

MEASUREMENT & ANALYTICS

# thyssenkrupp Electrical Steel in Germany has successfully installed ABB's Pressductor PillowBlock load cells for stable strip tension measurement



In order to further improve and secure the strip tension measurement in the CVC cold rolling mill, thyssenkrupp has upgraded to ABB Pressductor PillowBlock load cells with a 20-ton load capacity. This has eliminated the excessive building height, previously caused by undersized mechanical parts.

## Measurement made easy

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01 thyssenkrupp Electrical Steel is an important component of power supply and electric mobility.

02 Pressductor® Technology: Mechanical force alters magnetic field.

The new PFCL241-200 kN load cells have been chosen for better integration of the load cell packages in their respective installation, mechanically and in terms of force.

### What has been achieved?

We ask Mr Kai Schubert, Head of cold rolling department, about ABB's load cell installations: "Until now we haven't had any problems with ABB's robust and reliable Pressductor PillowBlock load cells. They measure perfectly, they are very stable, and we are very pleased with the installations".

"ABB's load cell installations in the CVC-mill have been running for some time now and everything is working very well, and we are satisfied with the good product performance".

"Further, when having a good working strip tension measurement it will also provide better flatness measurement, which is excellent".

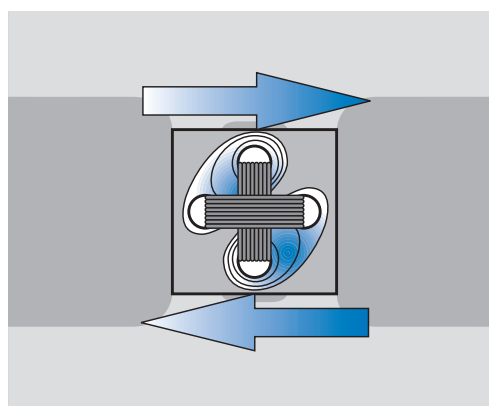
"To summarize; ABB Force Measurement is providing good products, high quality and good service. Also, we want to emphasize the good cooperation with ABB. For us it is important to have easy access to the supplier and it is always easy to get in contact with ABB".

