

CDS

CLINKER DETECTION SYSTEM

SYSTEM BENEFITS

- Floor Tube Damaging Event Detection
- Soot-blower Operation Optimization
- Boiler Chill and Blow Event Optimization

“By determining where clinkers originate, we know which soot-blowers to run, or better yet, which soot-blowers not to run.” – Tim Carlier, ITM

CDS STANDARD PACKAGE

- Stainless Steel Enclosure
- Compact RIO Controller
- 6 IO Channels
- 6 Industrial Sensors
- CDS Software Package
- Installation Documentation

PLC COMMUNICATION

- OPC-DA
- OPC-UA
- ETHERNET/ IP
(ControlLogix Compatible)

For More Information and Pricing Contact:

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With over 15 years of experience in the development and installation of boiler fouling detection systems, ITM is excited to introduce our latest technology that is targeted at clinker impact detection, The Clinker Detection System (CDS). The CDS is based on a proprietary technology (patent pending) for measuring both the size and frequency of deposits that impact a boiler floor. This technology enables boiler operators to: mitigate the risks of floor tube failure due to Clinkers impacting the floor; and optimize soot-blower operations both during normal boiler operations and thermal shedding events (chill and blows). US Patent No. 14/340,661

Detecting Floor Tube Damaging Events

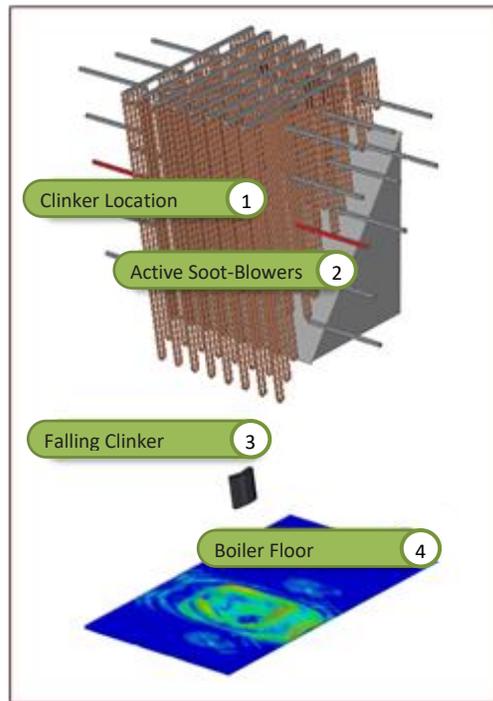


Figure 1: Detecting Floor Tube Damaging Events

The CDS monitors the industrial sensors and records all potentially damaging clinker impact events. The system provides boiler operators with a list of these events that includes both size and location of the damaging event. Figure 1 shows a clinker dropping from a steam tube to the floor below.

Soot-Blower Operation Optimization

In addition to keeping track of the size and location of all the damaging events, the CDS

is also trending this information and correlating to which soot-blower was in operation.

Soot-Blower	Rank	Runs	Kg/Run
52	1	257	9.4
51	2	442	8.8
2	3	256	7.3
3	4	257	7.3
5	5	442	6.9
6	6	448	6.2

Figure 2: Soot-Blower Operation Optimization

When the CDS compiles these trends, it provides boiler operators with feedback about soot-blower's effectiveness. An example of this feedback shown in Figure 2 is used to optimize soot-blower sequences.

Boiler Chill and Blow Event Optimization

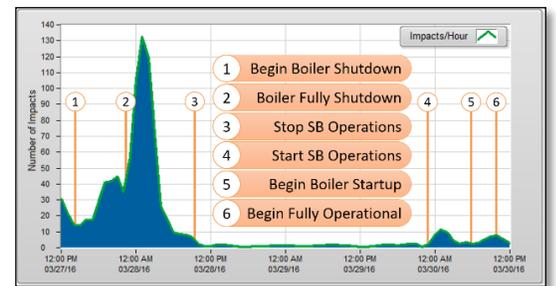


Figure 3: Boiler Chill and Blow Event

Along with soot-blower effectiveness, the CDS system also determines the number of impacts and material shed per hour. This feedback is valuable for optimizing boiler chill and blow events. Figure 3 shows a trend of the number of impacts per hour. Boiler operators can use this trend to adjust the chill and blow event duration.



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