

## WHAT'S GOING ON IN ...



## SUCCESSFUL COMMERCIAL-SCALE TRIALS CONDUCTED IN CE|DE|PA BY NOVOMER.

**CE|DE|PA, the unique industrial scale center, has enabled Novomer Inc. to validate its innovative technology Converge® CO<sub>2</sub>-based polyol blends, increasing its value in the acquisition by SAUDI ARAMCO.**

**CE|DE|PA** is an international and independent R&D center fully devoted to testing and prototyping activities conceived to accelerate the development of novel solutions for the processing of polyurethane-made panels, used for thermal insulation, produced with the specific technology of continuous double lamination process.

**Novomer Inc.** ([www.novomer.com](http://www.novomer.com)) is an emerging sustainable chemistry company started in 2007 pioneering a family of high performance, **environmentally responsible polymers** and other chemicals from renewable feedstocks such as carbon dioxide (CO<sub>2</sub>). With proprietary catalyst and process developments, Novomer enables these renewable feedstocks to be cost competitively transformed into chemical building block for a wide variety of industrial products and applications. A company which looks ahead, anticipating the market's trends always demanding for new proven sustainable solutions reducing CO<sub>2</sub> emissions and increasing environmental efficiency.

Novomer chose CE|DE|PA to led some decisive trails focused on company's technology **Converge ® CO2-based polyol blends.**



We asked Mr Simon Waddington, Marketing Manager at Novomer Inc. (picture on the left) to share with us their experience with CE|DE|PA.

**What did you expect to obtain from CE|DE|PA?**

“The aim of our products is to improve performance in combination with sustainability. Novomer is now a leading company in developing new generation of products based on CO2 enabled by catalyst technology. We help companies who use polyols blends in a wide range of end-use applications to improve their performances, providing greater flexibility for

formulators, trying to balance stringent health, safety and building code requirements. We needed to demonstrate that Converge ® CO2-based polyol blends can be used on an industrial scale line and produce panels that can be tested.” Says Mr Waddington. “Thanks to the trials conducted in the CE|DE|PA Lab, we have demonstrated that Converge ® CO2-based polyol blends can be used within the PU rigid panel industry, showing significant benefits with respect to fire retardant properties.”

“Converge ® CO2-based polyol blends were processed on full-scale continuous lamination lines, displaying excellent adhesion to aluminum and steel facings. The follow-up tests demonstrated lower peak heat release, reduced smoke development and improved dimensional stability while maintaining excellent mechanical and insulation properties”.

**Which are the reasons why you have decided to rely on CE|DE|PA?**

“I used to work with Dow Chemical who is a partner together with SAIP Equipment for CE|DE|PA and introduced them to Novomer. We chose CE|DE|PA as a partner mainly because of its expertise. Furthermore, we appreciate the fact that they are independent, completely and exclusively dedicated and devoted to research and development and not part of a production facility”, says Mr Waddington.

Actually, by accessing CE|DE|PA industrial scale line, chemical and manufacturing companies in the construction industries will be allowed to simulate all phases of the industrial production thanks to availability of state-of-the-art equipment (e.g. a 135 mt. long line equipped with various applications accessories) while supported by local control test laboratory and a team of direct employees focused on supporting trials and prototyping activities, all of it in full confidentiality.



**Have your expectations been completely satisfied?**

“The stakes were high. We absolutely needed a skilled and reliable partner to achieve our goals and definitely we got them: the success of trials has enabled Novomer to validate Converge ® CO2-based polyol blends enhancing the value of the company itself; we obtained to attract a remarkable investment from one of the major chemical company – SAUDI ARAMCO - which includes the building of a world scale plant and the acquisition of Novomer Polyol business; the trials at CE|DE|PA were key in validating the technology”. Adds Mr Waddington. Indeed, a very good result.

**To whom would you recommend CE|DE|PA?**

“I strongly recommend CE|DE|PA to all companies who are looking for a way to prove their technology on an industrial but in a development environment”.

**Which kind of developments do you foresee in your sector?**

This generation of polyols are very new and the technology is still in its infancy, so we see lots of opportunities to further improve the technology in the future. Now we are going to invest in a world scale CO2 based polyol plant and the polyols will be used in all areas of Polyurethanes”.



**Conclusions:**

CE|DE|PA is the only research and development center worldwide equipped with an industrial scale sandwich panel production line that could play a strategic role for all players in the building and construction industry in the technical innovation of insulated metal panel solutions (IMP), combining the development of both polyurethane formulations and processing solutions.

**In CE|DE|PA customers can:**

- ✓ Test and certify new formulations
- ✓ Test new equipment
- ✓ Certify panels before they start production, using a special agreement for fire performance tests with an external lab.
- ✓ Train the operators directly
- ✓ Have a 7/7 24/24 expert team assistance
- ✓ Use the R&D center to apply the European Community to funding innovative and sustainable solutions according to HORIZON 2020 EU Research and Innovation program.

**TEST AND DEVELOP INNOVATION @**

**ce|de|pa**

[www.cedepa.org](http://www.cedepa.org)

**About SAIP Equipment** – SAIP designs and manufactures processing systems and machines for the polyurethane industry. Since 1978, date of its foundation, SAIP is committed to developing innovative and quality solutions for the success and sustainable growth of its customers. SAIP technologies are used in several sectors, such as building and construction, refrigeration, oil & gas, automotive, furnishing, etc. According to different applications SAIP has developed a wide range of products: continuous and discontinuous production lines for sandwich panels, complete foaming lines for industrial and commercial refrigerators, continuous pouring and discontinuous spray solutions for pipelines, customized and turnkey solutions for any application of polyurethane, elastomers casting systems and state-of-the-art, high and low pressure foam dispensing machines. SAIP can count on a network of commercial branches all over the world and ensures its customers focused technical assistance on site and remote.

**More information at:** [www.saipequipment.it](http://www.saipequipment.it)

**About Dow** – Dow (NYSE: DOW) combines the power of science and technology to passionately innovate what is essential to human progress. The Company is driving innovations that extract value from the intersection of chemical, physical and biological sciences to help address many of the world's most challenging problems such as the need for clean water, clean energy generation and conservation, and increasing agricultural productivity. Dow's integrated, market-driven, industry-leading portfolio of specialty chemical, advanced materials, agro sciences and plastics businesses delivers a broad range of technology-based products and solutions to customers in approximately 180 countries and in high-growth sectors such as packaging, electronics, water, coatings and agriculture. In 2014, Dow had annual sales of more than \$58 billion and employed approximately 53,000 people worldwide. The Company's more than 6,000 product families are manufactured at 201 sites in 35 countries across the globe. References to "Dow" or the "Company" mean The Dow Chemical Company and its consolidated subsidiaries unless otherwise expressly noted.

**More information at:** [www.dow.com](http://www.dow.com)