

'Hot Shot' Abrasives Plant Reduces Costs, Cuts Downtime With Maxi-Tuff® Elevator Buckets

At National Metal Abrasives, Inc., in Wadsworth, Ohio, Maxi-Tuff® elevator buckets are racking up cost savings as they transport 300 tons of steel shot daily. Injection molded from DuPont Zytel® ST super tough nylon resin, the Maxi-Tuff® buckets are lasting much longer than the old cast-iron units.

"We're getting three times as much life out of each bucket," says the plant's Maintenance Manager, Clyde Robison. "Maxi-Tuff® buckets are tougher, lighter, and they cost about the same as cast-iron."

National's plant produces highly abrasive steel shot, primarily for industrial de-rusting and deburring operations. The plant is fully automated and runs 24 hours a day, seven days a week. Two 102-foot high bucket elevators remove freshly-formed shot from quenching pits and deliver it to dryers.

Each of the elevators has 210 buckets mounted on a 4-ply rubber belt. One end of each belt is immersed in the water-filled pit where temperature ranges from 160° to 165°F. Each bucket contains from 10 to 15 lbs. of hot shot as it emerges from the pit. As a result, the buckets are subjected to a naturally highly abrasive product, and also to heat, weight loads and moisture as well.

In the past, cast-iron buckets used on the elevators wore out and had to be replaced once every six months. In addition, they wore out unevenly, causing frequent shutdown of the elevators for replacement of worn buckets.

Hot environment: Maxi-Tuff® buckets withstand rigorous conditions at plant producing steel shot abrasives.



Maxi-Tuff® buckets deliver hot, wet steel shot to drying hoppers.



National Metal's management began to experiment with alternative buckets, including Maxi-Tuff® buckets. Results of trials with the first few Maxi-Tuff® buckets were so encouraging that they equipped both elevators with the rugged nylon buckets in 1993.

Now, more than 2-1/2 years later, National Metal's Executive V.P., Bob Fuller, reports that the Maxi-Tuff® buckets are actually outwearing the belts themselves. "We have to replace the belts every 18 months, simply because the rubber won't last any longer in that environment. But, when we do replace

the belts, the buckets are still in serviceable condition."

Maxi-Tuff® buckets also reduce wear and tear on machinery. National uses 8 by 5 in. AA style Maxi-Tuff® buckets. They weigh only 1.1 lbs. each, versus 6 lbs. for comparable cast-iron buckets.

Maxi-Lift Inc., of Dallas, Texas, manufactures 17 standard sizes of Maxi-Tuff® elevator buckets made of super tough Zytel® ST. Call today for more information. Toll-free: 800-527-0657. Local or international: 972-735-8855. Fax: 972-735-8896.