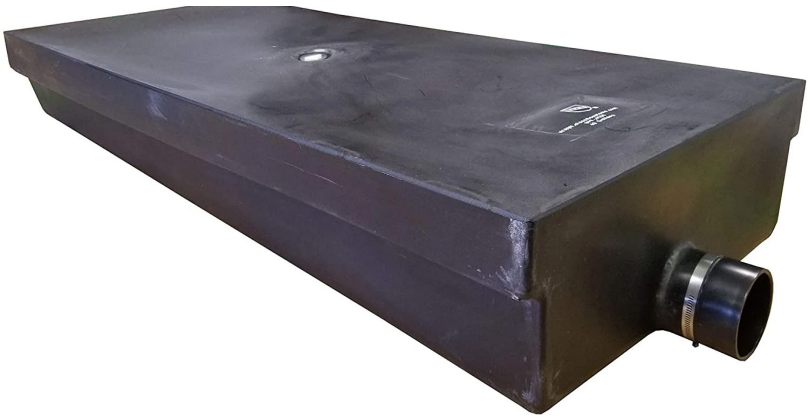
SCIGRIP® ADHESIVES

APPLICATION SPOTLIGHT

SG400LSE Innovation in Tank Repair: Overcoming Blow Hole Challenges

SCIGRIP worked with a roto molding company to repair holes up to 1” in size using SG400 Adhesive



Standard RV Holding Tank
Many tanks of this type are created by a roto molding process, involving filling a mold with plastic resin powder and rotating it in an oven to melt it and evenly coat the walls of the mold.

The Situation

When asked by a roto molding company to try and solve the problem of a persistent issue which was leading to the occurrence of blow holes in tanks, the SciGrip team rose to the challenge.

Getting a deeper understanding of the problem was the first step. For these tanks, holes smaller than 1/16” (1.6mm) can result in leaks that lead to scrapping of the entire tank, particularly those used in RVs for wastewater storage. As these holes are fairly common in the manufacturing process, finding a way to repair the holes would help the roto molder avoid significant costs and production disruption.

SG400LSE seemed like a promising solution to enable tank repair, so a trial was prepared. Tests were performed on a black wastewater tank typically used in RVs to assess the effectiveness of patching and hole-filling (plugging) approaches to the problem. These tanks are typically made of LDPE and are blow molded into shape.

The Solution

Using SG400LSE to Create Patches & Plugs

The SciGrip team approached the problem in two ways: patching for larger holes and plugging for smaller ones on the tank pictured at left.

1. **To set up the patching trial**, 1” holes were drilled into the tank. These holes were drilled into what would be the bottom of the tank as it would be installed in a RV and was meant to simulate damage that might be experienced while traveling. SG400LSE was applied on the tank, completely encircling each hole. A second piece of LDPE, approximately 1/8” thick, was then pressed onto the SG400 encircling the hole.
2. **To set up the plugging trial**, 1/8” and ¼” holes were drilled into what would be the bottom of the tank. These holes were meant to simulate a worst-case scenario of what could occur during blow molding. SG400LSE was shot into these holes , fully filling the holes and creating plugs.

The tank was left overnight so that the patched and filled holes could cure. The following day, the tank was filled and positioned vertically to create maximum water pressure. Both repair solutions resulted in no leaking, indicating successful repairs! **SG400LSE was highly effective at repairing the holes, enabling manufacturers to improve quality, reduce scrap and improve productivity** This two-part translucent MMA (10:1) can bond slippery, low surface energy plastics including polyethylene and polypropylene with minimal surface preparation. As SG400LSE is applied more often in the field and in a broader range of applications, even more successes are expected.

For further information on SG400LSE or other Scigrip products, please contact:
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