on for a period of 45 days prior to installation of the Muskoka flooring material. Turning the radiant heat on will allow the moisture that is in the concrete to evaporate from the concrete. If the concrete is not dried and the floor is installed, the moisture that is in the concrete will migrate into the wood floor. Perform a calcium chloride or polyfilm test to determine moisture content of the concrete. The Radiant heat must be turned off for at least 48 hours prior to installing any flooring for a conditioning period. Older Concrete – Heating and or cooling concrete must be done slowly. Muskoka flooring requires that the radiant heat be turned on for a minimum of 72 hours prior to installing Muskoka flooring material. Muskoka flooring also requires that the radiant heat system be turned off for at least 48 hours prior to installing any flooring. Turning the heating system off allows for the concrete to properly condition.

Note: Not conditioning the concrete will void all Muskoka Warranties.

Maximum Tube Temperature out of boiler: 129°F (54°C)

Maximum Concrete Temperature: 81°F (27°C) (Below hardwood flooring)

****IMPORTANT**** when using any radiant heat system other than the in slab system referred to above, you must confirm with your heating contractor that the Maximum Temperature of the surface of the subfloor (below the hardwood flooring) CANNOT EXCEED 81°F (27°C).

The humidity level in the home MUST be maintained ABOVE the listed levels in order to validate the warranty*.

- *Solid Gallery Hardwood Flooring 40%
- *Engineered Architectural Hardwood Flooring 40%
- *Solid Sawn Hardwood Flooring 25%
- *Northern Solid Sawn Flooring 25%

A common problem that happens is that the floor will cup and/or crack when the radiant heat is "cranked up" by individuals that are cold. Cranking the heat above the maximum temperature recommended by Muskoka will void the warranty. In order to confirm that the floor maximum temperature is not exceeded Muskoka will require "thermal sensor stickers" to be applied in strategic areas of the floor and heating system. Thermal sensor stickers are strips of tape with crystals that change to black at a specific temperature. If the heat on the substrate below the hardwood flooring exceeds 81°F (27°C), or the tube temperature out of the boiler exceeds 129°F (54°C) these crystals will turn black. Once they turn black you cannot reverse the color change. Muskoka flooring will require 1 thermal tape to be placed on the main tube coming out from the heating unit in the home. Muskoka flooring will also require a thermal sensor tape on the subfloor placed within 6" of the wall and the sensor must be placed over the heat tube. Thermal sensors will be mandatory in order for Muskoka to warranty radiant installations. If using radiant heat systems other than concrete slab, 3 sensors must be placed in various locations on the floor.



If a problem occurs and Muskoka is required to inspect a potential claim, Muskoka will require that these thermal sensors are removed for verification of temperature. If these sensors are not available to Muskoka in accordance with our installation guidelines, the claim will be denied. It is extremely important that the sensors be placed in an area where it can be extracted by Muskoka for temperature verification. Muskoka requires that the installer draw a diagram on the placement of the sensors in the main heat floor area. This diagram must be submitted to the homeowner and Muskoka Flooring for record keeping.

The Radiant Heat Compliance form must be completed and signed to validate radiant heat warranty. A copy must be submitted to Muskoka Flooring with the purchase order when ordering a floor. It is the responsibility of the dealer to provide this completed form when ordering material. In signing this compliance form it is agreed that the homeowner will not exceed the maximum temperature as per the above mentioned Muskoka guidelines. It is also agreed that the thermal sensor strips will be installed in accordance with these guidelines. The homeowner will also keep a record of the placement of these sensor strips so that they know where their location is, and will make them available for extraction in the unlikely event of a claim.

Radiant Heat System Installation

Species	Muskoka products
Hickory	Gallery No
Rift & Qtr. Sawn Brazilian Cherry	Architectural Yes**
Maple	Solid Sawn Yes**
Tigerwood	Northern Solid Sawn Yes**
Red Oak	
White Oak	** check Species list

Effective February, 2014

* Indicates species that are more susceptible to movement and special attention must be taken to adhere to maximum temperatures.

For more detailed information about the Radiant heat warranty, please contact a Muskoka dealer.

General Care & Maintenance for all Muskoka Hardwood Floors



Vacuum and sweep your floor as often as required to eliminate dust and debris from your floor. This may have to be done on a daily basis; depending on the amount of traffic in your home. Use Muskoka's Maintenance Kit as needed to remove grime. Apply cleaner to mop head, never directly to the floor.



