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Waterproof University Parking Structure

Project: Repair and waterproof the below grade concrete surfaces of this university parking structure with a durable and long-lasting coating.

Customer: University in Southern California

POLYCOAT POLYUREO® 6881 (BASECOAT)

FEATURES:

- * Excellent Thermal Stability
- * Low Temperature Flexibility
- * Good Chemical Resistance
- * Zero VOCs
- * Odorless
- * Seamless

PHYSICAL PROPERTIES:

- * Hardness 90±5 Shore D
- * Tear Resistance 300±25 pli
- * Tensile Strength 1900±150 psi
- * Ultimate Elongation 375-400%
- * Viscosity at 75°F (24°C) 250±75 cps (A)
40±20 cps (B)
- * Volatile Organic Compounds 81 0.00 lb/gal (A)

Problem:

The 20 year old, 100,000 sq. ft., un-coated concrete parking structure at this University in Southern California was leaking and in desperate need of repair. Whenever there was a heavy rain, water would pool on levels 1 & 2 and leak through to the business operations center on level 3 below. It was imperative that the leaks be repaired and vital university computers protected from water damage.

Solution:

In December 2009, Polycoat's contractor, Innovative Painting & Waterproofing, learned of the University's project to repair and waterproof its parking structure. Based on Innovative's educational presentation demonstrating the benefits of polyurea vs. polyurethane, University architects changed the project specs and awarded the contract to Innovative with the requirement they use a polyurea waterproofing solution.

Because the parking structure was below grade and the business operations on level 3 had to remain open during the renovation, Innovative turned to Polycoat Products for a waterproof coating solution that was 100% solids, omitted no odor and would provide the University with a rapid return to service.

POLYCOAT-STAINGARD 6072SC (TOPCOAT)

FEATURES:

- * Quick Return-to-Service
- * Abrasion Resistant
- * Color Stable
- * UV Resistant
- * High Gloss
- * Weatherability

PHYSICAL PROPERTIES:

- * Hardness 50±5 Shore D
- * Tear Resistance 300±25 pli
- * Tensile Strength 2300±300 psi
- * Ultimate Elongation 50-75%
- * Viscosity at 75°F (24°C) 200±50 cps (A)
300±50 cps (B)
- * Volatile Organic Compounds 81 0.79 lb/gal (A)



The University's active parking areas consisted of 23,000 sq. ft. containing 2,742 parking spaces. To ensure renovation debris from the cement shot blasting and grinding did not spread to the business operations on level 3, Innovative constructed a series of 20' x 50' blast tents to contain the material. After the blasting, Innovative repaired and caulked the cement in preparation for the waterproof coating using **Polycoat Poly-Caulk® 80**, a flexible polyurea that is odorless, 100% solids and has a 30-90 minute cure window. Poly-Caulk® 80 was used to fill over 2,000 sq. ft. of 1/16" size cracks.

For a primer, Innovate used **Polycoat Polyprime 21** applied at 200 sq. ft. per gallon. Polyprime 21 is a two component, high solids epoxy-polyamine with unique penetrating characteristics. Over the primer, Innovative laid down 2 coats of **Polycoat Polyureo® 6881**, which bonds exceptionally well with Polyprime 21 and ensures the best intercoat adhesion. The second coat was to ensure they had satisfactory aggregate broadcast viscosity and a sufficient broadcast application window.

Polycoat Polyureo® 6881 is a 100% solids aliphatic polyurea with excellent color retention. It has excellent physical properties including 1:1 ratio, a Shore 90A polyurea coating with 0 VOCs, 375% elongation and has an extremely fast gel time window. Innovative then broadcast to refusal 30 mils of 16-grit sand at 7-8 lbs per sq. ft. which produced a tough, slip-resistant surface.

Innovative choose **Polycoat-Staingard 6072SC** as the topcoat to give the parking surfaces a durable, long-lasting waterproofing finish. In high traffic areas such as driving lanes, turn lanes and ramps, Innovate put down two coats of 6072SC to ensure the surface would maintain its non-slip, decorative appearance. Polycoat-Staingard 6072SC is a seamless aliphatic polyaspartic waterproofing membrane that has superior physical properties.

Polycoat-Staingard 6072SC has excellent stain, UV, and abrasion-resistance along with a Shore D 50 hardness, 250 VOCs, 50% elongation and a cure time of 24-48 hours for heavy vehicular traffic. It is ideal for quick dry, thin film applications with an applications temperature range of 35°F to 130°F and a service temperature of 0°F to 200°F.

Results:

Innovative Painting & Waterproofing used Polycoat Products polyurea coatings to efficiently and effectively restore and waterproof Loyola Marymount University's 100,000 sq. ft. concrete parking structure, giving them the tough waterproof protection and long term durability they demanded.

