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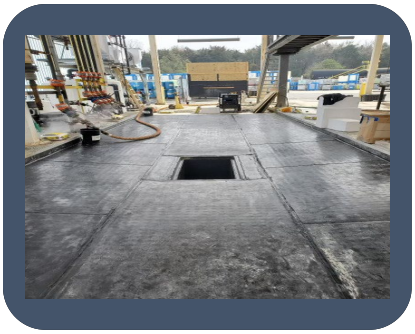
Surface Protection Lining Systems – Which Do I use?

With a variety of materials and systems available, we are frequently asked “When do I choose one system over another?” That answer is determined by several criteria:

- Chemical environment (if it won’t resist the chemistry-STOP!)
- Thermal exposure (operating, upset, thermal shock)
- Physical activity / abuse
- Geometry- size and configuration of the structure



Anchor-Lok®

- Wide temperature range from -40°F to 275°F
- Crack bridging ability
- No need for expansion joints
- Hydrostatic resistance (over 100 feet)
- Excellent, broad chemical resistance
- If it can be poured in concrete- Anchor-Lok can be used to line it!

Primary Applications:

- Trench runs, sumps, containment basins, truck loading-unloading, tanks
- Installed cost ranges from $25-$70/sf depending on geometry
- Options for grate seat, fabric-faced flange or fabric-faced grate seat are extras

Chempruf® Coatings & Lining Systems

- Temperature range (operational) to 180°F depending on series
- Expansion joints are honored
- Broad chemical resistance (Vinyl Ester, Polyester, Novolac Epoxy)
- Glass flake, flake filled, and fabric reinforced systems
- Applied to both concrete and steel

Primary Applications:

- Secondary containment (100 Series), primary containment (2001 Series), trenches, sumps
- Structural steel protection (100 Series)
- Installed cost ranges per SF:
  - 100 Series $8-$12
  - 1000 Series $16-$22
  - 2001 Series $20-$30

Chemical Resistant Masonry

- Temperature range to 2100°F (mortar dependent)
- Expansion joints are a necessary evil
- Very broad chemical resistance (variety of resin-based mortars)
- Applied to concrete & steel (vessel/tank)

Primary Applications:

- Flooring
- Vessel and tank lining
- Truck loading/unloading areas
- Sumps, trenches, primary containment
- Installed cost ranges per SF - flooring $30-$45, vessel-tank $70-$90

Other lining options include plastic (PP-PE) drop-in liners for steel tanks as well as plastic fabricated tanks. Typically, these are more geographically limited due to size and shipping constraints.

What Do I Use?

Problem: Truck loading bay subject to spills of HCL and FeCL3 combined with heavy loads combined with mechanical impact. Three (3) trench runs 30' length with dimensions of 8" width x 8" depth (initial depth) sloping to a collection sump. It is also necessary to provide a quick turn-around on the installation.

- Option 1: Acid brick entire area as it will take the chemistry, heavy loads, and mechanical impact.
  - Positive: brick will provide necessary mechanical and chemical protection.
  - Negative: Placing brick in trench(es) will require numerous "cuts" and dramatically increase the price increase per LF.
- Option 2: Anchor-Lok line the entire area including trench runs and sump.
  - Positive: Anchor-Lok will provide necessary mechanical and chemical protection, faster installation compared to brick. It will be less expensive than brick.
  - Negative: Anchor-Lok fabrication lead time for truck pad, trench(es), and sump.
- Option 3: Atlastacrete E-5000 polymer concrete combined with Anchor-Lok PE for trench(es) and sump.
  - Positive: E-5000 also will provide necessary mechanical and chemical protection and is readily available.
  - Negative: Lead time on Anchor-Lok fabrication and the installed cost is well above the other options.

What do I use?

Solution: A combination of brick on the unloading bay due to historic use in plant, tie in to existing, and new Anchor-Lok for the trenches and sump. Installation of acid brick in trenches of that size is slow and tedious due to cuts and placement.

Atlas can, when an emergency requires it, "fast track" fabrications. It does require all to be on board with accurate information (drawings), quick turnaround on signing off, and coordination of delivery.

Ask questions on the front end and obtain as much information as can be provided. Communication and time are critical.

The right system in the right application will lead to future business.

The wrong system in the wrong application may lead to this. This is not an Atlas system, but we were called to provide the right one!