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Randy Beachel
TimberHaven Log Homes
434 Schwartz Road
Lewisburg, PA

Subject: *Longevity of Isoset Adhesives*

Dear Randy,

Thanks for your recent inquiry regarding the longevity of Isoset Adhesives. This is an interesting question that is unfortunately not easy to address. However I will certainly try! If this letter does not address your concerns, please do not hesitate to contact me.

On the matter of longevity, the only test that I am aware of that correlates adhesive performance to actual field life is ASTM D3434, *Standard Test Method for Multiple-Cycle Accelerated Aging Test (Automatic Boil Test) for Exterior, Wet Use Wood Adhesives*. In the development of this test, wood specimens were placed outside in multiple locations around the United States. Over a period of years, samples were cut from the exterior exposed specimens. These samples were tested for strength retention. This portion of the testing defined how solid wood behaves when exposed to exterior conditions.

The second portion of the standard development entailed finding a way to make samples degrade in the laboratory at the same rate that was seen on the large samples that were subjected to exterior exposure. Small samples were subjected to repeated cycles of being placed in boiling water then dried in an oven. The drop in strength per cycle on the small specimens was correlated to actual exterior exposure on the large specimens. It was found that exposure to 20 cycles in the ASTM D3434 Test Method corresponds to a year of exterior exposure.

Isoset Adhesives have been subjected to ASTM D3434 and have been shown to provide excellent performance after 800 ASTM D3434 cycles. This would be the equivalent of 40 years exterior exposure.

As you might suspect, the strength of wood degrades over years of exterior exposure. Isoset adhesives continue to provide excellent wood failure over the test. This means that under exterior exposures, we would expect the wood to degrade faster than Isoset Adhesives.

As I mentioned earlier, longevity of adhesives is not an easy subject to explain. I hope this letter brings some clarity to the matter.

Please bear in mind that ASTM D3434 is only one of many bond performance tests where Isoset Adhesives have shown excellent performance. While ASTM D3434 addresses longevity, our adhesives have also documented excellent performance in other tests that address strength, durability, high temperature performance, and creep resistance.

If you have any further questions or would like to discuss any of these matters, please do not hesitate to contact me.

Have a great day.
Sincerely,



Bill Gareis