

Belzona 4111 stands up to heavy mine traffic

ID: 8149

Industry: Mining & Quarrying

Customer Location: Alaska

Application: FPA-Floor Problem Areas

Application Date: May 2016

Substrate: Concrete

Products: * Belzona 4111 (Magma Quartz) ,

Problem

Extremely deep wear in the concrete floor in the tread areas of this wash bay. Full mine haul trucks roll across this floor year round with cleated tire chains. The deep ruts were being covered with heavy steel plates. Both the ruts and steel plates were causing a hazard to the crew when walking in the area.



Photograph Descriptions

- * Original wear and one of the the mining trucks causing the damage ,
- * Belzona 4111 applied May 2016 ,
- * Belzona 4111 in April 2017 ,
- * Belzona 4111 in November 2019 ,

Application Situation

Mine site wash bay with a concrete floor.

Application Method

A grinder and wire wheel was used to remove all the loose material from the surface of the area of application. The exposed steel re-bar was prepped with the grinder to remove all rust and corrosion. Belzona 4911 conditioner was then mixed and applied over the area, and immediately following the Belzona 4111 was mixed and applied and finished with a steel trowel. Note that plywood was used as a form. In this situation, aesthetics was not a concern, so no release agent was used. When the ply wood was removed, some of the wood fibers remained stuck to the Belzona 4111, but did not have any impact on the application.

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ISO 9001:2015

FS 695214

ISO 14001:2015

EMS 695213

Belzona products are
manufactured under an ISO
9000 Registered Quality
Management System.

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Belzona Facts

Replacing the floor was not an option as it would require the entire mine to shut down for 28 days while the concrete cured. The mine had a 3 day maintenance shut down planned, and the repair has to be done during this time, and be ready for use at the end of the shut down with no exceptions. Using Belzona 4111 to repair this allowed for the application to be done on the first day of the shut down, and was fully cured and ready for operation 3 days later. Pictures 1 and 3 years later show extremely minimal wear, and should any further repairs be needed, applying more 4111 over the top will also be fast and can be done during a scheduled shut down. The mining operation is now planning on using Belzona 4111 in several other areas of their operation as the material has proven it's suitability for this highly aggressive environment.

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