Never clean your hardwood floor with water or use a cleaner that is mixed with water. Do not use vinegar, bleach, household cleaners or any oil based detergent on your hardwood flooring. These can also leave a greasy and/or cloudy film or damage the finish.



Keep floor mats at all entranceways to keep dirt and moisture from being tracked on your floor. Place walk off mats at all exterior entrances. This will capture much of the harmful dirt before it ever reaches the hardwood floor. Shake out, wash and vacuum mats and rugs frequently.

To avoid water marks, never let spills of any type remain on the surface of the floor. Wipe up spills immediately.

Rotate area rugs occasionally to minimize discoloration from sunlight.

Use adequate floor protection (felt pads) under all furniture and chair legs, in order to ease their movements and to prevent scratches and dents. Replace as required or regularly.



When moving heavy furniture or appliances, put a large heavy blanket underneath them to avoid scratches and dents.

Do not wear high heels on your hardwood floor. Spiked shoes exert approximately 1000 pounds per square inch. Old, unprotected tips will dent any hardwood floor.

Try to maintain an average humidity level of 45% in order to minimize the expansion and contraction in your floor. Use a hygrometer to help monitor humidity levels through out the home. Available on Muskoka's website or dealer.



Minimize surface scratches by keeping your pets nails trimmed.

Heavy Gauge or Deep Scratch Repair:

Vacuum and clean the floor with Muskoka Floor Cleaner and let the floor dry. If you have removed the finish and stain and are seeing the unfinished wood, use color matched pen & fill stick to color the unfinished wood fibers (if the floor is natural no stain is required.) Stay within the line and try not to color on the unaffected area. Muskoka has color touch up kits to match all standard colors offered. Let dry. Available on Muskoka's website or dealer.



Care and Maintenance for UV Urethane Oil finish floors

Muskoka Flooring recommends the Loba care and maintenance products to be used on any Muskoka UV oiled flooring. Loba and Muskoka have tested with these products on all Muskoka UV Oil hardwood flooring.

Regular dirt and dust removal for residential:

Vacuum and sweep your floors as often as required to eliminate dust and debris from your floor.

Light traffic for residential use: 3-7 days.

Use the Muskoka Hardwood Cleaning kit that has been specially formulated to eliminate streaking and residue. Never clean your hardwood with a steam mop, wet mop or use vinegar or bleach.

Note: Before using any Oil product, prepare a sample or test area to determine compatibility, appearance and desired results.

UV Oil Maintenance care for residential:

Minor, superficial scratches as well as dull areas on the surface can be sealed and protected and in some cases can be completely removed by applying Loba Aqua Oil.

1. Vacuum and clean the floor with Muskoka Hardwood Floor Cleaner and let the floor dry.

2. Apply a thin film of Loba Aqua Oil with a rag or a mop on the affected area or over the entire floor. The product will dry quickly and the floor can be walked on carefully. Resume normal use after 12 hours. Loba Aqua Oil can be used as frequently as desired. The product will form a sacrificial layer which will wear off with regular use. Therefore it is recommended to reapply the product regularly, or as required. If you notice any portion of the floor that is starting to fade and is showing signs of wear, this is an indicator that you should be applying a coat of the Loba Aqua Oil.



For complete recoating of the UV Urethane please contact an authorized Loba dealer for professional care.

Warranty Exclusions

The following are excluded from all Muskoka warranties

Any damage or failures, but not limited, to the following are not covered by Muskoka's warranty.

The finish wear surface must be easily noticeable and cover at least 15% of the total floor area for a claim to be considered.

Damage or structure failure relating to installation and interior conditions that do not comply with Muskoka's installation requirements.

Damage due to improper care or failure to comply with Muskoka's maintenance and care instructions.

Structural Defects natural in the wood where the finish cracks, contains voids, or color variation that appear on the surface of a knot, check, split, hole or similar naturally occurring wood character in the grade.

Natural expansion, contraction and tensions caused by woods reaction to humidity variations.

Wood displacement due to nailing, stapling or installation (i.e. Dimpling & Nail pops)

Gloss changes due to wear or use, including variation in replacement boards.

