

A temporary (easily removable) waterborne elastomeric coating that can stand immersion service – commonly used in radionuclide contamination avoidance and secondary containment applications

Description

The Isolock-300 liner can be installed as a multi-layer barrier to provide secondary confinement of contaminated liquids or solids.

Isolock-300 is sold as a three component kit, which consists of:

“A” Component	polymeric component that provides high tensile strength and substrate adhesion Also provides reactive radionuclide capture sites
“B” Component	reactive agent that provides interpolymer crosslinking capability between tough “A” and elastomeric “C” components
“C” Component	flexible polymer emulsion, which enables “strippable” feature

	“A” Component	“B” Component	“C” Component
Color	Blue	Milk Beige	Milky White
Lbs./Gallon	8.3	11.4	8.3
Weight Solids %	50	50	62
Volume Solids %	45	60	50
Viscosity, @75F	116 Krebs	114 Krebs	80 Krebs
Flash Point, TCC	N/A	N/A	N/A

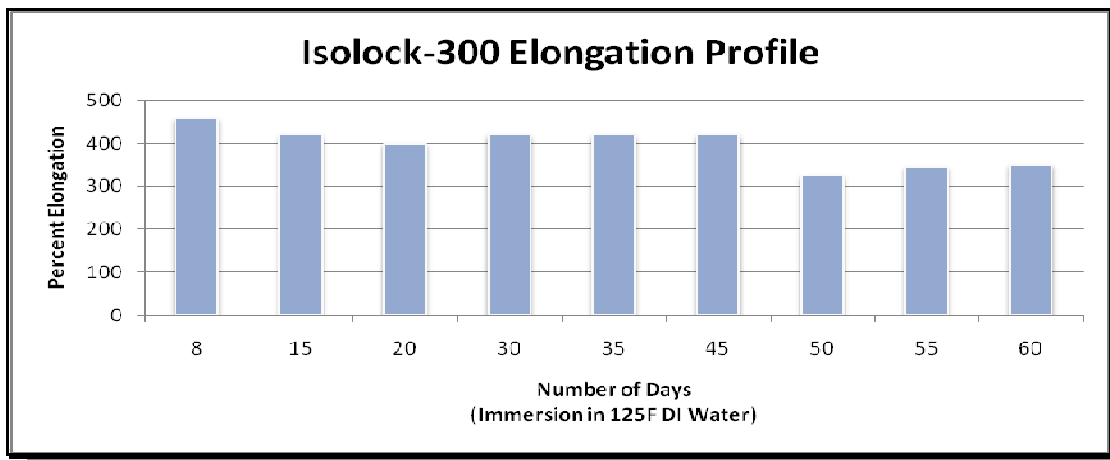
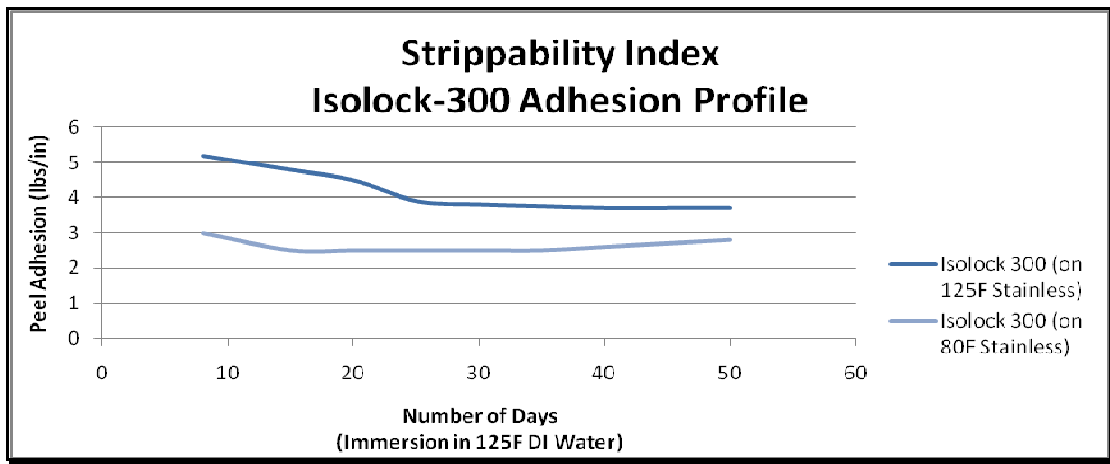


Physical Properties of Cured Coating

	Value	Units	Test Method
Tensile Strength	2000	psi	ASTM D412
Peel Adhesion	5.0	Lbs/in	Internal
Elongation	500	%	ASTM D412

Hydrolytic Stability

The hydrocarbon backbone in Isolock 300 imparts hydrolytic stability surpassing that of conventional elastomers. Wet adhesion is maintained in immersion conditions, even at high temperatures. Peel adhesion exceeded 70-day immersion trial requirements dictated by GPU Nuclear. It can be shown that the Isolock-300 system has good resistance to high temperature water, an exposure environment which actually leads to liquification in many elastomer systems.



