

PowerPatch™ 25KV Transformer Repair at Dominion Power

Problem: This transformer was in the shop for unknown reasons. Dominion Power drilled two 1/8-inch holes in the side to test the adhesion of [PowerPatch™](#) under “real world” circumstances. We were to apply the PowerPatch™ while the surface was exposed to the elements and to test the adhesion while oil is leaking from the side. This transformer was hung by straps from the ceiling and not resting on the floor.

Solution: We repaired the two holes using the normal PowerPatch™ process and product. The surface was cleaned with a [Type TR™](#) solvent wipe included in the complete PowerPatch™ kit (catalog #EP-KIT) and then sanded using a 100-grit sanding cloth. The surface was sanded to improve adhesion and remove any sort of contaminant, such as rust, salt and dirt, and then wiped again with a Type TR™ solvent wipe. During the cleaning and sanding process another worker was kneading the putty stick, which requires approximately 5-10 minutes of preparation before applying. The putty stick patch should be applied immediately after the cleaning process to prevent oil from leaking onto the outer surface. Once the putty stick patch was applied, the PowerPatch™ parts A & B were mixed together. The mixture was applied to the surface of the transformer with a horizontal force to prevent oil from seeping out and to prevent air bubbles in the solution. Finally, the sides were pressed down flat by circling the patch with a wet gloved finger.

Results: The PowerPatch™ cured for approximately 20 minutes and then the transformer was refilled with oil. It was pressurized to 5 lbs and a blue leak detector powder was placed on the patch. It was set outside for the weekend. This photo was taken on Monday after three days outside in the elements. At this time there are no visible leaks in either of the patches. The transformer was put back into service and was working at 100% efficiency until a hurricane destroyed it the next year.

General Information: These holes are larger than normal. If a 1/8-inch hole were found in the field, it would be removed from service. A hole this size would allow oil to pour out of a transformer. When Dominion encounters this type of problem they wrap the transformer in a large bag, schedule an outage and replace the transformer.

