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To:
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Subject: Hail Damage Report

In June of 1998, this PVC membrane was restored using Eraguard 1000 white acrylic coating (average coating thickness of 18 mils dry) with a full primer coat in Denver, CO. All seams were reinforced using fabric faced butyl tape. At the time of the roof restoration, the membrane age was estimated at 11 years old.

In the spring of 2004, the roof went through a significant hail storm. A 3 ft by 4 ft section of the PVC roofing membrane was removed for analysis. Figure 1 shows the witness marks of the hail strikes on the surface of the top coating. Figure 2 shows the backside of the membrane and the damaged done to the PVC in the same location as Figure 1. The size of the strike damage ranged from very small to as large as 2" in diameter. On average, there were over 10 strikes per ft² on the sample. 95% of these strikes damaged both the top and bottom layers of the membrane as shown in Figure 3.

Although there was significant damage to metal roof top HVAC units and vents (Figure 4), the coated top surface of the membrane showed no damage, only witness marks.

Plastisizer measurements in the field of the roof were 18.3 percent and the plastisizer measured 31.1 percent at a seam flap.

Six months after the storm, the roof system is providing leak free performance.

This roof demonstrates an application of 2 gal/SQ (16-18 dry mil) provides improved protection to PVC membranes with significant plasticizer depletion against significant hail impact and the corresponding moisture seepage through the spider-web cracking of the membrane surfaces.

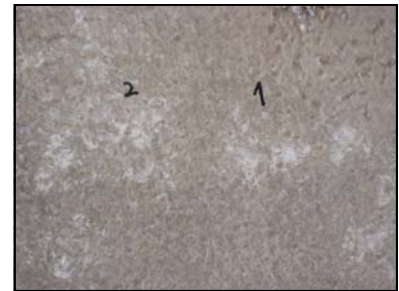


Figure 1 - Witness marks on Surface of Topcoat

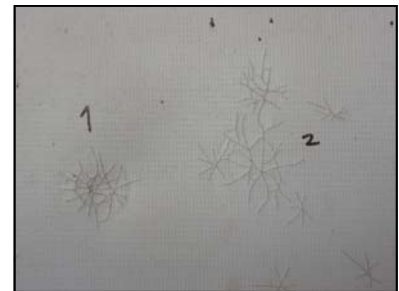


Figure 2 - Damage on Backside of Membrane



Figure 3 - Damage to surface of membrane with coating removed

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Figure 4 - Damaged Vent



Figure 5 - Witness marks on Surface of Topcoat

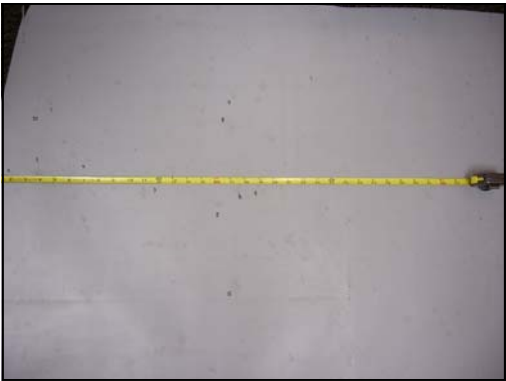


Figure 6 (Left) - Damage on back of membrane sample

Figure 7 (Right) - Close up of damage on the back of membrane sample



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