

**Maintenance Manual**

**For**

**Iso-Flex Deck Coating Systems**

## **Introduction**

The Iso-Flex Deck Coating System is designed for use by pedestrians, cars and light trucks only (less than one ton capacity). Use of any type of vehicle or equipment deemed to be more abusive than the above is prohibited and such use will void any warranties. Snowplowing is permitted provided there is strict adherence to the guidelines outlined below.

## **General Maintenance**

The life of the Iso-Flex Deck Coating System will provide the best long-term service life when given planned out maintenance and attention. With this thought in mind it is recommended that scheduled walk-through surveys be conducted, providing a visual inspection of the deck coating system and the overall structure.

The walk-through should be conducted with a focus on the following items:

- **Review the general appearance and cleanliness of the deck coating.**
- **Check for bubbles or bond loss areas in the deck coating.**
- **Inspect areas such as ticket spitters, payment booths, ramps and turns for wear in the deck coating surface that can lead to a slippery surface.**
- **Inspect all floor drains to ensure that they are not clogged and that water will drain well.**
- **Inspect all deck coating terminations at penetrations, expansion joints and all vertical terminations to ensure that they are sealed and sound.**
- **Observe surface staining patterns that would indicate a history of standing water.**
- **Review traffic marking and parking stall paint for wear.**

## **Drainage**

Drainage will always play a key role in proper service life for deck coating materials. Due to this it is important to see that all drainage systems are maintained to ensure proper flow. Beyond drainage it is also important to note that any surface ponding of rain water is directed towards drain conductors and not be allowed to stand on the deck coating system. This is especially key in freezing climates where freeze-thaw can lead to further damage and potentially slippery conditions.

## **Housekeeping**

Twice yearly the deck surface should be washed down to remove debris on the surface and any liquid contaminants that have been absorbed into the deck coating surface. It is recommended that a pressure wash of (1200 psi) will remove the surface debris while preserving the deck coating. Care should be taken not to concentrate the pressure wash on any area of the deck coating for a prolonged period of time. A scrubber/vacuum machine such as those manufactured by Tenant can be of added assistance in cleaning up the deck surface. Use of a general purpose oil-removing compound is recommended to remove liquid contaminants. TSP or liquid detergent is strong enough to remove most oil stains.

At this same time, the entire deck should be visually inspected for any defects in the deck coating system that may result from the cleaning process. All defects should be corrected per the recommended "Defect and Repair Procedures" below. Once again this is a good time to inspect for proper drainage at all surface conductors.

## **SNOW REMOVAL**

It is recommended that snow removal equipment be kept to vehicle axle weights below 4,000 pounds. Check with your garage designer to ensure safe loading per the structure design.

The snowplow blade must not damage the deck coating system, or expansion joint assemblies. A heavy rubber blade edge should be mounted to the plow's steel edge in order to protect the surface. Steel shoes should be removed or positioned above the rubber blade to avoid contact with the traffic surface.

Procedures used to plow the snow should incorporate a plan to plow over the expansion joint system at a 45 degree angle. This will help to ensure that the plow blade will not get caught up in the joint opening of the system, and result in damage to the joint system or the deck coating.

Further caution is advised not to use front loader type of equipment as it can cause significant damage to expansion joint systems as well as the deck surface. Also, avoid piling of snow on top of the expansion joint and drainage conductors.

**VEHICLES WITH CHAINS AND FRONT END LOADERS ARE PROHIBITED.**

The following de-icer may be used to melt snow and ice:

- sodium and potassium chloride
  - calcium magnesium acetate
- (CMA is preferred in areas where de-icer contacts concrete)

**Sand or other types of grits are prohibited.**

## **Defect and Repair Procedures**

**1. Reflective cracking** - Remove unbonded coating along the crack. Grind out the crack in the concrete while beveling the edge of the bonded coating. Clean up the grinding area and prime the joint with Iso-Flex Primer No. 10. After allowing the primer sufficient cure time, caulk the joint to a flush surface with Iso-Flex 880GB or 881. After the caulking has cured for 16 to 24 hours, prime the sealant, concrete and bonded coating with Iso-Flex Primer No. 10. With the primer cured, neatly install Iso-Flex 750 Base Coat to the primed area, keeping the thickness of the Base Coat slightly below the deck surface (approx. 50-60 ft<sup>2</sup>/gal). On the following day, apply the wear course of Iso-Flex 750 Top Coat at 80 ft<sup>2</sup>/gal and broadcast clean, dry 16/30 mesh silica sand into the wet Top Coat, backrolling to encapsulate the aggregate. (The next day, repeat the application of Top Coat and sand in the heavy traffic areas)

**2. Coating delamination** - Remove samples of the unbonded coating. Inspect the exposed concrete as well as the back of the coating to determine the cause of the delamination. Typically the cause of failure is due to poor concrete surface preparation, missed window on cure of primer, or contamination on the primer. Also examine the soundness of the concrete in this area for evidence of concrete delamination that may have contributed to the coating failure. Once a determination and corrections have been made that a sound concrete surface exists, it is appropriate to then proceed with the coating repair as outlined in (1.) above by priming the concrete and proceeding with the coating installation.

**3. Loss of aggregate** - In severe traffic areas such as turns, ramps and ticket booths, premature loss of aggregate may occur because of improperly locking-in of the aggregate or as the result of extreme wear. To repair these areas, mechanically clean the surface with a light scarification or power wire brush. (It is important to have a roughened or abraded surface). The area must next be primed with a 50/50 mixture of Primer No. 750 and Methyl Acetate at a rate of 400 ft<sup>2</sup>/gal. (Test the primer mixture on the old coating to ensure that the Methyl Acetate will not wrinkle the old coating. If this happens, reduce or eliminate the use of Methyl Acetate in the Primer and apply the Primer as thinly as possible - 300 to 400 ft<sup>2</sup>/gal). After the Primer becomes almost tack free, apply the Iso-Flex 750 Top Coat at 80 ft<sup>2</sup>/gal, broadcast 6-8 lbs/100 ft<sup>2</sup> of clean, dry 16-30 mesh silica sand into the wet Top Coat and backroll to encapsulate the aggregate. (The next day, repeat the application of Top Coat and sand in the heavy traffic areas). An alternative to the above procedure that can be used for restoring the wear course of old polyurethane traffic deck coatings is to apply 20-25 mils of Base

Coat to the primed old coating and/or bare concrete and then proceed with the Top Coat and aggregate as described above.

**4. Wear-through-** Extreme traffic and ageing installations may begin to show wear-through on top coat of the deck coating system. In limited situations age and wear may also result in delamination of the top coat. If this situation develops repair for exposed concrete conditions should be handled as described in (1.) above, and for situations where underlying coats of the system are exposed, the procedure (3.) above should be utilized.

**In any case as previously described an approved applicator of Iso-Flex deck coating systems should be consulted for proper, professional repair.**

## **Reference Materials**

### **PARKING GARAGE MAINTENANCE MANUAL**

National Parking Association  
1112 16<sup>th</sup> Street, NW, Suite 300  
Washington, DC 20036  
800.647-PARK

### **GUIDE FOR MAKING A CONDITION SURVEY OF CONCRETE IN SERVICE**

American Concrete Institute  
P.O. Box 9094  
Farmington Hills, MI 48333  
248.848.3800

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