

# THE CRODON CHRONICLES

## Helpful Tips for Using CRODON® Wear Plate

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www.crodonwearplate.com



**Telescoping coal chute's performance and life cycle significantly improved with CRODON.**

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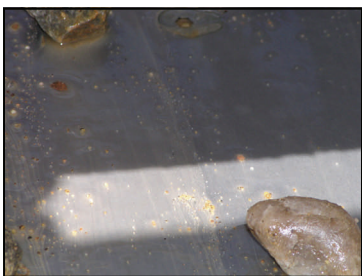
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### Upcoming Events:

**Come see us at  
Coal Prep 2010  
April 26 - 29  
Lexington, KY  
Booth # 1025**



**CRODON Wear Plate in vibrator feeder used in a quarry.**

**CRODON® Wear Plate**

Tough. And Slick.



**Limestone Chute Flow Solved by CRODON**

### CRODON superior with limestone in bench and field tests:

Abrasion testing at Jenike & Johanson demonstrated that the CRODON wear surface was approximately 50X more wear resistant than 304 stainless steel. Testing also showed that CRODON ensured unrestricted flow at an angle 30% shallower than 304 stainless steel. The same results were also found when checking for coefficient of friction.

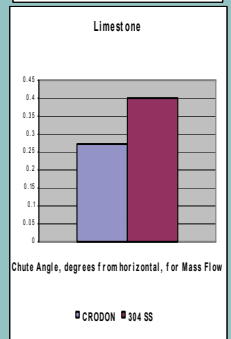
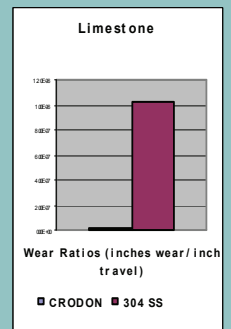
Improved flow has been demonstrated in the field with both crushed limestone and with lime slurry. A quarry in Oklahoma significantly improved productivity by using CRODON rather than AR500 in difficult flow locations. The operations manager said he was skeptical but had such a serious problem, he needed to try something. Since installing CRODON, he hasn't had a chute go out of production due to plugging. This field trial occurred during a very wet rainy period—the worst time for plugging. Power plants using CRODON have also seen improved flow of pulverized and slurry limestone used to scrub SO<sub>2</sub> from flu gas.

### Cutting CRODON to Your Specification

CRODON Wear Plate is stocked as sheets that are 24"x48" and 48"x48". Most users, however, need sizes cut to specific shapes or dimensions before installation. There are three acceptable methods for cutting CRODON Wear Plate - High Definition Plasma, Laser, and Water Jet. Flame cutting is never recommended for CRODON. Chromium Corporation can cut parts to specific dimensions or fabricators can supply this service close to the project location. Of the three systems, high definition plasma is the most economical and the one used by Chromium Corporation. Laser and water jet are normally more expensive but produce cuts that are more precise and leave a sharp right angle edge. When using plasma, cut with the CRODON wear surface facing up. With laser and water jet, keep the CRODON wear surface facing down.

### Improved Limestone Handling

Limestone can be a difficult material to handle, especially when it's wet or pulverized. It can plug chutes, hoppers, and transfer points causing headaches for managers and harming productivity. Stainless steel improves flow but has poor wear resistance. Abrasion resistant steels and chromium carbide overlay give good life but poor material flow. CRODON solves both problems with excellent life cycle and outstanding material release and flow.



**High definition plasma cutter**

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**Chute liner using spacer  
under trailing edge.**

**CRODON® Wear Plate**

Tough. And Slick.

## Vertical and Horizontal Seams

To maximize life cycle, it is important to pay attention to seams and how they fit together. Generally, vertical seams, especially if they are in a flat area and arranged in an offset design, have little to no impact on wear life. As a result, plates installed side by side or joined via fillet welds can be used to span wide areas needing multiple panels.

Horizontal seams need more attention during installation. It is especially important that the leading edge of the lower sheet not be higher than the bottom edge of the sheet above it. Doing this will expose the

base steel to direct wear, undermining the superior wear resistance of the CRODON wear surface. Inserting thin (1/16" - 1/32" thick) spacers under the bottom of the trailing edge is an easy and effective method of protecting the leading edge of the following sheet.

Sheets should fit snugly, making sure gaps are minimized. Where precise fitting is desired, laser or water jet cutting can be specified. Sheets can be joined and seam welded by fillet welds from the back side. Fillet welds to the front are not recommended since the

weld will be the weakest wear point on the liner. However, if required, first apply a thin root weld in the "v", followed by multiple thin passes till the "v" is filled. Buff the weld smooth to the CRODON surface, being careful not to grind the CRODON.

In all cases it is better to use CRODON as a liner, rather than as the structural material. That way, panels can be replaced as needed without having to rebuild the entire chute, hopper, or transfer point.