EDELWEISS
WOOD FLOORING

GENERAL WOOD FLOORING GUIDELINE

Regular Care

- Protect floor in entryways with area rugs.
- Avoid standing water-- flower pots, vases, leaking appliances.
- Sand, gravel and loose dirt should not be allowed to build up—vacuum and sweep regularly.
- Apply felt protectors on all furniture legs.
- Don't use any area rugs with latex or rubber backing. Chemical reactions with the surface could occur.
- The most effective basic cleaning is dry cleaning (daily vacuuming and/or sweeping) to remove abrasive sand and gravel. When the floor is still dirty and needs more than dry cleaning, maintenance with manufacturers recommended product can be used.
- When mopping, only use a damp, well wrung mop. (Well Wrung Mop: When damp mop is held above the bucket, it does not drip).
- Over cleaning with moisture and/or using the wrong products can cause damage to wood floors and their finish!
- The sun can have the effect of darkening wood flooring when it is newly installed. Areas where furniture and rugs block the sun will remain lighter until the sun has the opportunity to reach those areas.

Wood Flooring Has a Comfort Level

Wood Flooring will perform best when the interior environment is controlled to stay within a relative humidity range of 30% to 50% and a temperature range of 60 to 80 degrees Fahrenheit. Fortunately that is about the same comfort range that most humans enjoy. The chart below indicates the moisture content wood will likely have at any given combination of temperature and humidity. Although some movement can be expected even between 6% and 9% humidity, wood can expand and contract dramatically outside that range.

Temperature (Fahrenheit)

50	4.6	5.5	6.3	7.1	7.9	8.7	9.5	10.4	11.3
60	4.6	5.4	6.2	7.0	7.8	8.6	9.4	10.2	11.1
70	4.5	5.4	6.2	6.9	7.7	8.5	9.2	10.1	11.0
80	4.4	5.3	6.1	6.8	7.6	8.3	9.1	9.9	10.8
90	4.3	5.1	5.9	6.7	7.4	8.1	8.9	9.7	10.5
Humidity	20	25	30	35	40	45	50	55	60

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Edelweiss Wood Flooring would like to give you some information and to point out to potential customers some items that should be considered when purchasing wood flooring for your home. We are doing this so you will understand how wood flooring acts in a cold dry climate and what you can do to minimize problems with your floor. Please let us know if you have questions this document does not cover.

Humidity

The concerns of relative humidity control have been addressed by all major wood flooring manufacturers and are clearly documented by them and the National Wood Flooring Association.

The need for humidity and temperature control is extremely important in dry climates and it is the responsibility of the homeowner to keep the relative humidity and in-floor heat within a constant and acceptable range. Experts differ slightly on the range they feel is the most appropriate, but a consensus would be between ***30% and 60% relative humidity***. Any in-home environmental conditions at the low end of, or below, this range could result in drying and cracking of any wood. Even if the atmosphere is generally controlled within this range, there will still be some movement as the seasons change and the relative humidity moves up or down. Wood is a natural product and its limits must be respected. Since the lack of humidity has such a profound effect on properly manufactured and installed wood flooring, manufacturers do not consider some plank separation or cracking to be defects that would be covered under warranty. In climates with high relative humidity levels (above 60%), the wood-flooring product must be acclimated before installation to pick up moisture.

Important Points to Consider

- It is the responsibility of the homeowner to keep the relative humidity within a constant and acceptable range. Consideration of an appropriate humidification system should be given when the home is designed.
- Even if the atmosphere is generally controlled within this range, there will still be some movement as the seasons change and the relative humidity moves up or down.
- Wood is a natural product and its limits must be respected. Because extremely low humidity has such a profound effect on properly manufactured and installed wood flooring, manufacturers do not consider some plank separation or cracking to be defects that would be covered under their warranty.
- Engineered wood flooring is more stable than solid wood flooring and will not shrink or expand as much. However, it is still an all-wood product that will react to swings in humidity.
- Solid wood floors generally will expand and contract more than engineered floors resulting in larger gaps between the flooring boards during dry times of the year.
- Extremely dry conditions (those below 30%) will result in gaps between solid wood planks. The size of the gaps will depend upon the size of the planks. The wider the plank, the wider the gap.
- Extremely dry conditions (those below 30%) will also result in gaps between engineered planks. However, they will not be as wide.
- Extremely dry conditions (those below 30%) may also result in cracks and checking in the surface of both engineered and solid planks. These are not considered defects and are not covered under manufacturer's warranties.

