To Caulk or Not To Caulk

William Shakespeare (alias Michael O. Hunt)

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In May 2011, deteriorated yellow poplar siding installed in 1993 was removed from the south end of the garage at 602 N. 5th Street, Lafayette, Ind. This was in preparation for re-siding with Wolman® AG preservative with water repellent pressure treated yellow poplar bevel siding. A presentation “Application of Pressure-Treated Yellow Poplar Siding: Re-siding South End of Garage” is available from the author. When removing the deteriorated siding (Fig. 1) it was observed that intense, concentrated decay of the ends of laps of siding occurred where they butted against the window trim. See Fig. 2.

Fig. 1. Removal of Deteriorated Siding

Fig. 2. Dark water stain on the house wrap at joint of siding laps and side trim of window
The integrity of the caulked joint between the ends of the horizontal siding laps and the vertical side trim of the window frame was intact. However, through some small crack(s) in the caulking, water had entered and become entrapped beneath the caulking. This provided an ideal situation for decay fungi activity – the necessary combination of temperature above 50 degrees, wood as a food source for the decay fungi, wood at least at 20% moisture content, and adequate oxygen. Fig. 3 shows the blackened decayed ends of siding laps that were beneath (being protected) by the caulking.

Fig. 3. Blackened, decayed ends of siding laps removed from the joint between ends of siding and window trim.

The purpose of caulking is to prevent the intrusion of water into the interior of building construction. The caulking bead over the joints of horizontal siding laps butting against the vertical window trim had been carefully applied and maintained during the life of this structure by the author. But there had been a failure, albeit it was probably a small crack, in the caulked joint system allowing water to penetrate behind the caulking and become entrapped there.

The garage with the decaying siding problem was built as a historically appropriate addition to a historic house that was built around 1846. The historic house, with but a few exceptions, is sided with the original, yellow poplar bevel siding. In the 1840s caulks/sealants for “protecting” joints were unknown. Since 1993, the author while maintaining the addition and the historic house had observed other examples of entrapment of moisture beneath caulked joints. For example, Fig. 4a shows a caulked miter joint at the base of a corner
pilaster of the historic house. And Fig 4b shows an ice pick stuck into the wood adjacent to the joint. The reality if the wood adjacent to the joint is totally decayed. The appearance of sound wood is created by the intact original shell of latex paint films.

Fig. 4a

Fig. 4b

Fig. 4  a) Caulked miter joint at base of pilaster. b) Decayed wood adjacent to joint
So when the garage was re-sided it was decide not to caulk joints. Rather the carpenters were instructed to leave a 1/8-inch gap between the siding and vertical trim (Fig. 5.). The logic is that water would drain quickly through the joint, and consequently the wood members forming the joint would dry quickly. Thus the moisture condition required for decay fungi activity would not be present.

Fig.5. Intentional 1/8-inch gap left between siding laps and window trim. Note: paint film has bridged the gap in places. Paint bridging will disappear in time; even now it will not entrap water.

Shakespeare/Hunt decided Not To Caulk. Now we wait and see if this was a wise decision.