

New ContiRoll® Generation 8 – manufacturing with higher flexibility: Frati celebrates the production of the First Board with avant-garde ContiRoll®

Not including the latest order, the Italian wood-based materials manufacturer Frati Luigi S.P.A. has ordered seven presses from Siempelkamp including six short-cycle presses and one ContiRoll® press over the years. The current eighth project sets a new milestone: in February 2013 Frati celebrated the production of the First Board on the most modern ContiRoll® in the world – the Generation 8!

by Ralf Griesche



The location of the new press is Bicinicco, a commune in the Italian province of Udine. Here, the Frati subsidiary Bipan S.P.A. is specializing in MDF production. In May 2011 Frati signed the contract, in July 2012 construction started and at the end of February 2013 the Generation 8 ContiRoll® press produced its First Board.



Forming line



Removal of thin boards

The scope of supply for the Frati order included a 8' x 28.8 m ContiRoll® for MDF with a production speed of up to 2,000 mm/sec. Next to the forming and press line Siempelkamp supplied the cooling and stacking line with high-stack storage system as well as the interfaces with the existing systems. Siempelkamp also supplied the steel structure for the forming line which were installed earthquake-proof.

The new Siempelkamp ContiRoll® press is equipped with a vapor exhaust system with downstream cleaning system.

In terms of the product thickness range, board density and board sizes, the new press sets virtually no limits. The additional pull-back cylinders at the upper hot plate allow the flexible production of boards with a thickness between 1.5 and 40 mm and a density ranging from 340 to up to 900 kg/m³. Thus, the plant is optimally suited for the production of lightweight boards. Board sizes include 1,860 – 2,500 mm x 2,400 – 5,650 mm.

Regardless whether thin, thick, lightweight or heavy boards: Everything is possible in MDF production – thanks to the optimal flexibility of ContiRoll® Generation 8!



Steel structure for the forming line



Top: Vapor exhaust
Bottom: Stacking with cover board feed

Frati: wood-based material competence "alla italiano"

Frati Group is one of the most important Italian producers of unfinished and laminated particleboard faced panels and high-pressure MDF to be used for several applications. Frati is also the largest producer of particleboard and MDF in Italy.

Profile:

- Business founded in Pomponesco in 1961
- President: Luigi Frati, founded his company at the age of 26
- 8 companies: Frati Luigi, Frati Luigi Pantec div., Frati Luigi Living div., Chimica Pomponesco, CMP, Bipan, Bipan Astrid div., Valori Franco

Motto: "Our company is built on the consistently high quality of our products. Styles and designs of our furniture panels are tailored to the requests of our customers."



Special features for a complex range of requirements

The complex requirements for this order cannot be met without special equipment. That's why Siempelkamp equipped the forming line with a heavy-duty pre-press which applies pressures of 1,200 N/cm². The innovative concept of our Generation 8 also includes a mat cross-cut saw which is part of the forming line. The benefit: During production interruptions, which require a mat reject, this saw makes a cut to produce a homogeneous and precise leading edge of the mat. When the mat is re-fed into the press, a defined high speed transfer is guaranteed.

The order also included a compactor system. The advantage for the plant operator: At high board densities and speeds, optimal and uniform feeding of the mat into the press is possible! The compactor compresses the mat under the final board thickness and thus protects the steel belt from possible glue clots. Thus, very thin boards can be safely produced.

Our Ecolibrator was also part of the order: This innovative pressure distribution plate concept is an important component of the ContiRoll® Generation 8 press operating at Frati. The concept includes two components: 1.) pressure distribution plates that are

arranged over the entire length of the press, 2.) an additional row of cylinders for the 8' wide line which distributes the pressure virtually isobaric over the entire area.

This concept provides the customer with many advantages: The improved pressure distribution inside the press results in significant material savings. The use of pressure distribution plates results in improved thickness tolerances which in turn leads to lower resin consumption. The wood consumption is also less due to these reasons. The arrangement of the differential cylinders across the width of the press frames results in an optimum density profile at the board edges. This results in cost savings for edge trimming.

An important milestone towards full operational capacity has been reached with the production of the First Board in Bicinico: The forecasted capacity for 3 mm boards is 700 m³ per day and 230,000 m³ per year. This ambitious concept which Siempelkamp introduced at Ligna 2011 is now reality in Italy.

The press order represents the eighth joint project between Frati and Siempelkamp: In the mid 1990s the Italian Group ordered a ContiRoll® press for particleboard. Furthermore, Frati ordered a total of six short-cycle presses from Krefeld.



Top left: Compactor in front of the press

Top right: Different cylinders for different applications inside the press

ContiRoll® Generation 8: strong, fast, economical

The ContiRoll® press has been setting benchmarks in the wood-based materials industry since 1985. Generation 8 demonstrates: More is still possible!

Characteristics of the proven ContiRoll®:

- Short installation times
- Quick start-ups
- Steep ramp-up curves
- Highest reliability

The innovations of the Generation 8:

- Highly precise pressure distribution inside the press – automatic individually controlled pressure cylinders – thickness feedback: with this successful combination, the ContiRoll® provides the best pressure distribution of all times and ensures lowest thickness tolerances.
- Material savings
- An additional row of cylinders for 8'wide presses → improved pressure distribution
- Differential cylinders arranged across the width of the press frames → optimum density profile in the board edges → material savings due to less trimming losses
- Additional package: additional pull-back cylinders at the upper hot plate allow a more flexible production range, light-weight boards with a density of under 400 kg/m³ can be produced!



