Brake Pad Press Monitoring

Highlights:

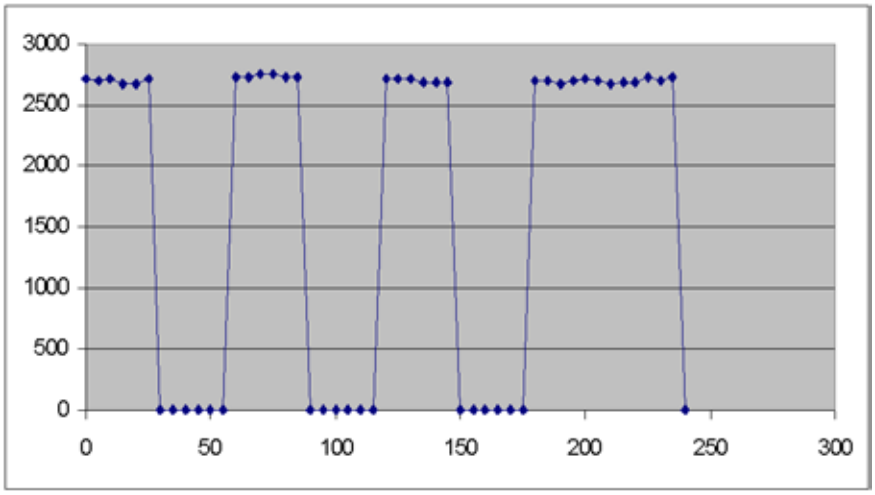
- Defects detected upstream
- Defects Detectable:
  - Hydraulic pressure mis-adjustments
  - Incorrect cure cycle
  - Incorrect temperature in oven
- Signatures:
  - Ram versus Time
  - Temperature versus Time

It is critical that all stages of the brake pad manufacturing process be carried out according to exact specifications in order to ensure that brake pads meet strict safety performance guidelines. To address this requirement, Sciemetric® has developed a solution in which a Signature Analysis System with InspeXion® software is configured to accurately monitor the initial stages of the brake pad forming process.

The brake pad creation process begins with a tray consisting of individual molds. A powdered dust containing various compounds and binding agents is placed into each of the molds in a tray, and then five to six trays are stacked on top of each other. A large hydraulic ram is used to press the powder into the molds at extreme pressure and temperature for 30 seconds, upon which the ram is withdrawn for ten seconds. The ram is then used again to press the pads for an additional 30 seconds, upon which it is withdrawn for ten seconds. This pressing cycle continues for several minutes until the cycle is complete.

The system automatically monitors up to 6 asynchronous rams, collecting pressure and temperature data from each every few seconds. The system then verifies that each station correctly passes through the prescribed cycle. More importantly, the Signature Analysis System also keeps on disk file records of all cycles, allowing the manufacturer to prove that all pad batches were correctly cured.

This success is just one of the many reasons Sciemetric products are located throughout major manufacturing plants around the world.



Example Brake Pad Press Waveforms.

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