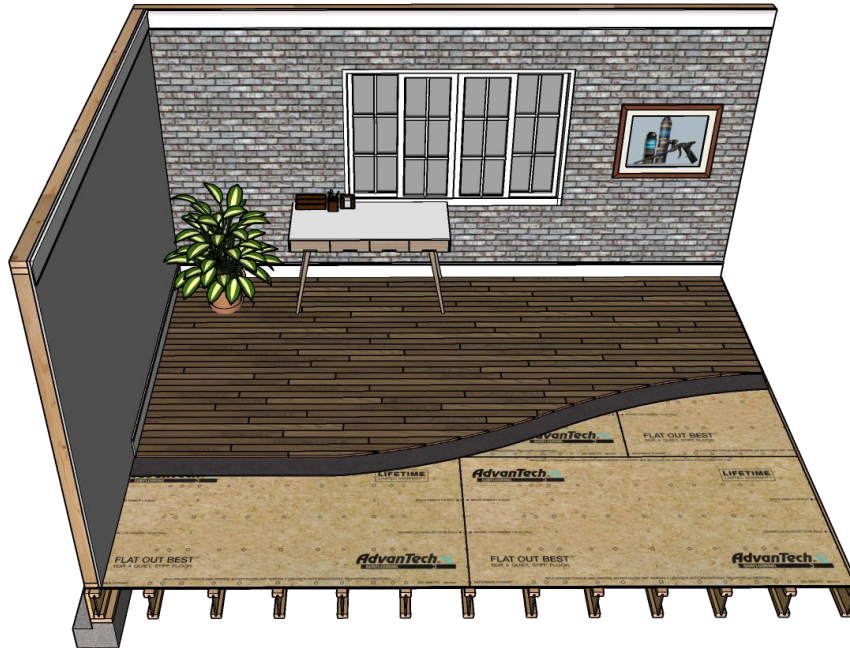


Hardwood Flooring over AdvanTech® Subflooring

AdvanTech® subflooring is an excellent substrate for a variety of floor coverings including hardwood flooring. The following steps outline the construction sequence for hardwood flooring installation over AdvanTech® subflooring.



Step 1: AdvanTech® Subflooring Installation

- Joists spaced a maximum of 19.2" o.c.^a
- Minimum panel thickness is 23/32".
- Install panels with long dimension perpendicular to supports.
- Apply a continuous 1/4" bead of construction adhesive to joists. Use only polyurethane or solvent-based adhesives which conform to industry standard AFG-01 or ASTM D 3498.
- Use #8 wood screws or 8d ring shank, screw shank or common nails for 23/32" thick panels. Use #9 wood screws or 10d ring shank, screw shank or common nails for thicker panels. Space fasteners no greater than 6" o.c. at supported ends and no greater than 12" o.c. at intermediate supports.
- Provide 1/8" expansion gap at 4-foot ends. The tongue and groove joint is self-spacing.
 - a. Truss/joist systems spaced greater than 19.2" require a nominal 1" thick OSB subfloor or must be installed as a 2-layer floor system. For 2-layer systems, the first layer should consist of 23/32" AdvanTech, while the second layer must be a minimum 15/32" subfloor panel. For fastening guidelines, please see Technical Tip, [Installing 2-Layer AdvanTech® Flooring](#).



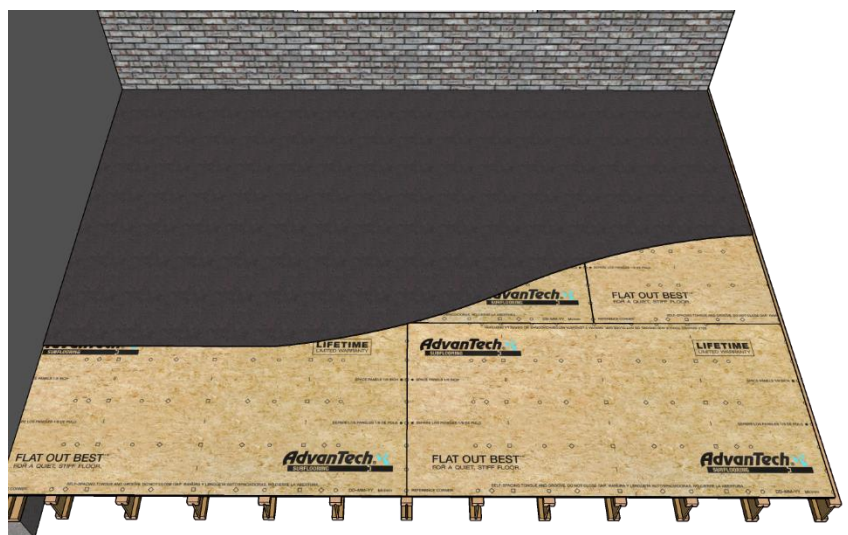
Step 2: Hardwood Flooring and AdvanTech® Subflooring Acclimation

