

## Metal Roof Repair & Waterproofing

- Category:** Roof Repair & Waterproofing
- Customer:** Adell Corporation Manufacturing Facility
- Project:** Repair and waterproof an existing metal roof with failing acrylic coating.
- Products:** DuraTite® 2185, DuraTite® CC3.0, Rhino® 1500, Rhino® Adhesion Promoter

### Problem

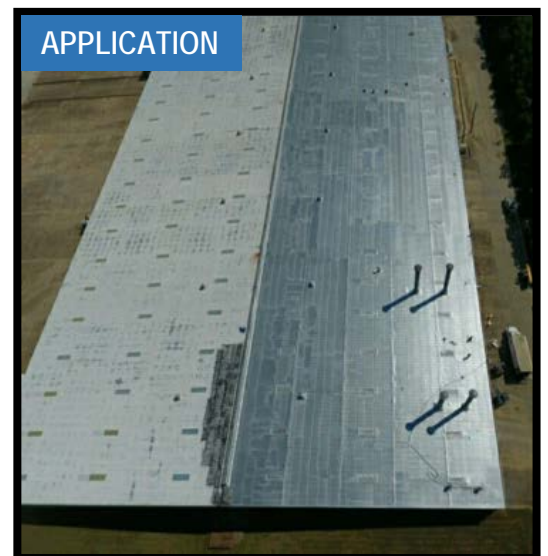
The corporate offices and manufacturing facility for Adell Corporation in Sunnyvale, Texas, a leading producer of door edge guards for automobiles, had a failing metal roof in need of immediate repair. The 165,000 sq. ft. facility was built in 1979 for the company and the original metal roof had been repaired since with an acrylic coating that lasted approximately ten years but was now failing. The company needed a smart repair solution that would be long lasting and durable.

### Solution

Mastersson Roofing & Spray Foam, an authorized Rhino Linings® applicator, was hired to repair the failing roof and provide a long-term waterproofing solution that would provide protection for up to 20 years. DuraTite® 2185 coating was selected because of its excellent adhesion to metal substrates and its durability and flexibility. This product offered the added benefit of having a reflective silver finish that would aid in keeping the facility cool on hot summer days in Texas.

The crew began the repairs by pressure washing the entire roof to remove the previous coating, rust, and debris. In some areas, portions of the failed acrylic coating and weakened rusted areas had to be cut out entirely. The roof was composed of large metal sheets that overlapped to create 6 large seams that were 150 feet long from ridge to edge. To ensure the waterproofing of the roof, the applicator filled the voids created by cutting out damaged sections and bridged the gaps where the metal roofing panels overlapped with DuraTite® CC3.0, a 3-pound spray polyurethane spray foam. Around the bases of the facility's four exhaust manifolds they applied 5-6 inches of the foam for additional flashing.

Because of the scale of the job, the applicator knew it wouldn't be possible to apply the final coating within the 72 hour window before the spray foam would sustain permanent UV degradation from the sun. To prevent damage, 4-5 mils of Rhino 1500 were applied over the foam. The clear Rhino 1500 was combined with black tint to serve the



additional purpose of gathering solar energy in the morning to more rapidly evaporate the dew that accumulated, which would allow the applicator to start work earlier in the day when applying the final coating, and shorten their overall timetable.

The entire roof was then sectioned into 3,000 sq. ft. grids to allow the applicator to meter material and ensure a consistent 60 mils of DuraTite® 2185 across the surface. Each morning Rhino Adhesion Promoter was applied to the edges from the previous day to ensure a monolithic seal when blending in fresh product. The entire application from prep to finish took just under a month.

The biggest challenge, other than dealing with unfavorable weather that is inevitable in outdoor applications like this, was preventing overspray onto employee cars. Since the facility was in full operation during the application, Mastersson Roofing & Spray Foam purchased 75 car covers, and covered all the cars in the parking lot at the beginning of the day. On especially windy days they also worked with the company to move all the cars in their lot to a safer location.

## Results

The Adell Corporation was immediately impressed by the reduced energy requirements of heating and cooling their facility. The application has remedied the company's moisture intrusion issues, ensuring staff will enjoy a comfortable and dry working environment. The new DuraTite roofing system requires little to no maintenance and is expected to provide decades of facility roof protection.

### More About Rhino Linings® Products Used:

**DuraTite® 2185** – is a rapid curing aluminized hybrid polyurea spray applied coating for commercial and industrial roofing applications. It remains flexible in cold temperatures and contains UV stabilizers to enhance durability.

**DuraTite® CC3.0** – is a fast set, closed cell, spray applied polyurethane foam designed for low-sloped roofing applications. DuraTite CC3.0 demonstrates excellent thermal and dimensional stability, and develops a smooth outer skin that helps maximize the coverage of topcoat product.

**Rhino® 1500** - is a waterborne epoxy primer that is typically applied as a stand-alone sealer. It is frequently used as primer for metal and fiberglass and dries quickly to seal and protect surfaces rapidly.

**Rhino® Adhesion Promoter** – etches existing cured coating surfaces making it more compatible with newly sprayed product, allowing a stronger bond to occur between the cured and fresh product.

Call 858-450-0441, or visit [rhinoliningsindustrial.com](http://rhinoliningsindustrial.com) to learn more about becoming an authorized Rhino Linings applicator.

Industrial applications are highly specialized and specific consultation and training may be required to perform such applications. Product safety data sheets and specific chemical properties should be evaluated before undertaking any application.

