

## CSN, Terre Haute, Indiana, USA has successfully installed Stressometer flatness system

### CSN's 2-stand reversing cold mill runs with a 2-roll Stressometer flatness system

#### What has been achieved?

"I believe the ABB Stressometer roll was the best choice for our cold mill operation. We measure and control shape much better after the Stressometer installation: the shape system is reducing wrecks, we have experienced no cross-talk and there has been no need for recalibration to date.

Operators rarely adjust the shape anymore and they can truly trust the measurement feedback. What you see is what you get!

The Stressometer has enhanced our ability to produce very light gauge. With 4 measurements per revolution, it improved our control response time which resulted in better head and tail flatness, and also flatness during acceleration. I am impressed with the ability of the Stressometer to measure very light gauges with high accuracy.



The Stressometer was a key component in our recent Cold Mill upgrade. It contributed to CSN, LLC in Terre Haute, Indiana, having one of the highest mill utilizations within the CSN Group for 2012. The mill has set several production records since the 2010 upgrade and ABB's Stressometer has contributed to those achievements."

To summarize:

"The Stressometer rolls fulfilled our objective, in regards to flatness measurement, for our Cold Mill upgrade. They measure and run reliably...no real problems to talk about. I believe ABB's long reference list of installs also supports the historical success of the Stressometer system."

**"The Stressometer has enhanced our ability to produce very light gauge."**

**Kyle Rickard, Operator, comments on the Stressometer installation:**

"The Stressometer is definitely better and more reliable than the old system. We use to manually adjust all the time, but now the roll is in control almost 100% of the time...it's all automatic.

There is rarely a strip break anymore and threading has improved since the Stressometer installation – a very reliable shape system from my point of view."

**Roberto Bohrer, Production Manager at CSN, Terre Haute, IN, adds his comments:**

"Stressometer shape system is running great in Terre Haute.

Feedback from Brazil: CSN Brazil has also experienced excellent Stressometer installations.

In general, ABB has a good reputation; they are considered one of the best in the world."



Gary Sinderson, Process Engineer – Rolling Mills



Kyle Rickard, Operator

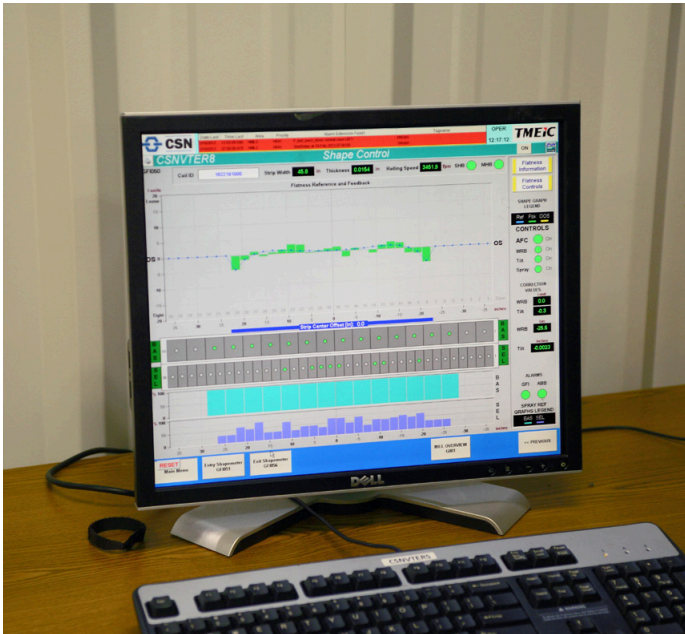


## Profile

CSN, LLC, located in Terre Haute, Indiana is one of the nation's newest and most advanced steel processing facilities. With a capacity of 1.1 million tons a year, CSN, LLC is offering customers a complete range of important processing services in an 18-acre plant located entirely under one roof. Processing lines include state-of-the-art Continuous Pickle Line, Two-Stand Reversing Cold Mill, Hot-Dip Galvanizing Line, Hydrogen Batch Annealing, Temper Mill and a Coil Slitter.

Two-Stand Reversing Cold Mill – production widths range from 34” to 72” and finished thickness range is .010” to .060” with the closed loop shape control system. Major upgrade to the mill main drives, Level 1, and Level 2 control system was completed in late 2010.

Within 250 miles of the plant, the nine-state midwest region consumes two thirds of the steel produced in the United States. To maximize material flow, the plant is served by its own rail spurs that run through the major storage areas. Huge semi trucks can enter and drive through for delivery and pickup. CSN offers high quality, value-added flat rolled steel products to targeted steel manufactures, steel service centers, large distributors and consumers that lack finishing capability or sufficient capacity to meet their end-users customers' needs.



## Supplied equipment

ABB Force Measurement has supplied the following to CSN Terre Haute:

- One Stressometer flatness system
- Two Stressometer 36 measuring zones standard rolls, diameter 313 mm
- PillowBlock Strip Tension System

### Mill data 4-high, 2-stand reversing tandem cold mill

Mill builder	Voest Alpine (VAI)
Rolled material	Steel strip
Tonnage	1.1 Mtons/year
Coil weight	22 tons
Strip width min./max.	34" – 72" (864 mm – 1829 mm)
Exit strip thickness min./max.	0.010" – 0.060" (0.254 mm – 1.524 mm)
Max. rolling speed	3500 feet/min (1067 m/min)
Work rolls	16" – 18" (406 – 457 mm)
Backup rolls	51" – 55.5" (1295 – 1410 mm)
Mill motor	6000 kW per mill stand



Bruce Stanley, Operator

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