



Considerations When Replacing Steel Shot With Aluminum Shot

BUSINESS CHALLENGE

Transmet is frequently asked what to consider when replacing Steel Shot with Cast Aluminum Shot. Cast Aluminum Shot is one-third the density of Steel. If not accounted for, this difference can cause the dust collection system to remove usable shot from the blast machine. Other minor adjustments may also be needed to ensure Cast Aluminum Shot can feed freely through the blast wheel and into the shot blasting operation.

TRANSMET APPROACH

Transmet recognized that Aluminum is highly malleable compared to Steel. When operating in tight spaces within moving components (such as the blast wheel) the friction can cause Aluminum to gall. Galling in a blast machine can fuse the impeller to the control cage and bring the blast wheel to a halt. Transmet solves this potential issue by removing the rear of the control cage. This adds clearance for media to move freely.

Another consideration when replacing Steel Shot with Cast Aluminum Shot is the airwash system. Left unchanged it could remove usable Aluminum Shot from the machine. Transmet solves this potential issue by first completely closing the slide gate coming from the hopper. Slowly open the slide gate until dust is being removed and usable Shot is not.

To determine the amount of Cast Aluminum Shot necessary to fill a machine, multiply the capacity for Steel Shot by 1/3. This accounts for the difference in density.

Example: 400 lb Steel Shot (400 x 1/3) = 133 lb Aluminum Shot

PROJECT OUTCOME

Once these adjustments have been made, the blast machine will efficiently operate with Cast Aluminum Shot and benefits will be recognized:

- Cast Aluminum Shot outlasts Steel Shot by 250%
- 1 lb Aluminum Shot equals 3 lb Steel Shot
(pictured: two 50 lb bags)
- Cast Aluminum Shot will not wear machine components

