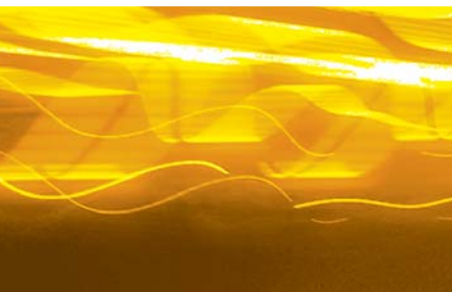




COILBOX™

HOT STRIP MILL TECHNOLOGIES



WHAT IS A COILBOX™?

A BRIEF HISTORY

Originally developed in Canada by Stelco Steel in the late 1970's, the Coilbox™ is now found all over the world. The Coilbox™ success is due to its numerous benefits and improvements to the traditional hot strip mill, which altered the world of coiled steel products. Over the years the process and function of the Coilbox™ has been improved and refined.

The Coilbox™ was initially developed and commercialized by Stelco's technology group, which later evolved into Steltech, Hatch Steltech and finally Hatch Technologies. Hatch is widely considered as the Coilbox™ technology expert in the hot strip mill community.

Mandrelless Coilbox™ operation

The Coilbox™ is located between the roughing mill and the finishing stands in modern hot strip mills. Transfer bars from the roughing mill are rapidly coiled then subsequently uncoiled and fed to the finishing stands by the Coilbox™. The coil is effectively self insulating providing uniform transfer bar temperatures into the finishing mill. The Coilbox™ has been applied to many mill arrangements with great success, from traditional mills to direct casting and rolling to mini-mills and endless rolling mills.

WHY A COILBOX™ MILL?

A wide variety of steel grades have been effectively processed through the Coilbox™, from very thin and ultra soft carbon and silicon steels to high strength low alloy steel and austenitic stainless steel. The Coilbox™ is used to process surface critical products including exposed automotive.

The Coilbox™ revolutionized the hot strip mill because of two key principles: temperature maintenance and accumulation of long bars. Forming a transfer bar into a coil greatly reduces the exposed surface area and consequently the heat lost due to radiation. This results in the uncoiled transfer bar having virtually the same temperature throughout providing the following benefits:

- 1) A reduction in the power necessary for the bar to be rolled to the desired dimensions.
- 2) Fewer finishing stands and a shorter run out table.
- 3) Uniform metallurgical properties in the product.

Also, the compactness of a coiled transfer bar in comparison to a flat bar reduces space requirements in the mill and can reduce capital cost when revamping an existing mill or designing a new mill. In the event of sudden stoppage or cobble, the coil can be held for many minutes and still contain a sufficient temperature to allow further processing. Coils can also be safely removed from the Coilbox™ allowing for faster restart times.



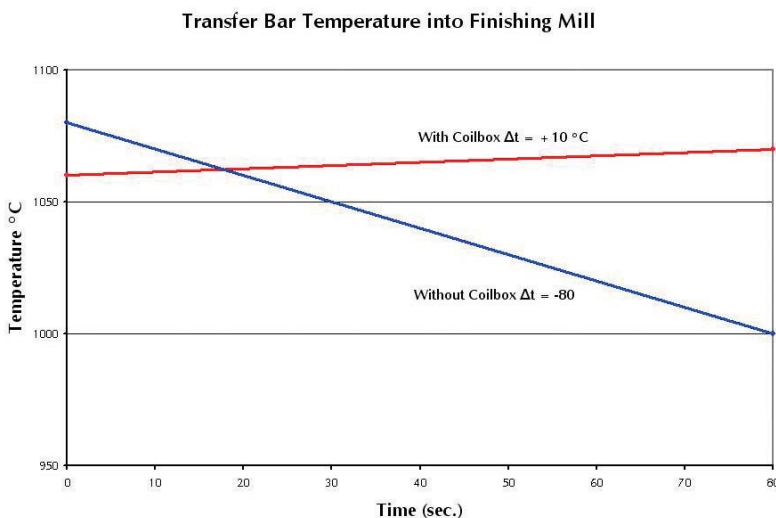


Hybrid-Mandrelless Coilbox™ operation

Under the guidance and continual development of Hatch the Coilbox™ has evolved quickly to meet and exceed the expectations of users. The modern design of the Coilbox™ is capable of high speed coiling of tight, stable and round coils under a wide range of material widths, thickness and qualities. The Coilbox™ has benefited from new technologies in other fields such as hydraulics and automation improving equipment reliability and coiling performance while providing easier maintenance, ensuring the best product possible.

HATCH COILBOX™ TEAM CAPABILITIES

- Coilbox™ detailed design & supply of equipment
- Retrofit & upgrade studies for existing Coilbox™ users
 - General reliability
 - Upgrade to mandrelless or hybrid-mandrelless
- Controls design, PLC programming, HMI programming
- Process consulting for existing operations
- Process consulting for mill configuration & simulation

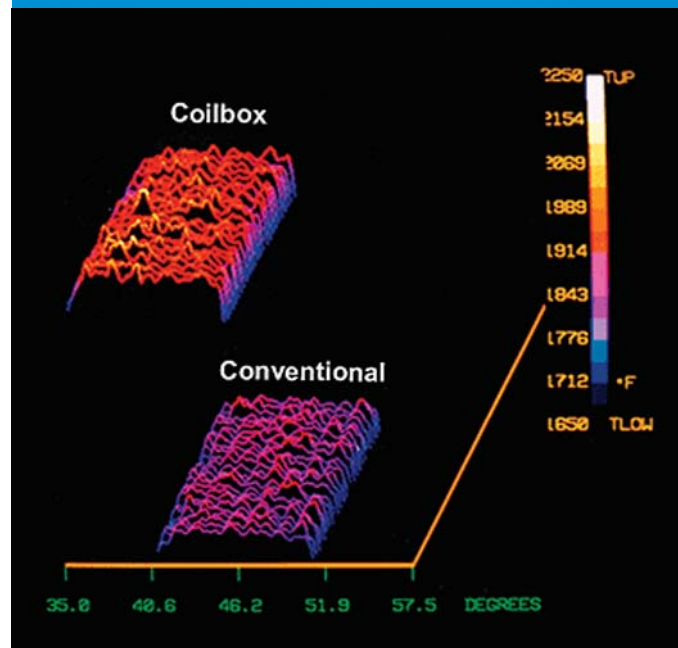


WHY HATCH?

Quite simply, we know more about Coilboxes than anyone else. We've been there from the beginning, and have been involved in virtually all Coilbox™ projects around the world. You can be assured that you are receiving the most up-to-date technology, innovations and know-how.

Under the Hatch Corporate umbrella, we use all the latest design tools, including 3D Solid Modelling and Finite Element Analysis. With Hatch you can be sure that your Coilbox™ equipment will be designed to last.

Our approach has always been one of collaboration with our clients. We continually strive to reach the best solution for our clients' operations. We have the ability to develop unique solutions, using our extensive process knowledge proven to meet our clients' requirements.



CONTACT

coilbox-sales@hatch.ca

Hatch

Technologies Group
2800 Speakman Drive
Mississauga, ON Canada L5K 2R7
+1 905 855 7600

www.hatch.ca/technologies

