Weartech® SHS™ Coating on Aluminum Chutes

Provides Performance of Steel Without the Weight

PROBLEM:
ABRASION, EROSION AND ERGONOMIC RISK

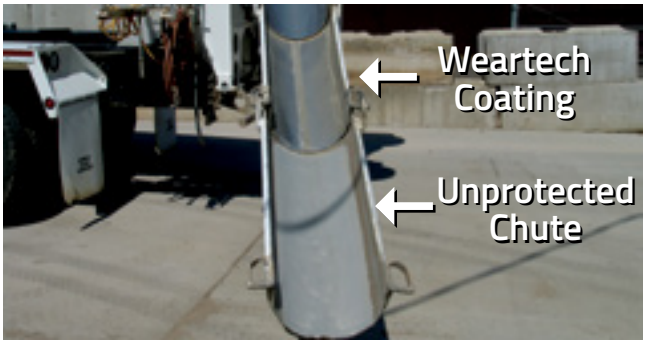
Four-foot steel extension chutes widely used on ready mix concrete trucks weigh approximately 50 lb. (22.7 kg). Drivers risk injury on the job from lifting the heavy steel chutes, resulting in a risk of profit loss and additional insurance costs for truck owners.

Aluminum extension chutes weighing approximately 30 lb. (13.6 kg) are an alternative that can reduce driver injury risks. However, aluminum chutes wear faster than heavier steel chutes and require frequent replacement.

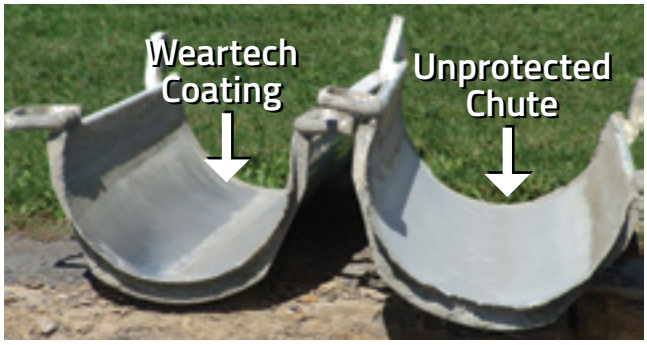
SOLUTION:
WEARTECH SHS THERMAL SPRAY COATING

A mixer truck in Ohio was equipped with aluminum chutes to evaluate wear from abrasion and erosion caused by sliding concrete during service. A Weartech® SHS™7170 WTWAS thermal spray coating was applied to a thickness of 0.335 - 0.394 in. (8.5 - 10 mm) on one chute, which added approximately 2 lb. (0.9 kg) to the total weight.

An important factor of the CNC Bender within the manufacturing cell was how close it could actually bend the tube to the tolerances required. The previous bender (built by a different supplier) was not built to withstand the forces required to bend the large diameter, thick wall tube, which caused it to have trouble holding the tolerances required.



After 13 months in service, the Weartech chute has 75% of coating thickness present and the aluminum base is 100% intact.



The unprotected chute shows severe wear from abrasion and erosion, leaks at the seams and must be removed from service.

RESULT:
WEARTECH SHS EXTENDS COMPONENT LIFE

Since the aluminum chute will still be at its original thickness when the Weartech SHS7170 WTWAS coating wears off, it can be recoated and placed back in service without any loss to its original thickness. An aluminum extension chute can last almost indefinitely with repeated Weartech thermal spray coatings.

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