Damage due to water, spills, steaming, excessive cleaner, wet mopping, moisture, sink /dishwasher / pet bowl / planter spills that will cause distortion of the wood and blistering and peeling of the finish.

Dents, scratches, high heel marks, pet damage, chemical & adhesive damage. Use of tape except 3M blue tape.

Natural discoloration of the finish, aging, fading or darkening of the wood and excessive exposure to sunlight, including uneven discoloration under rugs & furniture.

Natural color and character marks in the wood as allowed in the grade (Samples do not show all possible character marks allowed in the entire floor).

Environmental extremes of heat, dryness or humidity that exceed the product specified humidity range.

Construction damage, in particular on textured surfaces, can contaminate the naturally occurring or intended undulations in the surfaces (i.e. Drywall dust).

In all cases, any warranty, remedy, or repair must first be approved by Muskoka Hardwood Flooring. Action taken prior to Muskoka's approval will void the warranty claim.

The corrective action to remedy any warranty issue is the exclusive right of Muskoka Hardwood Flooring.

This Warranty only applies to defects in excess of the 5% on boards under 4" and 8% on boards 4 1/4" or over.

Muskoka's liability under this warranty is limited to the replacement or repair, of any portion of the floor, solely at Muskoka's discretion, and only up to the total purchase price of the floor (excluding installation). Muskoka will not be liable for other costs, including labor, installation, moving, or accommodation costs.

The warranty is only to the original purchaser and cannot be transferred.

Any defect or warranty claim must be submitted in writing to Muskoka Hardwood Flooring within 6 months of the occurrence of the issue giving rise to the claim.

Filing a Claim

To file a claim, contact your authorized Muskoka Hardwood Flooring Dealer or Builder where you made your purchase. They will assess and complete a claim form if warranted, that will require the details of original purchase, payment confirmation, installation, environment conditions and details of the issue.

Muskoka at its discretion reserves the right to: be provided detailed pictures of the floor, access for inspection, and/or removal of samples for analysis.



Prefinished Hardwood Flooring™

Muskoka Installation and Maintenance Information

This Installation and Warranty Card is for all Muskoka Product lines.

General Installation Instructions for all products

Ensure the site environmental conditions are suitable for installation and take record. This includes: Relative Humidity, Subfloor or Concrete Moisture Reading, condition of product to be laid, sources of water or humidity extremes. Do not continue, if any of the conditions in these directions and warranties are not met and/or according to the NWFA instructions.

Ensure all other trade activities are completed as they may impact the quality of the installed flooring. Wood flooring is one of the last products to be installed at a construction site. Window, door, dry walling and painting and HVAC activation (on for > 7 days) must be completed and dry before installation begins. This is to avoid humidity extremes and damages that void the warranty.

Acclimatize the product according to the product directions (many Muskoka products are designed to install and perform better without acclimatization). See more information below.

Ensure the subfloor is perfectly level (1/8" per 8'). Level high spots and fill low spots as required. Ensure the subfloor is firmly anchored ensuring no movement, flex or squeaking.

Ensure the subfloor is less than 12% MC and record readings, subfloor must be within 4% of the actual floor being installed.

Thoroughly sweep and vacuum the area the flooring is to be installed.

Prepare installation along longest straightest wall first using long pieces for starting row and across (perpendicular to) floor joist.

Open and select products from multiple boxes to ensure an appropriate mix of lengths, wood character and color.

Inspect each piece before installation. Do not install any defective piece or piece that has a color, character or grain etc. that may not suit the look of the floor and may be displeasing to the consumer. These pieces can be cut and used for starters, installed in a less conspicuous location (E.g. Closet, under Cabinets etc.) or discarded. If you choose not to install these pieces please note they are not covered by Muskoka's warranty.