Press infeed



First Board

Prepared for the future with cutting-edge technology: An interview with Luigi Frati

What are Frati's objectives with the new MDF plant in Bicinicco? Siempelkamp's Director of Marketing interviewed Luigi Frati, who founded the company in 1961 when he was 26 years old and still serves as president of the Frati Group.

Bulletin: Mr. Frati, Frati Luigi S.P.A. has operated a particleboard production line, including a Siempelkamp ContiRoll® press, in Pomponesco for 15 years. How satisfied are you with the performance of this plant?

Luigi Frati: Yes, in 1996 we installed a particleboard line including a 8' x 43.5 m ContiRoll® press in Pomponesco. We are very satisfied, the plant runs stable and the capacity of the press surpasses the contractual requirements. This equipment provides us with the flexibility to meet the needs of the Italian market in regard to particleboard size and thickness. Only a continuous press, like the one we have, allows implementing several product changes per day.

Bulletin: What was the reason to buy from Siempelkamp again?

Luigi Frati: We work with the equipment of different manufacturers. In the end, it was the experiences with the ContiRoll®

in Pomponesco which led us to Siempelkamp again. At the Bicinicco location we wanted to replace a calendaring line. Siempelkamp developed a suitable concept for us at the right price. Furthermore, we have trust in Siempelkamp's technical know-how and professionalism.

Bulletin: The press for Bicinicco is a new Generation 8 concept with improved technical features. What was most convincing for you in terms of this concept?

Luigi Frati: The improved pressure distribution inside the press as well as the speed and safety when manufacturing thin boards up to 1.5 mm. The possibility to produce boards with raw density ranging from 400 to 900 kg/m³ with this press is very much in our interest.

We want to gain flexibility which means we want to produce a broad spectrum of different MDF economically. The ContiRoll® Generation 8 concept promises all that. The press, which recently produced its First Board is currently being optimized for operation.

Bulletin: How was the new press line integrated into the existing plant?

Luigi Frati: This was a challenge with this concept. The existing space of the calendar set limits and required many technical tricks during installation. Siempelkamp's planning competence and the teamwork of our people were up to meeting these challenges.



From left to right: Dante Frati, Luigi Frati, Dario Zoppetti

I would especially like to emphasize the achievements of both technical managers Ivan Gavetti and Roberto Avanzi of our subsidiary CMP SpA.

The teams provided first-class work: They removed the roof of the production facility in order to lift the heavy-weight components into the facility. This difficult situation required slightly more time for the installation.

Bulletin: Will the remaining multi-daylight press at the Bipan location eventually be turned off?

Luigi Frati: Currently, we are still producing particleboard on the calendar and thicker MDF with the multi-daylight press. The multi-daylight press will remain in operation for now. It remains to be seen whether all technical requirements of the new MDF line will be met. Then, we will decide if the multi-daylight press will be replaced with a new continuous press.

At this time, I want to emphasize that we do not want to expand our production but what matters to us is improving the efficiency and flexibility of our production.

Bulletin: Concerning the board thickness, size or weight: The new plant allows the production of a broad range of MDF. What effect will this have on Frati's portfolio of products?

Luigi Frati: Our portfolio will remain the same, we are focusing on a different objective: We are convinced that with the new plant we will achieve a better position in the board market. In regard to the new technology, Frati is now avant-garde. We want to use this cutting-edge technology to operate efficiently.

Bulletin: How is the Italian market doing at the moment?

Luigi Frati: Currently there is a lot of movement in our market. Customers expect high quality products and excellent service at low costs. This is where we want to position our company in the future. Thanks to its improved features, the new press will support us in turning our new ideas into new products.

Bulletin: Will the expanded product spectrum open up new markets?

Luigi Frati: We will not focus on new markets. In Italy we supply our products to customers from the furniture industry. We will remain open for their requests.

Bulletin: Mr. Frati, with your 50 years of experience, how do you forecast the future of wood-based products in general and especially for Italy with its declining furniture production?

Luigi Frati: By nature, I am an optimist. As you can see, we are investing money in new equipment. This only proves that we do not foresee a dark future. However, it is true that Italy is going through some hard economic times.

Regarding the Italian furniture industry, we are truly optimistic. The design and quality of our furniture have an absolutely unique position in the global market. This means a period of weakness can be coped with.

Bulletin: Since the establishment of your company in 1961 each decade saw expansion. What do you plan to do next?

Luigi Frati: Expansion is not our objective. Our size is tailored to the Italian market and is just right. What matters to us is cutting-edge technology and processes. We invest in efficiency increases and quality improvements to be prepared for the future in our markets. Wherever the market is going, we want to be ready for it!

Bulletin: Mr. Frati, we thank you very much for the interview!



From left to right: Luigi Frati, Dante Frati, Alberto Tarana, Roberto Avanzi, Ivan Gavetti