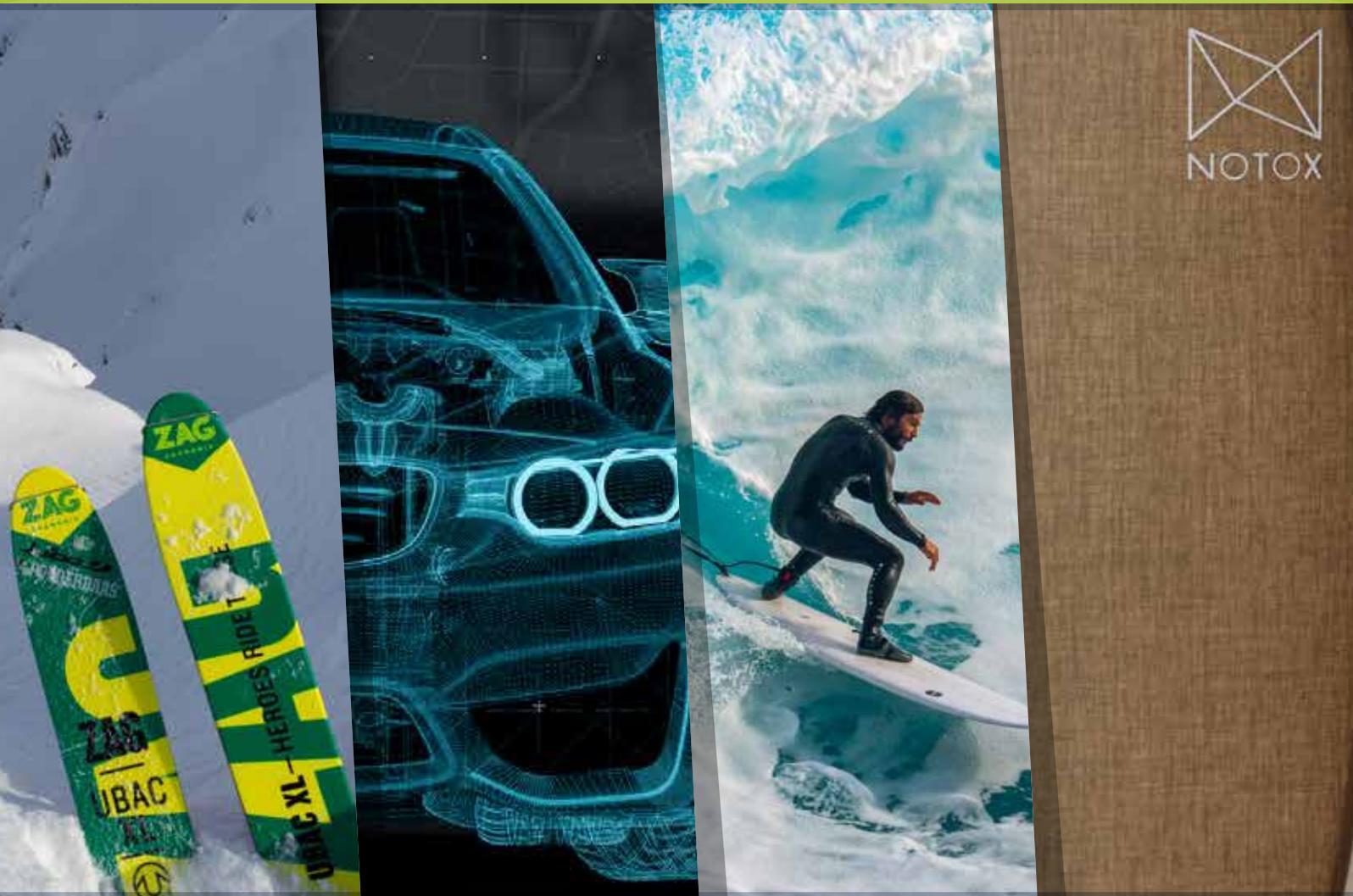


Quarterly News from Sicomin

COMMUNIQUÉ

Issue 1

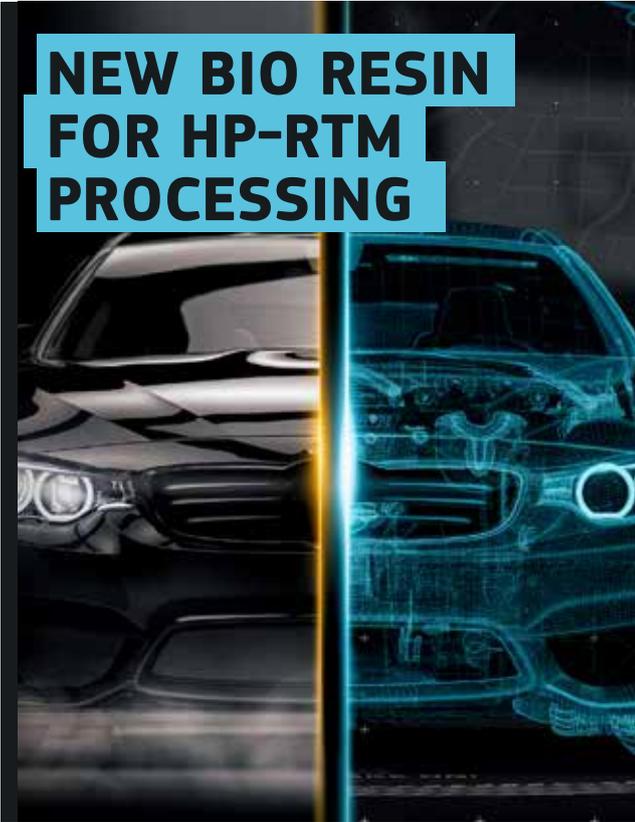


GreenPoxy® - A range of next generation bio-based epoxy resin systems

The quest to improve sustainability practices and provide customers with products that are less harmful to the environment as well as throughout the manufacturing process, means more and more manufacturers are developing new ways to incorporate Sicomin's GreenPoxy® into their products.

The bio-based epoxy systems brand, which has one of the largest ranges of bio-based products on the market today, has created a wide following and is now used in a variety of markets such as marine structures, water and winter board sports, construction, automotive and electric vehicles.





NEW BIO RESIN FOR HP-RTM PROCESSING

As the Automotive industry focuses on more sustainable manufacturing, Sicomin, the leading supplier of eco-resins, has announced a replacement for petroleum based materials with the launch of its new bio-based epoxy resin aimed specifically at HP-RTM processing techniques.

SR GreenPoxy® 28 is the sixth product to be added to Sicomin's renowned GreenPoxy® range and is available with immediate effect in the industrial quantities typically required by Automotive OEM's.

Certified by Veritas, SR GreenPoxy® 28 is a fast cycle, low toxicity, third generation bio-based formulation aimed specifically at the HP-RTM moulding processes used for both high performance structural parts and aesthetic carbon fibre components. The new formulation has been optimised for fast production cycle times and superior mechanical performance.

SR GreenPoxy® 28 can be fully cured using a 2-minute cure cycle at 140 °C, producing an onset Tg of 147 °C, as well as exceptional mechanical properties under both dry and hot/wet test conditions.

Comments Philippe Marcovich, President, Sicomin; "More and more manufacturers and suppliers are betting on bio-based alternatives derived from renewable raw materials. The latest addition to our GreenPoxy® range, SR GreenPoxy® 28, is an exciting alternative to traditional resins providing exceptional performance and quality for high volume programmes."