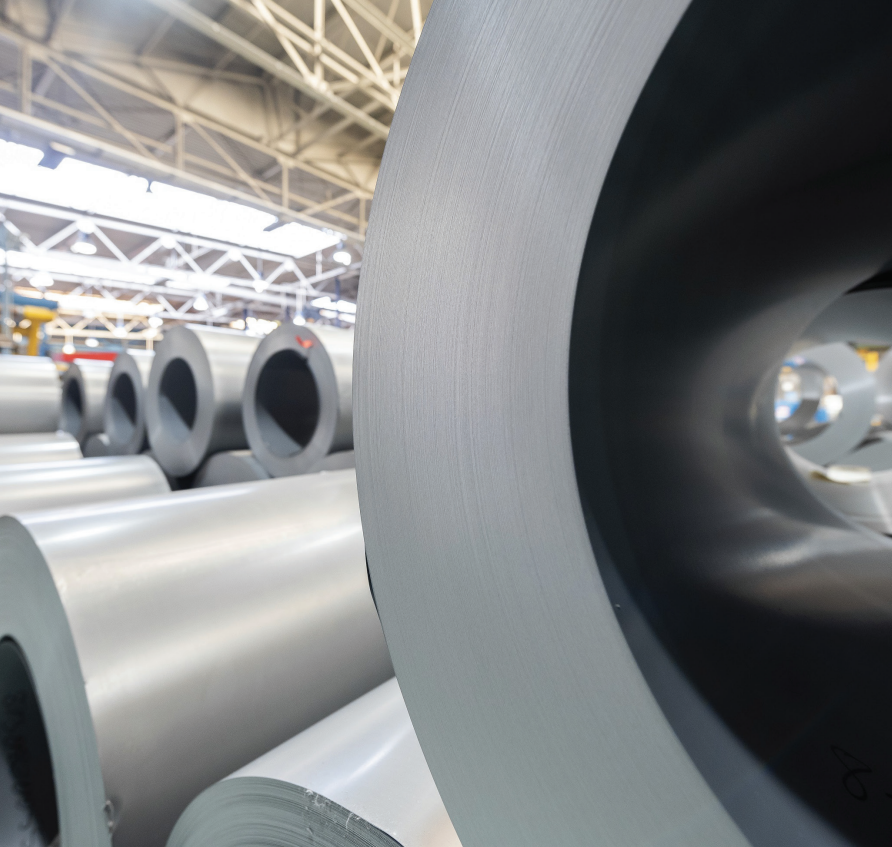
### The Pressductor® difference

Like ABB's other load cells based on Pressductor® Technology, PillowBlock Load Cells rely on electro-magnetic changes in the transducer, not on physical movement, to sense fluctuations in strip tension.

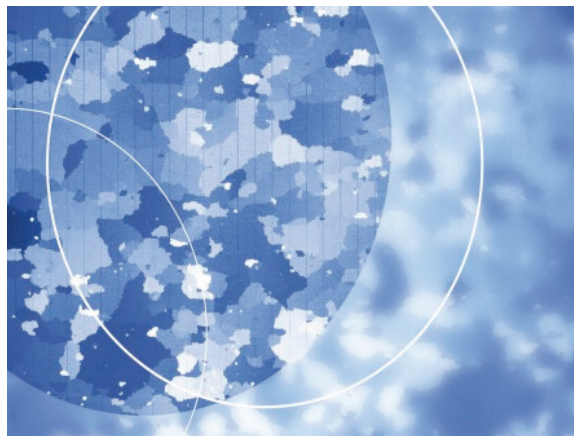
The Pressductor Technology operating principle provides exceptional improvements in load cell performance characteristics, including reliability (notably absence of drift), durability, repeatability, and wider measurement range.

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01-03 thyssenkrupp Electrical Steel is producing high quality grain oriented electrical steel products.

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04 Typical application for ABB strip tension load cells with deflected strip over the measuring roll.

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05 Pressductor® PillowBlock vertical measuring load cell – PFCL 241SE-200 kN with mounted adapter plates and fixed cable connection with protective hose.

### Company overview

thyssenkrupp Steel Europe is one of the world's leading suppliers of high-grade flat steel. With around 27,000 employees, they supply high-quality steel products for innovative and demanding applications in a wide range of industries. Customer-specific material solutions and services associated with the material steel round off the range of services.

Together with their customers thyssenkrupp Steel Europe continues to develop the long and successful story of the company, thereby shaping global markets, the region and a large number of powerful industries, including the automotive industry, machinery and plant engineering, the packaging industry and the energy sector.

thyssenkrupp Steel Europe fulfills the increasing demands for ever more efficient lightweight construction and safety standards, researches and develops new high-tech steels and sets standards for surface and processing technologies. The intensive research and development work secure the basis for a sustained success.

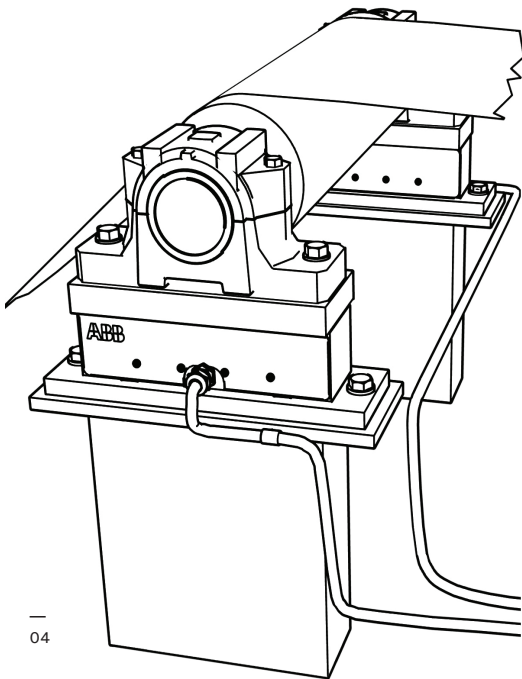


**thyssenkrupp Electrical Steel – Your partner for a better world with the power of electricity**

As one of the leading companies worldwide thyssenkrupp Electrical Steel produce and sell powercore®, a complete range of high quality grain oriented electrical steel products.

