



Potential Winter Construction Challenges

Precautions are needed on the construction sites to avoid potential challenges associated with cold and sunny winter weather conditions. Neglecting caution during cold and sunny winter weather can contribute to avoidable problems in asphalt shingle roofing installations. Shingle, peel and stick, and sealant bond failure, as well as delayed shrinkage in materials are more likely to happen in the winter installations. Winter installation concerns noted are likely not to be visible until after the spring thaw, which will likely be too late or costly and time consuming to correct.

Understanding the concerns and taking the following precautions in the winter, is usually far less costly and time consuming than coming back in six months to repair the results.

Stay on schedule and follow these guidelines.

- ☐ Cold weather precautions start with temperature falling below 50°F. Always review Manufacturer winter instructions for products and installation.
- ☐ As temperatures approach freezing, standard asphalt shingles will become brittle and more prone to breakage.
- ☐ polymer-modified shingles, which tend to be more flexible in most temperature ranges – however, at some point, cold weather affects even these.
- ☐ Substrate must be clean, dry, and frost free —always wipe surfaces to remove unseen frost. Review minimum substrate temperatures for installation.
- ☐ Be careful applying warm material on cold surfaces, because a thin layer of condensation will develop on the substrate, which will inhibit proper bond of the material to the substrate. Borderline winter installs will become an issue that could be prevented—talk to the Quality Department.
- ☐ Make sure that the Contractor provides a cold weather plan, approved by the Manufacturer for review at the pre-installation meeting.
- ☐ Provide a procedure to make sure that the shingles do not break when handled or installed (cold temps), especially at the hips, ridges, and valleys.
- ☐ Consider metal in the valleys and ridges to reduce or eliminate the bending of shingles in the field.
- ☐ Protect all materials (sealants and ice & water shield membrane) from freezing. Do not store materials outside or in an unheated truck (on -site or off-site). Most products need to be stored above 50-80°F.
- ☐ Roll peel and stick membrane out in your staging area and allow it to relax before you apply. This will help reduce wrinkles caused by the cold.
- ☐ Building a heated shanty on the roof might be needed to keep material warm and close by the installation. Make sure the heating source is safe and monitored 100% of the time.
- ☐ Store shingles properly, recommend storing them off the ground, stacked flat, to ensure they don't deform. Also, place a waterproof cover over them for further protection; do not keep them exposed to the outside elements for longer than you have to.
- ☐ Hip and ridge caps installations will require a minimum temperature to bend and cut the shingles. Your manufacturer might make pre-formed, precut ridge cap shingles that require no cutting or folding.
- ☐ shingle adhesive is heat-activated by the sun, so it may not occur until the roof experiences sufficient warm sunlight. After placing each shingle, nail it down with six nails, instead of the regular four. Once in place, gently lift the edge and apply three evenly spaced, quarter-sized spots of roofing cement. It's also important to remember some proper handling techniques for nail guns. There's a good chance it could seize in the cold weather application and there's an even better chance that you can blow through the cold shingles – especially if they are not laying perfectly flat on the roof deck. Adjust the pressure on your nail gun accordingly to bypass this common pitfall. Always follow your shingles manufacturer's instructions for cold weather application, paying close attention to your region's building codes.
- ☐ Expect roofing installation to take more time—do not rush the installation or any steps in the manufacturer winter installation instructions.
- ☐ If temporary heat is being used on the interior of the building, make sure it is INDIRECT heat.
(SEE AECOM TEMPORARY HEAT BULLETIN FOR MORE INFORMATION)
- ☐ There are new products coming out from many manufacturers that help address cold weather—contact the manufacturer representative early in the design if winter installation will be likely.