GREENPOXY® BIO RESINS FACILITATE SUSTAINABLE PRODUCTION PRACTICES FOR ZAG™ SKIS

From a centre of excellence in the French Alps, ski manufacturer ZAG, designs products specifically for backcountry or 'off piste' skiing. Their extensive range of Freeride, All-mountain, Freerando and Touring products are sold all over the world and are used by professional skiers in the most extreme conditions.

At ZAG, R&D processes and development strategies are eco-friendly orientated. This initiative aims to provide customers with products that are less harmful to the environment through their adoption of greener production processes. Sicomin is integral to this eco-friendly approach and collaborated with ZAG to support their desire to use the most advanced bio resins available.

Historically, ZAG had selected Sicomin's SR8500 advanced, multi-purpose epoxy to produce their extra light Touring range. These versatile skis are designed to maintain exceptional performance in deep snow so must be lightweight and supremely strong. SR8500 is a Germanischer Lloyds and Lloyds Registry approved product and favoured by many as the formulation is proven, reliable and straightforward to work with.

In an effort to increase their sustainable production practices, ZAG made the decision to switch from SR8500 to GreenPoxy®33. Part of Sicomin's range of bio-based chemistries, GreenPoxy®33 is a clear system formulated especially for compression moulding techniques.

ZAG skis are produced by Meditec, Tunisia, the composite manufacturer of outdoor and board sports equipment. Meditec already uses Sicomin's GreenPoxy® resin systems to manufacture Nidecker snowboards with great success. It was therefore a simple transition for ZAG to change to more sustainable production practices with minimal cost implications.

The ZAG team has enjoyed trialling the new Touring GreenPoxy® skis in a variety of glacier, powder, hard pack and melting snow conditions. All reports have indicated the skis responded extremely well delivering the same exceptional performance and strength as previous SR8500 versions.

