

Wire Arc Thermal Spray Technology Applied To Concrete Mixer Drum Design

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Concrete mixer drum lifetime represents a significant maintenance cost in the industry. Recent developments to increase lifetime / payload have been enabled through carbon fiber mixer drums but with added cost. Conventional concrete mixer drums are commonly manufactured of 3/16" thick AR-200 steel plate. In this talk, the results of using a new approach through the application of glass forming iron based wire-arc coatings to the inside of the drum are detailed on full scale drums over a year long field trial. The highly wear resistant wire-arc coatings not only extended the lifetime of the drum but enabled weight reduction through the ability to utilize a thinner gauge AR-200 plate for the drum material. The results of the field trial show how the new type of coated drum can increase payload and can double the lifetime (up to 60,000 yd³).