Coverage:

The theoretical coverage rate of 1600 wet mils times square feet per mixed gallon of material. To determine gallons required for a given application, use the following relationship:

$$\text{Gals} = \frac{((\text{Area in ft}^2) * (\text{30 mils wet}) * (\# \text{ of coats}))}{1600}$$

For estimating purposes, the theoretical material requirement must be adjusted to include overspray and waste. A good rule of thumb is 40-50 ft² per gallon for each coat.

Cure Rates:

The cure rate of Isolock-300 is dependent upon temperature. The table below indicates recommended cure time to recoat and time to immersion for a 30 mil (wet) coating:

	90F	100F	120F
Recoat	12	11	10
Immersion	24	20	18

Surface Preparation:

All surfaces to be coated should be clean (free of oil and grease) and dry. Coated carbon steel, stainless steel, aluminum, galvanized, coated concrete and fiberglass are acceptable surfaces. Please refer to the "Application Procedures for Isolock 300" for further information.

Equipment:

Isolock can be applied with airless spray equipment at 2,000 to 3,000 psi pressure. An

air-driven machine must have minimum 30:1 air/fluid pressure ratio. Due to short pot life (less than 4 hours) of Isolock, mixing of the two components must take place very close to the spray system. The spray machine should be equipped with Teflon packings, Teflon or nylon hoses and 60 mesh outlet filters. The spray hoses should be conductive and the spray machine should be grounded to an earth ground when spraying. Isotron Corporation has available special equipment to apply Isolock-300 and detailed specifications for this equipment can be obtained.

Application:

Since the application of Isolock requires mixing of three components in a precise sequence then applying same with airless spray equipment within a short pot-life period, it is advisable that only those personnel properly skilled and trained apply this material. Isotron Corporation and its UK distributor, Lab Impex Systems, will be providing such training. Please contact us directly to arrange training dates.

In actual spraying process, many standard techniques used in airless paint spraying work well with Isolock-300. The proper spray tip should be selected for the job and the pressure of the pump should be adjusted to obtain an even spray pattern at the lowest pressure so as to prevent overspray. Once the initial coat has cured, successive coats may be applied to build the coating up to the desired thickness. Both coats are applied to a thickness of 30 mils wet.

Equipment Cleaning:

Spray pumps should be cleaned with IsoClean Flushing Solution #66 after each application to prevent a buildup of material inside the unit. Flush out all coating remaining in the spray unit for the longer of 15-20 minutes or until effluent stream is clear for two flush cycles.

Remove all filters and nozzle and soak overnight in IsoClean Solution #50.

Storage, Shelf Life & Disposal:

Isolock coatings are subject to skinning and deterioration when left uncovered or stored in poorly sealed containers. Material should always be kept covered and sealed when not in actual use. Store out of direct sunlight at temperature not exceeding 80F. The shelf-life of factory sealed containers under these conditions is six months.

The Isolock-300 Component "C" will freeze! Therefore, do not expose unprotected kits. During winter months, monitoring equipment is suggested to detect potential transit damage.

To facilitate disposal as non-hazardous materials, mix components and dispose of the cured (uncontaminated) solid material after 24 hours. An optimal disposal technique involves precipitation of the Component "C" with calcium chloride. Dispose of supernatant in accordance with site regulations and mixing of components "A" & "B". Consult Isotron regarding disposal of IsoClean solutions.

To estimate the waste volume of Isolock, figure on ½ the original volume, i.e. 10 gallons of

Isolock will produce 5 gallons of waste (including flushing solutions).

Ventilation:

Adequate ventilation should be maintained at all times. Ventilation should be of sufficient capacity to maintain a clear atmosphere within the work area during the coating operations. Forced air ventilation is required for all indoor applications. When working in tanks or closed vessels, fresh air breathing equipment is required.

A NIOSH/MSHA chemical cartridge respirator may be used. The cartridge should be designed for organic vapors and a prefilter should be used with handling and storage of Isoclean Flushing Solution #66.

Fire, Explosion Hazards:

Do not expose to high heat (above 125F), sparks or open flame. The work area should be free of fires and spark producing equipment. A foam, carbon dioxide, or dry chemical fire extinguisher should be available in the work area.

Eye / Skin Contact:

If Isolock should come in contact with the skin, wipe the affected area with a clean cotton cloth dampened with rubbing alcohol, followed by a thorough washing with soap and water.

In case of eye contact, flush for 5 minutes with water followed by a dilute boric acid solution. Contact physician.