Additional Items for Consideration

Just as too dry an environment can cause damage to wood floors, an environment that introduces too much moisture into the wood can also cause damage.

- Subfloors, whether they are cement or gypsum based products or other wood products, must have moisture contents that are within National Wood Flooring Association guidelines.
- Too much moisture can cause planks to swell and then change shape as they are restricted in their movement.
- Systems such as “swamp coolers”, which do not have humidity controls must be monitored to prevent too much moisture being introduced into the environment.
- If high volume humidifiers, such as “swamp coolers” are used, a polyurethane finish would be suggested to delay as much as possible the effect of the humidity on the floor.

In-Floor Radiant Heat

In-floor radiant heat is becoming more popular as the primary heating system in this region. Here are some things to keep in mind when planning a wood floor over radiant heat.

- In-floor radiant heating systems must be 100% functional with working thermostats before the wood flooring installation begins. National Wood Flooring Association Guidelines call for hardwood flooring never to be hotter than 85ºF at its surface. ***Manufacturers of engineered flooring call for the temperature never to exceed 82°F at the flooring surface.*** It is very important to understand what the requirements are for your new floor. Overheating traumatizes wood fibers causing stress fractures that may show up as small cracks in the surface of planks.
- Overheating damage can also occur when a non-skid pad or rug that is too thick traps heat. Non-skid pads should be no more than 1/6” to 1/8” thick and should be made of perforated material so heat is not trapped. Consideration should be given to the thickness of the rug and/or rug and non-skid pad combination.
- In rooms with cathedral ceilings and in-floor radiant heat system may be inadequate to heat the entire room without an additional heating source. In order to heat these large spaces in-floor radiant systems may be pushed to exceed the recommended temperature of the wood floor manufacturer and cause damage to the floor. **Consult your heating professional.**
- Consideration should be given to installing thermostats to control the in-floor hot water temperature to reduce the chance of overheating the floor planks and causing damage.
- If the relative humidity cannot be kept in a comfortable zone for the wood, Edelweiss Wood Flooring recommends the installation of a **Fidbox per heating zone.** The Fidbox will alert you (via message to your cell phone) if the relative humidity and/or temperature fall outside of the acceptable range.
- Design and construction of the heating system should allow for as many heating tubes as possible to distribute heat evenly throughout the floor and not cause hot spots.
- If heavy floor protection, such as masonite, is used during construction, the in-floor heat should be off or run at a very low temperature to ensure heat is not trapped.
- Wood flooring can be stressed and damaged by trying to bring the temperature of your house up too quickly with in-floor radiant heat. Thermostats should gradually be moved up, at the rate of 4°F per 24 hours for the first 48 – 72 hours, to allow the wood floor to absorb heat slowly.

Large Expanses of Windows

Large expanses of windows in rooms with high ceilings can contribute to overheating of wood floors when there are no window treatments to mitigate the heat generated by direct sunlight.

Oil and Wax or Polyurethane Finishes

There are advantages and disadvantages to both types of finishes that are listed below:

Oil and Wax:

- Oil and wax finishes are more natural looking with a much lower sheen. As the floor is refreshed and lived on over time a low luster patina develops.
- They are, however, higher maintenance and require yearly or semi-yearly refreshing. This maintenance generally should be done by a professional.
- Oil and wax does not provide the same level of protection from stains and liquid spills as does polyurethane.
- Spot treatments of scratches are easier to repair.
- The oils and waxes are applied and soaked into the wood during manufacturing of the wood planks. This gives the wood a very natural matte finish. Oils and waxes are used extensively in Europe and are very popular in commercial applications.
- If maintained regularly, these finishes will lengthen the life of your hardwood floor because the need for sanding and refinishing procedures can be prolonged.
- Special concentrated solutions *(made by the chosen finish manufacturer)* have been developed to add to the cleaning water and constantly feed nutrients into the floor.

Polyurethane:

- Polyurethane provides a solid barrier to protect your wood floor.
- It is easier to maintain and is in general lower maintenance.
- Scratches are difficult to spot repair.
- The finish appearance is generally glossier, although low luster polyurethane finishes are available.
- Before the poly finish has been worn through, the floor can be lightly screened and an additional coat applied. If the finish wears through, a complete sanding and recoating is needed.
- With a polyurethane finish, humidity changes will not cause the floor to expand or contract as quickly.