The use of thyssenkrupp Electrical Steel’s innovative high-tech powercore® C and powercore® H electrical steels in distribution and power transformers goes a long way towards minimizing core loss in the transmission and distribution of electrical energy. The powercore® material makes a significant contribution to protecting the environment throughout the world and to the sustainability of energy resources.

thyssenkrupp Electrical Steel is a business unit/100% subsidiary of thyssenkrupp Steel Europe.



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**ABB Force Measurement products installed at thyssenkrupp Electrical Steel in Gelsenkirchen, Germany:**

- Six (6) Pressductor® PillowBlock Load Cells, PFCL 241 Vertical force measurement, 200 kN

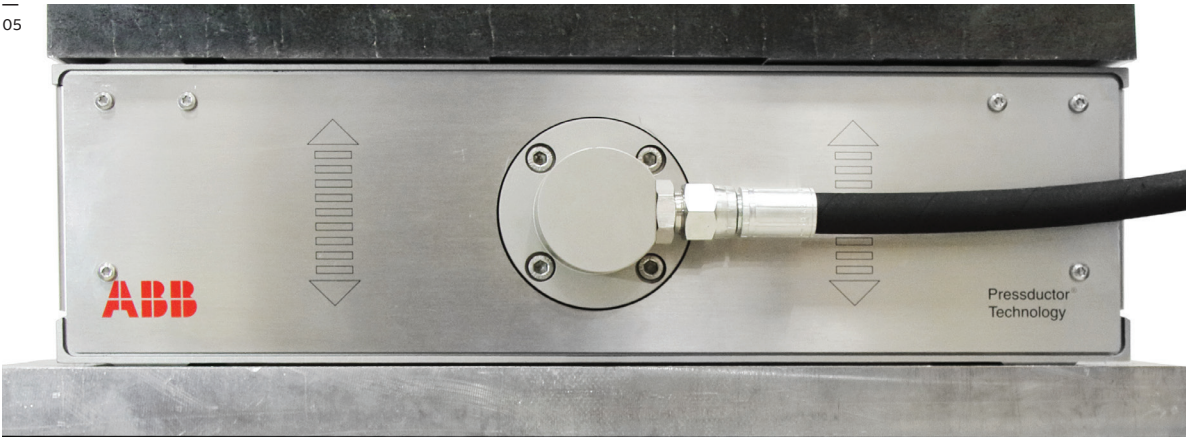
Load cell PFCL241-200 kN is an excellent choice in stainless steel and silicon steel mills where strip tension is high. It can also be used in high tension application in process lines.

The load cell is a solid tensiometer made from stainless steel with exceptional ruggedness and high spring constant in line with other Pressductor PillowBlock load cells. It can be installed under the bearing housing and senses the vertical force, measuring in both directions. PFCL241-200 kN is available as mill-duty version with fixed connection cable in protective hose.

**Mill data**

CVC cold rolling mill (Continuously Variable Crown), side shifting of work rolls	
Millbuilder	SMS
Rolled material	Electrical steel
Backup rolls	1320 mm
Work rolls	240 mm
Max rolling speed	1010 m/min
Strip width	1100 mm
Exit strip thickness min.	0.18 mm
Exit strip thickness max.	0.35 mm
Coil weight	21.5 ton

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Electrical Steel,  
Gelsenkirchen,  
Germany.

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Mr Kai Schubert, Head of cold rolling department, thyssenkrupp Electrical Steel

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