STONHARD | FLOOR SOLUTIONS

Cambridge Waste Management Facility
Cambridge, Ontario

Application of Stonclad UT & Aluminum Oxide
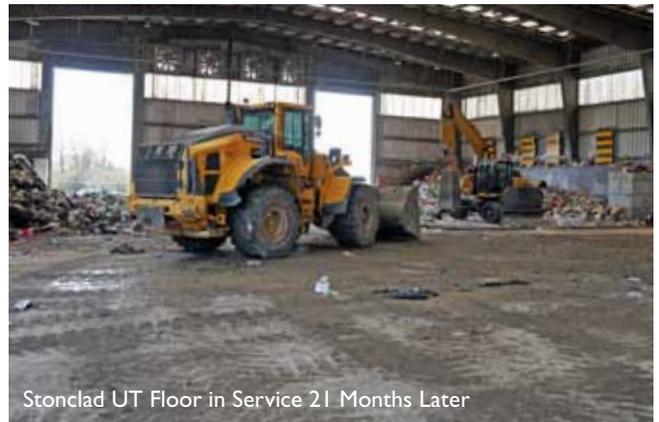
Stonclad UT Floor in Service 21 Months Later

PRODUCTS USED:
- STONCLAD UT
- STONKOTE HT4

The Region of Waterloo is responsible for the waste management needs for a population of roughly 600,000 people. One of the key facilities for managing the waste stream is the Cambridge waste transfer building. The waste transfer building allows the region to sort the waste stream and ensure that as much material as possible is diverted from landfills. In 2018, approximately 65% of all waste collected was kept out of landfills.

THE CHALLENGE

During the operations of the facility, waste is dropped into the building and sorted using front end loaders into various waste streams. Numerous contaminants combined with impact and abrasion from constant use meant that the unprotected concrete floor of the waste transfer building started to deteriorate. Once the deterioration started to impact the efficient operation of the building, the Region of Waterloo publicly tendered the restoration of this 20,000 square foot facility, which included the removal

and replacement of approximately 85% of the original concrete floor and supply of a highly chemical, impact and abrasion resistant heavy duty flooring system to protect the newly replaced concrete floors.

THE STONHARD SOLUTION

Stonhard proposed a modified version of their Stonclad UT urethane-urea based, high performance flooring system in combination with upgraded aluminum oxide aggregates to further enhance the abrasion resistance of the finished surfaces.

Stonhard ensured that the levels between the newly poured concrete and existing floors were correctly aligned and that heavily pitted concrete in the waste chute areas was properly prepared for repair prior to installation of the new flooring system. Approximately 2,500 square feet of floor required scarification to correct levels and to remove damaged concrete prior to

localized repairs. The balance of the floors were prepared by Blastrac to achieve a minimum concrete surface profile of CSP3.

As this facility is one of the primary assets for efficient waste management by the Region of Waterloo, it was important to minimize downtime. One of the unique features of Stonclad UT is the ability to be applied onto relatively green concrete, allowing Stonhard to quickly install without the need for secondary moisture suppression primers or extended concrete curing periods.

To ensure that this fast turnaround was possible, Stonhard used a 16 man crew with 3 dedicated Project Managers to install the 1" layer of Stonclad UT on over 15,000 square feet of floors in just two days.

The tipping floor is subjected to constant impact and abrasion, so the Stonclad UT was divided into two ½" layers in contrasting colours, with a red base layer and a green top layer. This ensures that the Region of Waterloo will be able to immediately recognize areas of the floor that are damaged or wearing as the top layer is removed.

To further enhance durability, each liquid rich layer of Stonclad UT was broadcast to saturation with aluminum oxide, which is an extremely hard and durable aggregate with a MOHS hardness of 9 (Diamond being 10).

After the second Stonclad layer had been applied and broadcast with aluminum oxide, a final seal coat of Stonkote HT4 was applied to provide a uniform, decorative finish and provide an initial protection and wear layer.

Finally, the saw cuts in the concrete floor were honoured and caulked with a fast curing polyurea material to ensure adequate expansion capacity in the floor.

Stonkote HT4 Application

Prepared Floor
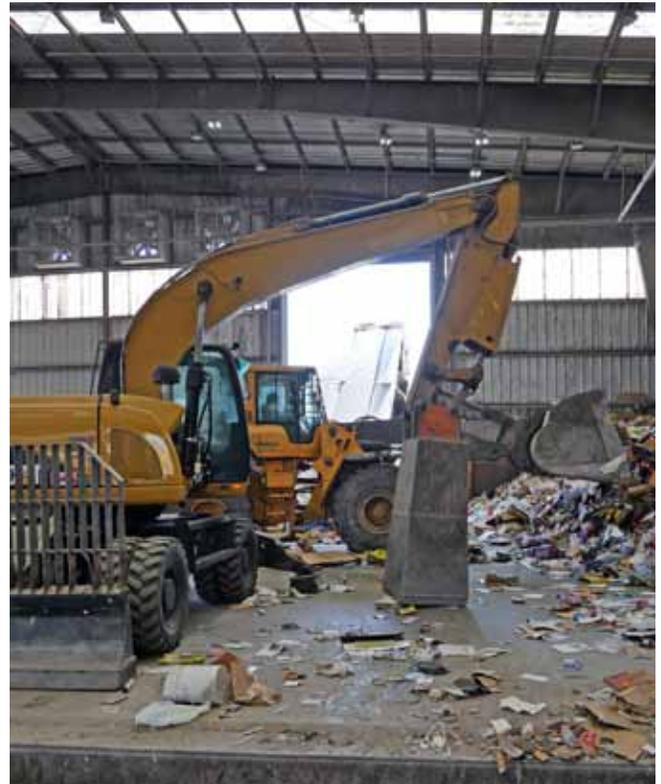
THE STONHARD DIFFERENCE
Stonhard is the unprecedented world leader in manufacturing and installing high-performance polymer floor, wall and lining systems. Stonhard maintains 300 Territory Managers and 175 application teams worldwide who will work with you on design specification, project management, final walk through and service after the sale. Stonhard's single-source warranty covers both products and installation.

STONHARD   GOVERNMENT