

Development of Blisters and Pinholes in Fluid-Applied Membranes When Installed Over Porous Wall Substrates

The possibility of blisters or pinholes developing in fluid-applied membranes such as Bautex Air and Moisture Barriers (AMB-20) when installed over concrete or other porous walls exists in certain conditions. These installation issues are caused by the heating and release of water vapor trapped in the wall substrate. As the substrate temperature increases due to solar radiation, water vapor is driven out of the substrate under pressure, potentially causing the development of blisters or pinholes in any fluid-applied membrane installed on the wall surface.

These issues are more likely to occur on hot, sunny days when substrate temperatures begin low but increase rapidly. Other contributing factors include the age, porosity and moisture content of the substrate, as well as large temperature increases during or immediately after the installation of the fluid-applied membrane.

Recommendations

There are several guidelines that can be followed to minimize the development of blisters and pinholes when installing fluid-applied membranes over concrete or other porous substrates, including:

1. Avoid application on cool mornings where air temperatures are predicted to rise rapidly
2. Schedule installation in the afternoon on hot, sunny days
3. Avoid application in areas that are in direct sunlight
4. Allow the substrate enough time to cure or dry out prior to application

Applicators can also reduce the chances of blistering and the development of pinholes by applying an initial thin coat (10-mil) of Bautex AMB-20, followed shortly after with a 30-mil coat to complete the recommended wet application thickness. This two-step technique breaks the surface tension and lowers the surface temperature of the substrate through evaporative cooling, fills any surface irregularities, and allows any trapped air or water vapor to escape while the membrane is still in fluid form.

Please consult the corresponding technical data sheets for product specifications and installation instructions.

Products Affected

The following products are subject to this technical bulletin:

- Bautex AMB 20-WP Water-Borne Vapor-Permeable Air and Moisture Barrier
- Bautex AMB 20-WN Water-Borne Non-Permeable Air and Moisture Barrier
- Bautex AMB 20-SP Solvent-Borne Vapor-Permeable Air and Moisture Barrier