Preparation of Plywood & Concrete Subfloor

Muskoka Hardwood Flooring recommends that all Muskoka Hardwood Flooring be installed with a minimum of 5/8" (15.8750 mm) A.P.A. approved, C.S.P./D.F.P. stamped plywood, or 3/4" O.S.B. Underlay grade PS2-92 rated, or concrete slab. The use of particleboard as a subfloor will automatically void the warranty. Consult your Authorized Muskoka Dealer for recommendations on your specific subfloor application. Any failure of Muskoka Hardwood Flooring relating to improper subfloors, or subfloor preparation is not the responsibility of Muskoka Hardwood Flooring, and will not be covered under warranty. Sweep and vacuum subfloor. Ensure that old carpets, oils, foreign particles, protruding nails, carpet glues, etc., are removed prior to installation. For wood subfloors, make sure they are level, clean, dry and securely fastened. Repair and/or replace any section that is rotted or damaged. **Always follow local building codes.**

Do not install Muskoka's Gallery Solid hardwood flooring over concrete unless an acceptable plywood subfloor and vapor barrier is firmly anchored over sleepers and a dehumidifier is in place to continuously remove excess humidity from the room.

Moisture Content

Acceptable subfloors & ground levels installations for Muskoka Product

Gallery Solid	Plywood, OSB	At or Above ground level only	Nail
Architectural Engineered	Plywood, OSB or Concrete	At, above or below ground level	Nail, glue or float
Solid Sawn	Plywood, OSB or Concrete	At, above or below ground level	Nail, glue or float
Northern Solid Sawn	Plywood, OSB or Concrete	At, above or below ground level	Nail, glue or float

Plywood: The maximum moisture content (MC) for plywood should never exceed 12%.
Concrete: The maximum moisture content for concrete should never exceed 12%.
The difference between the flooring and the subfloor should never exceed 4%.

Tools & Accessories - For all types of Installations

Table saw, miter saw, measuring tape, nail set, hammer, tapping block, nail gun (manual or pneumatic), square, chalk line, putty fill, broom, dustpan and Muskoka Cleaning Kits. Always consult the dealer you purchased your flooring from for appropriate installation tools.

Tools & Accessories - Nail Down

15 lb felt or equivalent, nail gun or staple gun (manual or pneumatic), square, chalk line, putty fill, broom, dustpan and Muskoka Cleaning Kits. See Chart #4 for nail gun & cleat recommendations.

Tools & Accessories - Glue Down

Trowel, cleaning solvent and moisture cured glue – See Chart #5 for recommendations.

NOTE: It is extremely important that you use the proper trowel to ensure maximum coverage and produce a good bond between subfloor and flooring. You may also require a 100-150 pound roller.

Tool & Accessories - Floating Floors

Muskoka T & G glue, Muskoka's Premium Underpad, mineral solvents (for cleaning glue), and shims.

** All flooring strips should be installed perpendicular (right angle), to the floor joists. In some applications, installing parallel to floor joist may be required for aesthetic reasons. Consult your dealer, installer, and developer for their recommendations and building code requirements.

Installation - Expansion Gap allowances

Gallery 3/4"	Leave 3/4" around entire room
Architectural 9/16"	For Nail & glue down leave 1/2". Floating leave 5/8" around entire room
Solid Sawn 3/4"	Leave 3/4" around entire room
Northern Solid Sawn 3/4"	Leave 3/4" around entire room

For floating floors a 3/4" expansion gap must be left up against all vertical obstructions

(Chart #1)

Material Acclimatization

Gallery:

Open boxes fully (never just the ends) and allow the wood to acclimate to the ambient temperature of the room. The wood must be given 48-72 hours at approx. 23° C (72°F) and a relative humidity of 40% before installation. Special note: In some instances you may not be able to acclimate flooring.

When the relative humidity is too high or too low (above 50 % and below 40 % RH), acclimating may not be suitable. Always consult your hardwood flooring dealer or installer for their recommendations. Expansion and contraction caused by acclimating is not covered under this warranty.

Architectural, Solid Sawn and Northern Solid Sawn :

Do not acclimate. Flooring must be installed immediately upon opening the boxes.

Hardwood flooring should be one of the last items installed when renovating your home. For new construction, the heating system must be operating for at least one week (7 days) at normal residential temperatures (approx. 70°F / 22°C) prior to installation.

Additional Allowance Recommendations

This will cover waste, defects or personal preference of boards. It is the installer's and owner's responsibility that all pieces be inspected, and graded prior to installation. If any piece does not meet installer/owner's personal standard, do not install these pieces. If you choose not to install pieces because of appearance, length of piece, or your personal visual standards, this will not be considered part of the 5% defect allowance. It is also recommended to have additional materials kept in case of future repairs.

