

MARKET SYSTEM PROJECT

OWNER

CONTRACTOR

Protective Coating : Industrial Equipment

VF 330 Abrasion Resistant Elastomeric Polyurea

Coal Mine Hopper : Protective Coating

Canadian Coal Mining Company

Spray All Poly, LTD.



When a large Coal Mining Company in British Columbia, Canada needed to solve an abrasion issue in a coal hopper, they replaced the old epoxy system and turned to VersaFlex VF-330 Pure Polyurea and Spray All Poly, Ltd to solve their problems.

The coal mine is comprised of 3,836 hectares of coal lands of which approximately 1,016 hectares are currently being mined or are scheduled for mining.

The coal mine produces both steel-making and thermal coal. The current annual production capacities of the mine and preparation plant are 2.7 and 3.5 million tons of clean coal, respectively.

Once the coal ore is mined from the ground, it undergoes a series of production processes. A series of conveyor systems and steel hopper systems are utilized to move the coal along through the various production operations.

Due to the corrosive and abrasive nature of this process, epoxies and plastic inserts are used in the hoppers to maintain and prolong the life of these expensive tools. Unfortunately, even the epoxy coatings and plastic inserts needed maintenance and replacement more often than the facility desired.

Enter polyurea. The coal mine engineers eventually found VersaFlex Polyurea Coatings and their veteran installer in Western Canada, Spray All Poly LTD. After some interaction between the facility engineers, the hopper manufacturer, VersaFlex Tech Support, and the contractor, it was determined that they would use a specially designed polyurea system for abrasive service environments called VF-330.



Due to the size, weight and intricate location of the hoppers in the coal plant, the three piece hopper system was pre-sprayed at Fabrite, located in Cranbrook, BC. The parts were extremely intricate and required a great deal of application experience and ingenuity just to spray the parts. The previous “epoxy coating” method called for 20-30 mils of epoxy. Then they would place a plastic insert in place between the epoxy coating and the coal slurry.

Based on the performance specs of the VersaFlex VF-330 abrasive resistant polyurea, they determined that they might be able to do away with the expensive plastic insert, and use only the polyurea in place of the epoxy and the liner.

Spray All Poly, LTD, out of Lethbridge, Alberta, Canada assured the parts were sand blasted with an SP-10 near white metal blast before applying the special VF-330 polyurea. Due to the superior blast profile, no primers

were required for adhesion. Spray All Poly, LTD applied 95 mils of VF-330 to the three parts in the plant.

“This was some of the most intricate spraying I have ever done. Due the physical dimensions of the parts it was at times difficult to fit even the spray gun into the right places,” claimed Kevin Prychun, the applicator for Spray All Poly, LTD. The application required a great deal of planning, spray direction, and experience to assure the parts received a uniform coating at the proper thickness that was required.

Once the parts were pre-sprayed, they were then transported to their final destination. The actual area where the hoppers were located was on the fourth floor and the parts had to be placed through an opening in the roof. The three parts were then placed into their final location and welded together.



When Spray All Poly, LTD came onsite, they wiped down the material with VersaFlex Dzolv solvent and applied the VF-330 to all the seams.

The project was approximately 2,400 sq ft in total and took just three days to complete; two days in the hopper plant to pre-spray, and one final day at the coal mining plant.

With the costs savings in added service life and the elimination of the nearly \$2,000 plastic inserts, many of the other coal mines in the region are now talking with Spray All Poly to evaluate polyurea.



About Spray All Poly, LTD

About Spray All Poly, LTD is a protective coatings contractor located in Lethbridge, Alberta, Canada. Kevin Prychun, owner has achieved Level 7 Training from Polyurea University, one of the highest levels currently attainable. About Spray All Poly, LTD services all of Western Canada including British Columbia, Alberta, Saskatchewan, Manitoba and the Northwest Territory.



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