

OBIC Armor System

OBIC Armor provides a fast, easy, and cost-effective method for repairing and preventing damage to municipal and industrial sewers, as well as potable water systems. The spray-applied OBIC 1000 (flexible polyurea) cures quickly, making it an ideal choice for rehabilitation projects. OBIC Armor is a multi-layer lining system, consisting of OBIC 1306 closed-cell foam sandwiched between two layers of OBIC 1000.

OBIC 1000 is the coating of choice in the wastewater industry for numerous reasons:



- **Chemical Resistance:** OBIC 1000 is highly resistant to a wide range of chemicals and corrosive substances commonly found in wastewater environments, helping to protect structures from degradation. OBIC 1000 has passed the Severe Wastewater Analysis Test “SWAT” as outlined in ASTM G210-13.
- **Waterproofing:** It creates a seamless and waterproof barrier, preventing water infiltration and corrosion of infrastructure.
- **Durability and Abrasion Resistance:** OBIC 1000 is exceptionally durable, with high abrasion resistance, making it ideal for withstanding the harsh conditions in wastewater treatment facilities, pump stations, and manholes.
- **Fast Cure Time:** Polyurea coatings cure rapidly. OBIC 1000 is tack-free in 20-30 seconds, reducing downtime during application and allowing for a quick return to service.
- **Flexible and Durable:** OBIC 1000 is highly flexible, 395% elongation, and can withstand thermal expansion and contraction, eliminating cracks under temperature changes.
- **Longevity:** OBIC 1000 has a long service life, reducing the need for reapplications and maintenance, which can be costly in the wastewater industry.
- **Seamless Application:** The ability to apply OBIC 1000 as a seamless coating reduces the likelihood of leaks and weak points in the protective layer.
- **Eliminates Chimney Seals:** Since the OBIC Armor system is a continuous monolithic system from bench of the invert up to where it’s attached to the casting (manhole frame) there is no need for additional cost of chimney seals.
- **No VOCs:** OBIC 1000 is 100% solid, so there are zero VOCs.

The addition of the OBIC 1306, or the surfacing layer, has multiple advantages:

- **Surfacer:** When dealing with brick/block manholes, or structures that have voids, it works to help smooth or level out these surfaces to provide a better finished product. It expands to fill cracks, joints, voids, and bug holes in the substrate, improving structural integrity.

- **Strength:** It adds structural enhancement or reinforcement into the structure

Think of it like a piece of plywood. If you were to dissect the sheet of plywood, while any single layer of the wood has strength of its own, when combined with multiple layers of additional wood it proves to be extremely strong as a system.

Once the certified installer arrives on the project site and completes all safety-related tasks, the following steps are followed:



- The structure is prepped using high pressure water.
- The manhole frame is cleaned and primer is applied.
- All leaks are stopped.
- The structure is dried to a saturation of surface dry. This is accomplished when you can touch the structure wall and once you pull it away there is no moisture on your hand.
- Then, the **Adhesion Layer** is applied. This is the first coat of OBIC 1000 and is applied at a thickness of 50 mils. This layer is attached to the bottom portion of the manhole casting to provide a monolithic liner system.

Next, the **Surfacing Layer** is applied. This is the OBIC 1306 (closed-cell foam) and the layer is about 400 mils thick.

The OBIC Armor System is completed by applying the **Final Barrier Layer** of OBIC 1000 at a wet film thickness of 50 mils. The complete OBIC Armor lining system is approximately 500 mils thick (1/2").



The final step of the process is validating the installation by stamping both the date of the liner installation and the OBIC logo into the liner. The 10-year warranty starts from this date and there is never a question as to when the liner was installed.

OBIC Armor, a specialized structural enhancement coating system, offers many advantages over a single coat of polyurea.

- **Backed by a Warranty Like No Other:** OBIC Armor is backed by a 10-year warranty on both the material and installation.

- **Structural Reinforcement:** OBIC Armor is designed to provide structural reinforcement to deteriorating manholes, restoring the integrity and preventing further damage.



- **Chemical Resistance:** It offers excellent resistance to chemical corrosion, it is impervious to hydrogen sulfide (H₂S), protecting manholes from the harsh and corrosive elements found in wastewater systems.

- **Rapid Cure Time:** OBIC Armor has a fast-curing process, allowing for quick return to service, minimizing disruptions in the wastewater system. OBIC 1000 is tack-free in 20-30 seconds.

- **High Build Thickness:** It can be applied in relatively thick layers, ensuring a robust protective barrier and effectively sealing cracks and defects in the manhole structure.



- **Bond Strength:** The coating forms a strong bond with the existing manhole substrate, ensuring long-term adhesion and durability.
- **Reduced Infiltration and Exfiltration:** OBIC Armor seals joints, cracks, and defects in manholes, reducing the risk of water infiltration and exfiltration, which can be environmentally and economically problematic.
- **Longevity:** It has a 50-year design life.
- **Versatility:** OBIC Armor can be customized for specific project requirements. Our team of chemists will work with you to ensure you get the proper coating for your project.
- **Return on Investment (ROI):** Rehabilitating multiple manholes with OBIC Armor can significantly reduce the amount of groundwater treated. For instance, rehabilitating 10 manholes eliminates enough groundwater to allow 82 new homes to connect to the system. This results in a ROI in approximately 15 months.
- **Environmentally Friendly:** By rehabilitating manholes instead of replacing them, OBIC Armor can help minimize the environmental impact associated with construction and demolition.