SICOMIN AND NOTOX FORM A SUSTAINABLE SYNERGY

It is a sign of the times that manufacturers today are keen to offer customers products that deliver environmental benefits with high performance results. French surfboard producer, NOTOX, is striving and succeeding to introduce sustainable products into their production processes.

Over a decade ago, ahead of the times, Sicomin and NOTOX (Anglet, France) began to address the untapped potential of bio resins in the manufacture of sports equipment. Together the companies created a formulation that offered as little environmental disruption as possible and supports greener production methods. The resulting product was Sicomin's GreenPoxy® 56, now used to manufacture the entire ranges of NOTOX greenOne® short boards, long boards, SUP models, kitesurf boards and Korke boards.

NOTOX used GreenPoxy® 56 for the construction of their first greenOne® board design, a 6'4 hybrid short board. The prototype boards were constructed with EPS foam (expanded polystyrene) that contains up to 100% recycled content and is guaranteed to be HCFC free. A quadraxial flax fabric is then applied to minimise torsion and bending in the board, followed by the application of Sicomin's GreenPoxy® 56 for vacuum lamination to promote lightness, strength and dynamics. This system provides a clear, waterproof coating and a robust, hard wearing gloss laminate. When comparing the eco-credentials of a standard surf



board versus a NOTOX greenOne® board the results are striking. For example, a standard board contains 0% recycled materials and is produced from polyurethane foam, fibre glass and polyester resin and generates around 6kg of production waste. The greenOne® board made from recycled EPS, Sicomin's GreenPoxy®56 bio resin and flax fibres amounts to only 1kg of production waste.

"Providing surfers with boards that match their core values is our aim. We are constantly striving to produce the most eco-responsible and sustainable products possible and through our technological synergy with Sicomin we have achieved this", comments Pierre Pomiers, R&D Consultant Expert at NOTOX.

ECOBOARD GOLD RESINS FROM SICOMIN

Sicomin's GreenPoxy® range, offers the largest number of bio-based resin systems available on the market, some produced with 52% of bio-carbon content deriving from plant and vegetable origins. Each of the 5 different products that are meant for various manufacturing processes including infusion and clear, coating, has received the esteemed ECOBOARD Gold Level qualification.

The newest evolution in the ECOBOARD Project, ECOBOARD Gold Level rewards the leading sustainable boards and board builders – those with the greatest environmental impact reduction. Informed by Sustainable Surf's ECOBOARD lifecycle study, boards carrying this label are confirmed as using the most sustainable materials, sourced from responsible supply chains, and made by board builders with improved manufacturing processes.



LATEST NEWS

BUREAU VERITAS FOOTPRINT PROGRESS® CERTIFICATION

Sicomín has been awarded the Bureau Veritas Footprint Progress® Certification for its GreenPoxy® products range.

The Footprint Progress® is a result driven certification that enables Sicomín to inform contractors and customers about their products' environmental impact throughout the product lifecycle. The certification proves that Sicomín's bio-based epoxy systems are eco-designed and have limited environmental impact compared to standard epoxy formulation.

The Footprint Progress® process consists of two levels: commitment to eco-design and product certification.

After an intense three-year audit program in accordance with international standards such as ISO 14062, ISO 14006 and EN ISO 14040/44 Sicomín's GreenPoxy® products have been certified, which allows the company to display the official, widely recognised Footprint Progress® logo on their Greenpoxy® range. This logo is issued by Bureau Veritas, a leader in certification of Environmental Management Systems accredited by over 60 bodies internationally.

LATEST PRODUCT!

NEW BIO-FOAMING ADDITION TO THE GREENPOXY® RANGE

Sicomín recently launched its new bio-foaming epoxy, PB 360 GS, the fifth product in the GreenPoxy® offering, making Sicomín's one of the largest ranges of bio-based epoxies on the market.

Allowing the 'in situ' production of a shaped low-density epoxy foam core, the two-part system with 37% bio-based carbon content offers good adhesion to a variety of materials and low water absorption. It is particularly suited to foam cored components with lightweight glass, carbon or natural fibre laminates, for example for sporting goods, paddles and surfboards with complex shaped cores.

Sicomín continues to invest considerable resource into the innovation of environmentally enhanced systems and a new Industrial product suitable for RTM is planned for launch throughout 2019.

The entire GreenPoxy® range is available in high volume, industrial quantities and is certified by the American BETA laboratory and French CNRS and tested in accordance with Carbon 14 measurements (ASTM D6866 or XP CEN/TS 16640).

“Our motivating factors have always been and indeed remain the same - to produce powerful and exceptional products that are as light, strong and robust as possible. Many of our customers are seeking the most eco-friendly products available and Sicomín's GreenPoxy® technology delivers supreme mechanical performance whilst enabling sustainable manufacturing practices.”

Bastien Saillard, R&D Director at ZAG



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