


# INDUSTRIAL SOLUTIONS USA

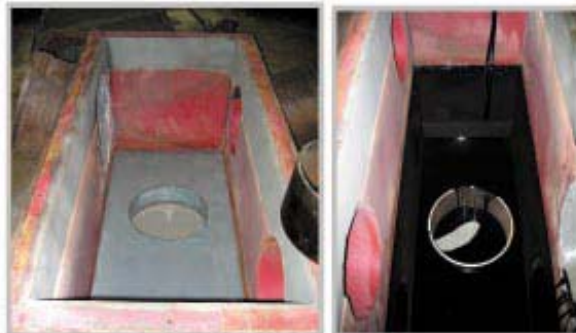
## A Best Practices Solution

### Material Handling – Sand & Aggregates

<b>Best Practice Overview:</b>	 <p>Protection of sand and aggregate chutes with a cast in place thick polyurethane/polyurea lining</p>
<b>Applications:</b>	Chutes, hoppers, scalpers, screws, screen decks
<b>Target Markets:</b>	Sand, aggregate, cement, ore processing plants
<b>Lining Formulation:</b>	Polyurethane/polyurea 100% solids castable
<b>Lining Application System:</b>	Hi-Flow, low temperature, low pressure plural component

#### Current Situation:

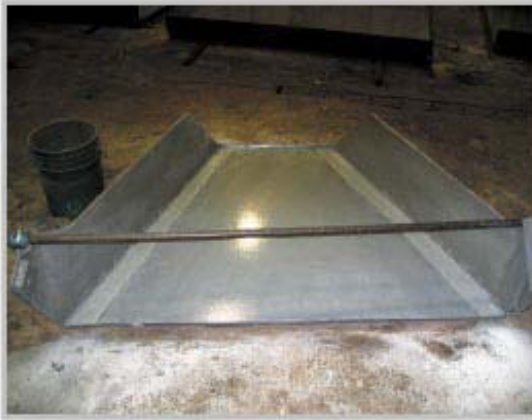
Quarries and processing plants fabricate steel chutes, hoppers, scalpers, screws, etc. that wear out relatively quickly. Repair or replacement is expensive in terms of raw materials, fabrication costs/time and downtime for installation.



# A Best Practices Solution

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## Material Handling – Sand & Aggregates



### Existing Problems:

The material components used in material handling wear out too quickly and the industries need a cost effective way to reduce wear and shorten downtime. The cost of steel is becoming more expensive each year.



# A Best Practices Solution

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### **The ISUSA Solution:**

Cast thick linings onto the surfaces of the chutes, hoppers, scalpers, screws, etc. The replacement material handling components were fabricated out of steel. The surfaces of the steel to be lined were cleaned and blast profiled then cleaned again. After the substrate prep the surfaces to be lined were masked and primed to enhance adhesion. Then the lining material was cast onto the surfaces needing protection. The thickness of the lining ranged from 1/4" to over 1" on average and in some cases we cast linings 2" thick. The cast material becomes tack free in less than two minutes and can be put back into service after 24 hours. Our linings do not need to be removed when a localized wear area becomes apparent – just clean the area, abrade the area, primer and cast the lining into the worn area. Our linings exhibit excellent interlayer adhesion.

### **Benefits Realized:**

The cast linings can be installed on any component with no modification to the component design. Most components do not wear out uniformly and our lining solution can be applied thicker where more wear is expected to occur. The addition of our lining creates a sacrificial layer protecting the steel. Customers report a 50% to 200% extended life of the material components using our lining solution. In some case where the wear is similar to bare steel the customer reports a significantly shortened downtime to repair the lining when compared to fabricating a new component. In addition, customers report significant sound attenuation when using our linings. Unlike slab stock materials that are mechanically attached our linings are fully adhered to the entire steel substrate in a monolithic lining that does not allow for material to get behind the material causing it to fail over time.



**For more information, samples and bids please contact Industrial Solutions USA.**