2 1/4" - 4 3/8" widths - 5% additional
5" - 7" width - 8% additional

(Chart #2)

Important Notes

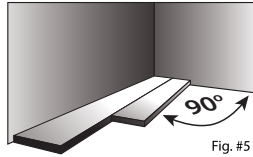
FOR ALL INSTALLATIONS - ALWAYS WORK FROM 5-6 DIFFERENT BOXES AT ONE TIME

The installer is the final grader. Installer/homeowner will take full responsibility for all flooring that is installed, even if the primary owner of the residence is absent at the time of installation. If you are unsure of any requirements, please consult a Muskoka dealer prior to installation. Although Muskoka Hardwood Flooring takes every precaution to ensure that Muskoka's Hardwood Flooring is graded and shipped to industry standards, we suggest you inspect each piece of Muskoka Hardwood Flooring before installation. Boards that you may not like the look of, or contain a mark that you think will affect the look of the floor should be used as cut pieces for your start/end pieces. You may also use these pieces in less conspicuous areas such as in closets or under couches and sofa's etc.

Nailed Down Application

See Chart #4 for nail gun and cleat recommendations

Step #1 – Mark your starting line using a chalk line, draw a guide line out from the starting wall by measuring out the width of one board plus (see Chart #1). This line is where your first strip of flooring is going, and also allows for the expansion gap. It is very important for the starting line to be straight and square (see Fig.#5).



Step #2 – Install the strips

Face nail or glue using a moisture cured adhesive (best practice) on the first row of strips with the grooved side facing the wall; put the nails as close to the wall as possible. This way, the quarter round will cover the nail heads. You may have to face nail for the first few rows before there is enough room to use the nail/staple gun. It must be nailed/stapled down or glued by hand rather than with the hardwood floor-nailing machine because of the vertical wall obstruction. When clearance allows, start using the hardwood floor nail/staple gun. Nails/staples should be spaced a minimum 2" - 3" (57 - 76 mm) from both ends of the boards, and for all other nails/staples, see Chart #3. Measure and cut the strip to the required length to finish the first row. The remaining section should be used to start the second row, in order to minimize cut waste. The strip selection for completing the first row must be long enough to yield a remaining section of adequate length. Leave the required expansion gap (Chart #1) between the wall and the end of each strip in each row. The subsequent rows must be installed in the same manner. Don't be afraid to waste a few strips in order to adjust and test the nailing machine. See Hardwood Floor Nailing Tips. When you reach the last few rows, you may not be able to complete these rows with the nail/staple gun, due to vertical obstructions. Toe nail, face nail, or glue the last remaining rows. NOTE : You may have to rip the last strips along the wall in order for them to fit properly. Don't forget to leave the minimum space for expansion (Chart #1).

Step #3 - Finally

Install the transition pieces, baseboards and/or quarter round moldings. Following the initial installation, vacuum thoroughly and clean the floor with your Muskoka Hardwood Cleaning Kit. For detailed installation guidelines for your specific installation, contact your Authorized Muskoka Hardwood Flooring Dealer.

Installing over a crawl space: You may install over a crawl space providing care has been taken to cover all areas of exposed earth with a 6 mm C.G.S.B polyethylene. You must also ensure that sufficient cross ventilation exists so that no moisture will accumulate and be absorbed in the wood flooring. Always follow local building codes.

Wood Displacement (Dimples on Surface)

Hardwood Flooring, dense smooth woods in particular, may show dimpling on the surface from the displacement of wood by the fastener. Muskoka Flooring should not dimple providing installation is adhered to. Therefore, dimpling is not covered under Muskoka's warranty. It is the responsibility of the installer to monitor and take immediate action if dimpling occurs. (i.e. adjusting air pressure, using smaller cleats, adjust/repair nail driver pin, adjust nailer shoe angle etc).

