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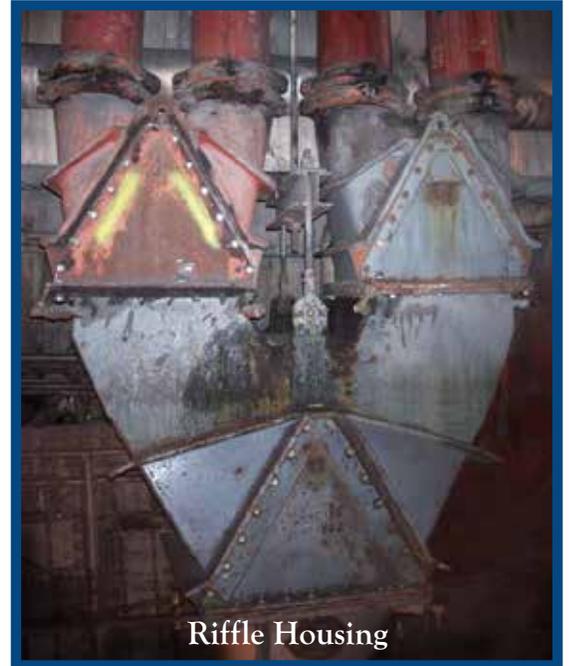
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Riffle Me This

by James Huey & Mike Sexton

In 2008 **Wear-Concepts** took on a riddle that presented itself at a Mid-west coal burning power plant. The conundrum was found in the labyrinth of the upper and lower Riffle Housings. The purpose of the Riffles is to equalize the pressure drop of the Pulverized Coal headed for the boiler. The Riffle Housing is in constant contact with pulverized coal, which causes wear. A large amount of wear at the exit and near the edges of the Riffle Elements was costing the plant a bundle in repairs. The power plant's maintenance team was rebuilding the housings once every year with hard-surface welding rod. It took one man working ten-hour days for one full week to build up the housings and get them back into service.



Riffle Housing

One option considered was to line the Riffle Housings with **WC90™ Ceramic**; however, two complications prevented this option from being pursued. First, the complex geometry proved to be difficult to line with **WC90™ Ceramic**, and second, the wear in the housing also required metal repair to build up and provide a smooth enough surface for **WC90™ Ceramic** lining. This was proving to be quite the enigma. Considering these two factors, **Wear-Con** adjusted its solution for solving the predicament by lining the Riffle Housings with **Densit® WearFlex 2000™**, which now proves to be the perfect answer.



Prior damage.

The advantages of **Densit® WearFlex 2000™** over any other option were overwhelming.

- First, the expanded metal that is required to be installed as an anchoring reinforcement could be welded into place without doing any metal repair.

- Second, the **Densit® WearFlex 2000™** filled the wear areas with more material providing longer life in "hot spots."



Installing the mesh.

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- Third, **Densit® WearFlex 2000™** is a monolithic coating with no seams or breaks providing continuous protection.
- Fourth, smooth surface helps prevent turbulence and down-stream wear.
- Fifth, **Densit® WearFlex 2000™** is a ceramic aggregate-based, concrete material made up of corundum, white Portland cement, and silica flume.
- Sixth, **Densit® WearFlex 2000™** comes with a **Wear-Concepts** warranty that is backed by **ITW Densit®**.

To line one complete Riffle Housing, the **Wear-Con Field Crew** took only one twelve-hour day using three men. At that time, in 2008, the total job cost approximately \$3000. But as the old saying goes, “The proof is in the pudding.” In 2009, one full year after the job had been completed, the doors were opened and a thorough inspection was performed. The results? Absolutely no wear at all! Five years later in 2013, another yearly inspection was performed. Those results? Again, no noticeable wear! The projection is that the **Densit® WearFlex 2000™** lining will last for at least twenty years. If that projection holds true, the savings in labor and wire over twenty years will be at least \$30,000! But wait! There’s more.

There isn’t just one Riffle Housing in this plant. There are five. **Wear-Con’s Field Services** has now relined all of them. The first one in 2008. Two more in 2009. Another one in 2010. Then the last one was completed in 2011. If all the Riffle Housings meet projections and each of them last twenty years, the savings will be at least \$150,000 without accounting for inflation.

Cost of product. Cost of labor. That doesn’t compare to the cost of downtime. What does your downtime cost you per hour? Take that number times 6000, because that’s how many hours of downtime disappeared for this power plant over a twenty year period. It’s no mystery; that translates into a better bottom line for you.

The Riffle Housings are just one of the projects that **Wear-Con’s Field Services** have been contracted for in that power plant. Here is a list of other projects they have completed:

- Clinker Grinder Bottom Ash Hopper (Dog House) - **Densit® WearFlex 2000™**
- Exhausters - **WC90™ Ceramic**
- Pulverizer Dome Lid - **Densit® WearFlex 2000™**
- Coal Mills - **WC90™ Ceramic**
- I.D. Fan Housings - **WC90™ Ceramic**
- Rod Section of the Wet Scrubbers - **WC90™ Ceramic & VB96™ Vacuum Bonded Ceramic**

“We were a bit stumped at trying to figure out the puzzle of all our wear issues we had until **Wear-Con** showed up. **Densit®** is a great product, and the guys on **Wear-Con’s Field Crew** are great to work with. They flat know what they are doing. They get in, get out, and don’t mess around. Everything they have installed is holding up well and still going strong. They have saved us a tub of money. I look forward to having them back.” A.O., Maintenance Supervisor.

If you would like to see how a **Wear-Con Field Service Crew** might be able to help you solve the wear dilemma at your plant, give us a call or email us. One of our **Wear Specialists** can come to your operation at your convenience. Once there, he will be able to assess and solve your particular wear quandary.



Densit® WearFlex™ being installed.



Finished job.



Riffle Housing after one year.



Riffle Housing after five years.



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