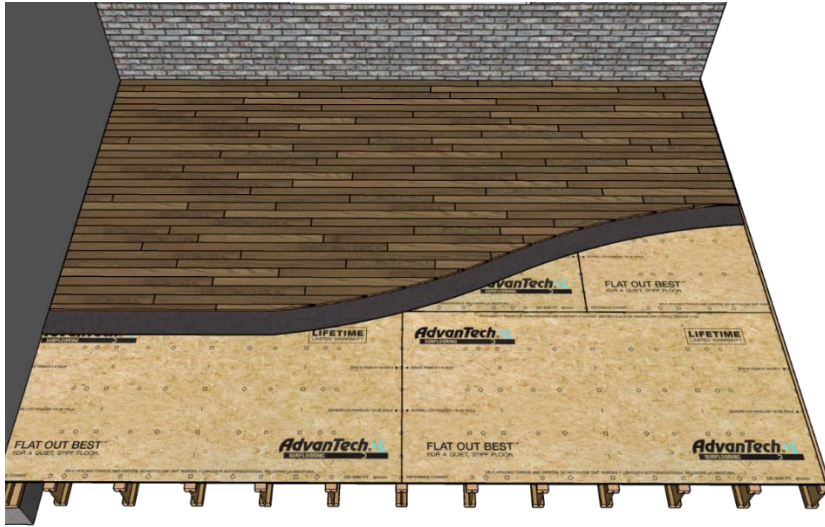
The proper acclimation (conditioning) of the wood subflooring and hardwood flooring is a crucial step in the installation process. This step, during hardwood flooring installation, ensures that the flooring material and environment in which it is installed share a suitable moisture content (MC). A lack of acclimation can yield surface deformation issues such as crowning or cupping. The target moisture content for the wood subfloor and hardwood flooring depends on the region in which the floor is installed. For example, drier regions may require conditioning to a lower moisture content to match the surrounding environment. Please refer to the National Wood Flooring Association (NWFA) Wood Flooring Installation Guidelines to determine the proper moisture content range. The tips below should be followed, regardless of the target moisture content.

- Although AdvanTech® subflooring, typically, does not need to be sanded due to edge swell, some sanding may be required to ensure levelness of the floor system.
- When AdvanTech® subflooring is installed over a crawlspace, minimum 6 mil polyethylene sheeting or other Class I vapor retarder must be placed over the exposed ground. Also, adequate ventilation or conditioning, in accordance with the *International Residential Code, Section R408*, must be considered to control moisture.
- Ensure that the inside of the home is HVAC controlled to best represent the environment in which the hardwood flooring is to be installed. ^b For proper acclimation, conditioned crawlspaces should be activated along with the HVAC prior to the acclimation and installation of the hardwood flooring.
- A pin style moisture meter, or similar, can be used to determine moisture contents of both AdvanTech® subflooring and hardwood flooring.
- The moisture content of AdvanTech® subflooring and hardwood flooring should represent the moisture content of surrounding environment. Refer to the NWFA Installation Guidelines to determine the target MC for the specific region.
- The difference in moisture content between AdvanTech® subflooring and hardwood flooring should be within 4% for solid wood flooring strips less than 3 inches wide and within 2% for strips 3 inches wide or greater.
- Moisture contents are critical when installing hardwood flooring. Following the above recommendations may help reduce the chances of buckling, cupping and gapping of the hardwood flooring.
 - b. In colder months, avoid the use of propane heaters. Moisture produced by propane heaters may increase the moisture content of the flooring materials.

Step 3: Underlayment Installation

Some applications require an underlayment to be installed over the AdvanTech® subflooring. The need for a vapor retarder is determined by the space over which the hardwood floor is installed. In addition, acoustical underlayments may be installed over AdvanTech® subflooring to improve sound transmission ratings. Please refer to the NWFA Wood Flooring Installation Guidelines for more information regarding vapor retarders and acoustical underlayments.





Step 4: Hardwood Flooring Installation

- Make sure the AdvanTech® subflooring is dry, clean and free of dirt, dust and oily film prior to installing hardwood flooring.
- Check to ensure floor flatness satisfies finish flooring manufacturer's requirements.
- Ensure AdvanTech® subflooring is securely fastened to the joist system below.
- If necessary, install any required underlayments over the AdvanTech® subflooring prior to

installing the hardwood flooring.

- Install the acclimated hardwood flooring perpendicular to the joist system below (note: if the hardwood flooring is to be installed parallel to the joists an additional layer of a minimum 15/32" plywood or OSB underlayment should be installed).
- Hardwood flooring can be fastened to AdvanTech® subflooring with cleats, nails or staples. Refer to the hardwood flooring manufacturer's installation requirements or the NWFA Wood Flooring Installation Guidelines for fastener and fastening schedule requirements.
- Install hardwood flooring in accordance with the manufacturer's installation instructions or the NWFA Wood Flooring Installation Guidelines.

For additional resources regarding hardwood flooring installation contact:

National Wood Flooring Association (NWFA) <https://nwfa.org>

For more information on hardwood flooring and other floor coverings installed over AdvanTech® subflooring, contact the Huber Engineered Woods Technical Services Team at 800-933-9220 or email techquestions@huber.com