Nailing Pattern/Schedule

	Ends of the boards	Along the board
Gallery (all widths)	2" - 3"	6" - 8"
Architectural (all widths)	2" - 3"	4" - 6"
Solid Sawn (3 1/4" - 4")	2" - 3"	6" - 8"
Solid Sawn (5" - 7")	2" - 3"	4" - 6"
Northern Solid Sawn (3 1/4")	2" - 3"	6" - 8"
Northern Solid Sawn (4 3/8" - 5")	2" - 3"	4" - 6"

(Chart #3)

Hardwood flooring Nail Gun & Fastener Recommendations

Gallery Solid	16 gauge or 18 gauge 1 3/4" - 2" cleats
Architectural Engineered	Bostitch EHF1838K staple gun using 18 gauge 1 1/2" staples
Solid Sawn	18 gauge 1 3/4" - 2" cleats
Northern Solid Sawn	16 gauge or 18 gauge 1 3/4" - 2" cleats

Recommendation based on the approved subfloors. Anything outside of this guideline, contact a Muskoka dealer.

(Chart #4)

Hardwood Floor Tips

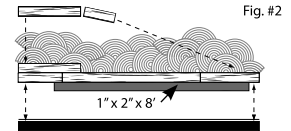
Here are a few tips to make your job easier, should you decide to use a hardwood floor nailer or staple gun.

1. Prevent any scratches and indentations on the surface of the board by keeping the nailer plate (base) clean, free from nicks and scratches at all times. Also by putting down the nailer/stapler on the plywood or on a piece of cardboard, not directly on the prefinished floor.
2. Make sure the nailer/stapler base is squared and sits well on the edge of the strip to ensure the nails/staples are secured into the nailing channel at the proper angle to prevent dimpling and damaging the edges of the strips.
3. Verify regularly the hardwood floor nailer/stapler is in working condition to prevent damages to the strips.
4. Start the second row and subsequent rows with a strip of at least 6" (150 mm) longer or shorter than the strip used in the previous row. This will eliminate unsightly step effects. The remainder of the floor should follow this rule to ensure an aesthetically pleasing floor.

*Pneumatic nailer. Air pressure should be adjusted adequately for each species of hardwood floor being installed and checked regularly (always try it before using) so that the cleats are seated properly in the nailing channel to avoid dimpling. *Great attention to detail during fabrication on the part of the Muskoka Hardwood Flooring team ensures exceptional QUALITY in the finished product. Longevity of hardwood floors is directly related to proper installation and lifetime commitment to appropriate care and maintenance.

Glue Down Installation Instructions

Step #1 – Mark your starting line Muskoka Flooring recommends that your Muskoka Hardwood Flooring be installed parallel to the longest, straightest wall in the room. Start by measuring out from the wall 10 boards wide. Example: for 3.25" Solid Sawn flooring, 10 x 3.25" = 32.50"; plus the expansion gap of 3/4" which totals 33.25" from the wall. See Chart #1 for expansion gap widths for all products. Using a chalk line draw a guideline parallel to the wall based on the above measurements. This will eliminate any ripping of material at the end of the job for the last row. Using the straightest pieces of 1"x 2"x 8" length of wood and 2-inch concrete nails or screws, fasten the strips to the concrete. Your first row of starter boards will butt against this, so make sure that the strips are in line with the chalk line because this will determine how straight your floor will be.



NOTE: If you are cutting a piece that has not been set aside for cutting, make sure it is long enough to yield your next row's starting piece. Leave the expansion gap (See Chart #1) between the wall and the end of each strip in each row. See Fig #2.

Step #2 – Spread the adhesive

NOTE: Muskoka Hardwood Flooring: only recommends installations when a moisture-cured polymer glue is used. Follow directions of glue manufacturer. Do not use latex/water based glues. Apply the recommended adhesive with a trowel according to the manufacturer's installation instructions (found on adhesive pail) for the specific adhesive that is being used. SPECIAL NOTE: Open time and installation on adhesives vary from manufacturer to manufacturer so read instructions carefully before starting. Open time can also be affected greatly depending on the temperature and humidity. See Chart #5 for Adhesive recommendations.

Step #3 – Install the strips

You should inspect each piece of Muskoka Hardwood Flooring before installation. Boards that you may not like the look of, or with a flaw that you think will affect the look of the floor, should be used as the cut pieces for your start and/or end pieces. You may also choose to put these pieces in less conspicuous areas such as closets or under couches, etc. Start your first piece with the tongue facing the area that will be completed last. Line up the tongue of the boards against the holding strip, and then press the board into the adhesive. Working from left to right, lay the next board and continue working towards the right, until you reach the wall and require a cut piece. Choose one of the pieces set aside for cutting and cut the desired length. NOTE: If you are cutting a piece that has not been set aside for cutting, make sure it is long enough to yield your next row's starting piece. Leave the expansion gap between the wall and the end of each strip in each row. Start the second row with a strip of at least 6" (150 mm) longer or shorter than the strip used in the first row. This will eliminate unsightly step effects. The remainder of the floor should follow this rule to ensure an aesthetically clean looking floor. Minimize adhesive from getting into the tongue or groove; otherwise, the strips of the flooring may not fit tightly. If adhesive gets on the finished side of the strips, clean immediately with appropriate cleaning products - see adhesive manufacturer's recommendations.

