AOC®
World Leader in Resin Technology

CASE HISTORY

# CIPP Meets Automaker's Demanding Deadlines

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| **Market Segments:** | Sewer Rehabilitation |
| **Composite Application:** | CIPP liner for effluent sewerlines |
| **Resin:** | Vipel® L010-PPA-33 Vinyl Ester |
| **Diameters:** | 42 to 60 inches (106.68 to 152.4 centimeters) |
| **Total Length:** | 2,100 feet (640.08 meters) |
| **Installed:** | 2013 |
| **Location:** | Windsor, Ontario, Canada |

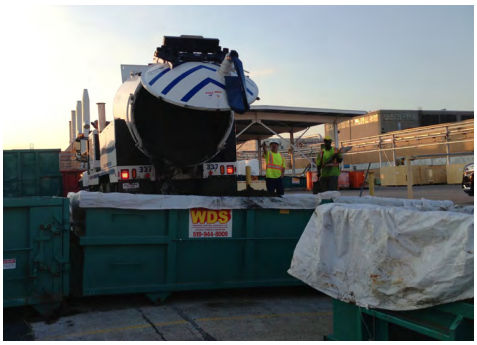
Each day approximately 1,700 minivans roll off of an automotive assembly line in Windsor, Ontario, Canada. More than 4,600 employees work three shifts to ensure production levels are achieved. So when the automaker schedules a plant shutdown—whether it's to repave the parking lot or replace robotics—all upgrades to the facility must be done fast.

For two weeks in July 2013, the Windsor Assembly Plant closed to undertake several projects, including the rehabilitation of old, damaged sewer pipes made from reinforced concrete. Clean Water Works Inc. (CWW), an Ottawa-based leader in pipeline rehabilitation, installed 2,100 feet of polyester felt tubing saturated with AOC's Vipel® L010-PPA-33 vinyl ester resin. With help from AOC and liner supplier Liner Products, CWW completed the challenging project two days ahead of schedule.

One of the most difficult parts of the project revolved around timing. Final approval was granted for the sewer rehabilitation just nine days before the planned shutdown.

*Trailers deliver sewer liners to the Windsor Assembly Plant for wetout over-the-hole processing.*

*Onsite roller bed and liner are prepared for resin impregnation.*




*Clean Water Works removed debris from the sewers prior to installing CIPP liners.*

The day after landing the job, Sandy Campbell, rehabilitation manager of CWW, flew to Windsor with John Brule, president and CEO of CWW, and two other employees to measure sewer lines. Campbell also placed a call to two resin suppliers indicating he would need more than 150,000 pounds of resin in a week-and-a-half for the restoration of three effluent sewer lines.

### Delivering Resin—and Great Service

"My job is to confirm the materials and resins, and I didn't even know if I could pull this off on such short notice," says Campbell. One resin supplier told Campbell that it wasn't possible. Brad Walker, AOC's regional sales manager of the central region, told him, "We'll get it done." AOC would supply its corrosion-resistant Vipel® vinyl ester resin, a durable option for cured-in-place pipe applications.

"We asked both AOC and the liner manufacturer to perform a miracle and get products to the site in time for the first installation on July 9," says Campbell. In the meantime, CWW cleaned the sewers. "Cleaning the pipes took two to three times longer than normal," he says. "We were still cleaning the bottom portion while the actual inversion of the liner started at the top section."

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*Sandy Campbell*
*Rehabilitation Manager, CWW*

Because of the delays in cleaning, CWW wasn't exactly sure when it would need materials and resin for wetout over-the-hole processing of the liners. "I'm sure I called AOC 20 times to either move deliveries up or delay the trucks until the next day," recalls Campbell. "Every time they would say, 'No problem.' Simple as that—great service!"

AOC delivered tankers with resin from its Ontario plant for the three installations between July 9 and July 15. The first shot was 90 feet long with a 54-inch diameter and required 12,000 pounds of resin, the second was 570 feet long with a 42-inch diameter and used 26,200 pounds of resin and the third was 1,440 feet long with a 54/60-inch transitional tube. The last used 138,000 pounds of resin delivered in three trailers.

Weather also was a challenge. During the installations, daytime temperatures in Windsor hovered around 100 F. CWW set up a 120 x 20-foot insulated tent over the holes and pumped in air conditioning. But temperatures inside the tent still averaged just below 80 F. Fortunately, the resin stored in AOC's temperature-controlled tankers remained at an ideal 65 F.

### About Clean Water Works

Founded in 2005, Clean Water Works Inc. (CWW) is one of Canada's foremost sewer rehabilitation organizations. It is headquartered in Ottawa and operates from central Canada through eastern Ontario, Quebec and New Brunswick. CWW serves contractors and municipalities, as well as residential, commercial, industrial and institutional markets.

### About AOC

AOC is a leading global supplier of resins, gel coats, colorants, dispersions and synergistic material systems for composites and cast polymers. AOC knows technology, lives quality and delivers service better than any other resin supplier.

For more information,email cippresins@aoc-resins.com, phone (901) 854-2300 or go to www.AOC-RESINS.com.

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