



Saving Roofs, Energy and the Environment



15-YR. OLD COLORADO TPO MEMBRANE SAVED WITH SILICONE RESTORATION

Project Profile

History

Supplied by the very first TPO manufacturer, this TPO membrane was 15+ years old and in bad shape. The building owners had done extensive repairs including applying EPDM tape on all the seams as seen in the “before” pictures. The sun had weathered and eroded the membrane down to the point that the internal reinforcing fabric was showing through in many places. Leaks were evident throughout the multi-tenant property and tenants were withholding rent payments until the roof was made watertight.

Problem

Since the original membrane manufacturer was no longer in business, this particular product was no longer available for repairs and it would be difficult at best to attempt repairs with any TPO membrane since the surface was so worn away and oxidized. The owner was looking for a solution when they discovered silicone restoration. If a silicone restoration could save their roof it would not only save their budget, but also their tenants.

Solution

First an adhesion test was performed to determine if a silicone restoration would provide a viable solution. The test revealed that the silicone had great adhesion to the TPO but only marginal adhesion to the EPDM tape repairs. Therefore the decision was made to use a primer only on the EPDM taped areas, then apply the high solids, low-VOC silicone restoration system over the entire roof and parapet walls.



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The TPO membrane had worn down to the point that the internal reinforcing fabric was exposed in areas.

SCOPE OF WORK

- Performed an adhesion test on TPO membrane and EPDM repair materials.
- Pressure washed the roof to remove surface oxidation and dirt. Applied primer to EPDM repair material.
- Inspected roof and repaired cuts, punctures, all deficient roof/wall seams and roof penetration/edge flashings with a 3-course treatment of silicone + reinforcing fabric + silicone.
- Sealed 26,000 sq. ft. of roof and walls with a seamless, high solids, low-VOC silicone roof coating system.

BENEFITS

- **Cost Savings**—compared to re-roofing, the silicone restoration was less than half the price and their entire investment was 100% deductible the first year.
- **Energy Savings**—the building is now cooler inside and air conditioners run less than before.
- **No Disruption**—tenants were able to continue business as usual during the entire restoration process.
- **Environment**—no landfill disposal of existing roof and cooler roofs help to fight global warming.
- **Performance**—silicone is PERMANENTLY waterproof, sun proof, flexible and unaffected by long-term UV or ponding water.

WHY SILICONE MAKES SENSE

- Silicone is made from Silicon, the second most abundant element in the Earth's crust which means we are not depleting vital natural resources.
- Our high solids silicone coatings require only half as much product be applied compared to acrylic coatings. This means half the manufacturing, transportation, application and disposal impact on the environment.
- Silicone has a proven track record for over three decades in construction, automotive, aviation, electronics, food, healthcare and many other industries. Silicones are a fundamental building block of modern life.