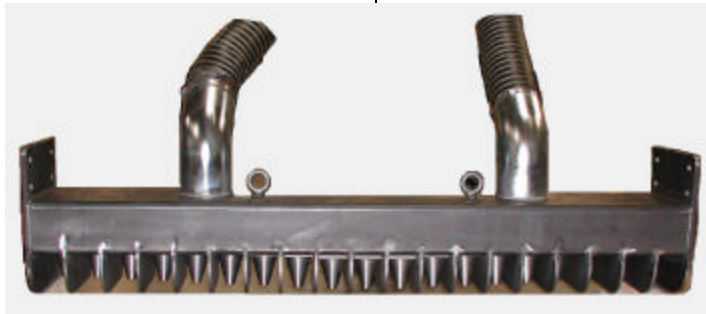




Sonic Air conquers Reject rate

“International competition is so fierce in the steel sector that even a small technological difference can create a competitive advantage. The productivity of many finishing processes can also be increased by minimizing process times and adopting practices that reduce defects that will reduce plant returns of prompt scrap.” (Steel Industry Technology Roadmap – Barriers and Pathways for Yield Improvements, Oct 7,2003)

Sonic Air Systems is proud to introduce a radical change in operating philosophy in regards to steel strip drying. This improvement in the current process of blowing off steel sheets will overcome the barriers of maintaining the increasing production rates while reducing reject rates. These new achievements are innovative and environmentally responsible while utilizing technologies that allow higher rolling speeds and faster processing.



The industry “has been taking an aggressive approach focused on finding steel solutions to the challenges our customers are facing. Sharkey said that the new North American steel industry will continue to be characterized by innovative products and specialized applications. *The Steel Industry Technology Roadmap – Barriers and Pathways for Yield Improvements*

Sonic Air first proposed this new technology to ISG Harbor Works located in East Chicago, IL. ISG’s Temper Mill pass line previous process involved using (3) compressed air chevron headers with (31) nozzles each (93 nozzles total) operating at 80PSI and being 6-8” away from the surface of the product to dry 72”W product traveling at **4600FPM**. This was accomplished using **468Hp** to complete the needed drying, but rust issues arose when the system would drop below 60PSI.

Sonic Air conducted in-house testing to measure the expected results compared to ISG’s existing system. The flat jet nozzle at 80PSI consumes 21CFM each x 31 nozzles = 651 CFM per manifold. The flat jet nozzle @ 80PSIG discharge pressure produced on 14”H2O (15,900 FPM velocity) of static pressure at a 6” distance from the tip of the nozzle and only 6”H2O at 12” away. That’s a 99.5% pressure loss at 6” away.

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Sonic tested our multi-nozzle with a 1” nozzle with a discharge pressure of 2.5psig (72” H2O) and still had 60”H2O (30,000 FPM velocity) at 6” away and 24”H2O at 12” away. Sonic had only a 17% reduction in pressure, but more importantly, we had more than 4 times higher pressure at 6” distance than the flat nozzle. **That equates to a 90% increase in the Impact Velocity at a 6” distance.**

Based on Sonic Air’s new design, ISG is expected to reduce the total line Hp by 336 (250Kw). Calculating the Hp savings in energy equates to 250kW @ \$0.06/kW hr = \$15/hr savings x 24 x 365 = \$131,400.00 per year savings ON ONE LINE. This doesn’t include savings on compressor maintenance.

The initial feedback from Jim Velto was that ISG had routinely been losing 1-2 coils per month due to scrapping of wet/rusted surfaces of the entire coil. They did have two coils last week that had rust on a couple of rolls-out (last/first few turns of the coil), but **no rejected**

coils since the addition of our system.

Essential that the Administration make sure that the United States never again becomes a dumping ground for steel imports

Sonic is focused on and shares “several common goals, including maintaining a globally competitive manufacturing sector, increasing energy efficiency, reducing environmental impact, and creating and saving jobs” through our advanced leadership and innovative vision for the future.