Flooring may require slight tapping in order to ensure a tight fit. You may use 3M's blue tape (if required), to hold pieces together until glue bond has developed. If a roller is required to obtain maximum adhesion, wrap a foam sheet around it to minimize any damage to the surface of the floor. When you get to the end of the wall, you may require a pry bar to get the pieces tight. Use shims where required until the glue has dried.

Step #4 – Installation of Accessories & Cleaning

After the floor has dried, you may install the baseboards and quarter rounds. Make sure that the nails penetrate the wall and not the floor. NOTE: Always keep left over pieces for future use. Flooring may become damaged and require replacing several pieces. It's a good idea to have the same production dates put aside. Use a vacuum to pick up any dust and loose fibers. Using your Muskoka Cleaning Kit, available at all Authorized Muskoka Dealers or visit us at www.Muskokaflooring.com and follow instructions and clean the whole floor.

Moisture Cured Adhesive Recommendations

For all glue down installations of Architectural, Solid Sawn or Northern Solid Sawn Dural, AF2130 or equivalent Urethane based or polymer adhesives are acceptable. Muskoka does not warranty the adhesive, check manufacturers warranty information.

(Chart #5)

Floating Floor Installation Instructions

Sweep and vacuum the subfloor before laying any material. Make sure that any high points in the subfloor are removed, cleaned and sanded and any low points are filled with leveling compound.

Muskoka's Premium Underpad Installation

For installations of Muskoka Architectural, Solid Sawn or Northern Solid Sawn

Step #1 - After the subfloor has been cleaned, roll out Muskoka's premium acoustic underpad. Unroll the underpad with the film coated (shiny side) facing down against the subfloor. Cut the underlayment about 2" longer than the room length. Butt the edge of the first sheet, (the edge without the overlapping film), along wall and trim to fit adjacent walls. Bring the edge of the adjoining sheet to the first sheet so that the edges of the foam meet and the overlapping film underlies the second sheet. Secure the edges of the foam together with tape strips. Repeat this procedure until the entire room is covered; Muskoka recommends running 2" of underlay up the sides of the walls. This excess will be covered by the baseboards. It will prevent excess moisture from the concrete migrating to the floor.

Architectural, Solid Sawn & Northern Solid Sawn Products

Step #2 – Laying the wood floor

Using the longest pieces available, lay the first row against the longest and straightest wall. Carefully apply glue into top of groove along the whole length of the piece, using Muskoka's T & G glue (available at your Authorized Muskoka Dealer) specially designed for Muskoka's hardwood flooring. Lay the first piece with the grooved edge against the wall. If the wall is not square, use wedges/shims between the flooring strips and the wall to achieve the desired expansion gap. Start the second row with a strip of at least 6" (150mm) longer or shorter than the strip used in the first row. This will eliminate unsightly step effects. The remainder of the floor should follow this rule to ensure an aesthetically pleasing floor. Clean any glue that gets on the finished side of the flooring before the glue dries. Flooring pieces may require slight tapping in order to ensure a tightfit. You may use 3M's blue tape, if required, to hold pieces together until glue bond has fully developed. Rip the strips for the last row to the required width, not forgetting to allow for expansion. Use a crowbar to ensure tight fitting boards, use shims to hold in place until glue has dried. Remove the shims 24 hours after installation.

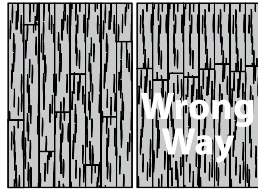


Fig. #3

Muskoka Hardwood Flooring
409, Evans Avenue, Toronto, ON Canada M8Z 1K8
416-521-6100 or 1-877-256-0231
muskokaflooring.com

