

TECHNICAL BULLETIN

June 8, 2021

Roof Waterproofing Securement

While the roofing industry generally has fared well during the COVID-19 pandemic, supply issues are emerging, affecting the availability of materials such as screw fasteners and insulation. To keep up with construction schedules, roofing contractors have sometimes turned to whatever is available through suppliers or to what they have on hand. But when the roof design relies on a Tested Assembly that utilized specific fasteners or insulation panels, choosing appropriate substitutions may prove critical for roof performance.

When MARS and PARS membrane roof assemblies are tested using the CSA-A123.21 test method for wind uplift resistance, they are constructed with specific fastener brands, sizes, and thread configurations. These details are published in assembly test reports. Changing specified screw fasteners for a different brand, size or thread count could adversely affect the otherwise predictable performance of the assembly under windy conditions. Not all screw fasteners are made the same; the self-drilling tips are made differently, and even the thread count can vary, even when the fastener size is said to be “No. 12” or “No. 14”. So, while mixing fastener brands seems harmless when brand supplies become scarce, switching brands or screw sizes may make the difference between a roof that stays where its built, and one that ends up on the ground. Check with the membrane manufacturer of the Tested Assembly. If they approve of the alternate, obtain confirmation in writing. Alternatively, work through the consultant on site to obtain equivalency.

If fastener supply simply is too unreliable to complete a project, it may be necessary for the *Design Authority* to consider a fully or partially adhered system of securement. Of course, this means that the adhered system must be able to achieve the same Dynamic Uplift Resistance that the system using fasteners was able to achieve. Work with the *Design Authority* to find a workable solution.

Similarly, insulation panels are not necessarily all manufactured equally. This can be particularly evident when the insulation (polyisocyanurate, for example), comprised of facers that sandwich a plastic foam core, fails under negative wind loads. An internal failure of a material is more common than a failure of an adhesive bond. Internal failures, including the delamination of a facer from the product core, is referred to as a “cohesive failure”. The possibility of cohesive failures should give anyone pause when considering a product substitution. Once again, consult with the membrane manufacturer of the Tested Assembly or work with the roofing consultant on the *project*, to obtain approval of alternate insulation materials that are RoofStar-accepted materials listed in Division C of the RGC [Roofing Practices Manual](#).

For more information about securing the roof assembly, refer to Part 3 ([Securing the Roof Assembly](#)) in any roof waterproofing system Standard, or contact the **RoofStar Guarantee Program** at technical@rcabc.org.

End of Bulletin