

INDUSTRIAL CASE STUDY

HEAVY EQUIPMENT FUEL TANK



SITUATION

Exposure to extreme environments, weather, dangerous terrain: these are all challenges that heavy machinery must overcome working in large scale mining and excavation sites. Earthmovers like bulldozers, dump trucks, motor graders, excavators, and others are the workhorses of the mining industry. They dig, push, transport, and clear waste material or the mineral of interest from the site. When these machines go down, work grinds to a halt. Due to the nature of mining itself, constant exposure to weather for long periods, heavy machines need regular ongoing maintenance.

Fuel and hydraulic tanks are particularly vulnerable to deterioration. Because fuel tanks sit between the front and rear wheels, they catch rocks and impact damage from debris that chips away exterior paint and invites corrosion. Regular paint or two-part urethane coatings do not last long in these conditions and require recoating. Even rubber sheets meant to act as an impact barrier eventually fail under the onslaught of debris and moisture.



SOLUTION

A solution was needed to provide an increased lifespan to heavy machinery to minimize maintenance and downtime. LINE-X XS-350 is a two-component pure polyurea coating that offers impact and corrosion protection to metal substrates. The tanks arrived from the mining company or maintenance contractor to the LINE-X application center for assessment and preparation for sandblasting. Generally, the fuel tanks were in poor condition and had remediation works done before arrival.

Sandblasting is required to remove existing rust and provide a surface profile for a primer to be applied. Depending on client requirements, the tanks were either partially coated or fully encapsulated in XS-350. For partial coverage, the two ends and the top of the tanks were primed and painted in the required finish. Then the painted surface was re-masked before priming the remaining area with FCP, followed by the application of LINE-X XS-350.



RESULTS

From start to finish, the turnaround time for each fuel tank varied from 2 to 3 days. Applicators coated tanks with LINE-X XS-350 in black at a thickness of 4mm plus texture. Next, a final UV-stable topcoat completed the process so that each fuel tank had a durable outer shell to prevent impact damage and corrosion as well as UV protection to mitigate sun damage. The results have been outstanding! The durable LINE-X application resulted in repeat business from mining contractors. The LINE-X application procedure proves that fuel tanks coated in XS-350 last significantly longer in-service and reduce maintenance costs.

PROJECT OVERVIEW: Construction/Mining/Heavy Equipment

PRODUCTS USED: XS-350, FCP

SOURCE: LINE-X Kelmscott, Australia



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