



60 YEARS OF RANCAN

Interview with Mauro Rancan, Technical Sales Director at RANCAN

RANCAN SRL is a family-owned, private limited company established in 1960 by Angelo Rancan. It is located in Montecchio Maggiore, Vicenza, Italy. Currently, RANCAN is a Global leader in the manufacture of high quality laminated densified wood used in many industrial sectors.

Beginning with components for textile machines, the business soon expanded and incorporated a range of several different mechanical applications. But the real turning point was the insulation for oil-immersed transformers, triggering off RANCAN's success in the 1970s.

Larger market recognition came swiftly and allowed the move from the original 600 m² factory to the first of the six blocks that are the current headquarters, "Plant 1", built in 1981. In the same year, RANPREX[®] was registered as a trademark.

In 1988, Fulvio and Mauro Rancan, the



Figure 1. Headquarters and Plant 1

RANCAN's product Ranprex[®] is an insulation material made of red beech wood that can be used as a structural element inside the active part area of the transformer due to its excellent physical, mechanical, and electrical properties

human resources and currently employs 60 people, training them to maintain high standard quality levels. Today, RANCAN supplies the largest global power transformer manufacturers.

60 years of Ranprex[®]

Ranprex[®] is a special laminated densified wood, manufactured according to the IEC 61061 standard. It is made by pressing strictly selected red beech veneers purchased from PEFC certified suppliers in Central Europe using high pressure and temperature and thermosetting resins developed by Rancan according to eco standards.

Throughout the decades, the material has been constantly developed through carefully controlled production pro-

cesses, and nowadays, our Ranprex[®] is the preferred material when it comes to the insulation of oil-immersed transformers.

The possibility of diversifying the specific weight and the disposition of the veneers fibres makes Ranprex[®] a multi-purpose composite able to meet different project requirements. Considering the high insulation factor and the excellent physical and mechanical properties, Ranprex[®] is truly the most widely used structural insulating component inside the active part.

The secret of such high performance is in the many long, straight fibres that distinguish beechwood from all other types of wood. Therefore, plates can be built up with an exact alternance of

veneers in direction A and B, or with a predominance of veneers in direction A, or a tangential disposition of pre-cut segments. Therefore, components with a regular alternance of crossed veneers offer higher resistance to compression, while the components with a predominance of veneers in one direction grant higher resistance to flexion and shear strength if stressed in that direction. Rings made with tangentially arranged veneer segments will grant a higher and more constant resistance to flexion in all points of the circumference.

The final result is a material which can be used inside the transformer for practically all components that have an electromechanical function, such as pressure and support rings, half rings, segments, step blocks to keep the core steel compact, pressure beams, blocks redistributing the forces between press beams and rings, cable fixing ledges, supports for shield and end rings, threaded rods and nuts, round rods to protect the straps fixing the core steel, supporting and fixing blocks, etc.

Laminated beech wood offers transformer designers and engineers greater safety margins and predictability under

From left to right, Mauro Rancan, owner, Giovanni Rancan, President, Fulvio Rancan, owner of RANCAN SRL, an Italian company, and also a Global leader in manufacturing of high quality laminated densified wood used in many industrial sectors



current owners, bought the shares of the company, and, together with their father Giovanni, the current President, established RANCAN SRL.

Fresh energy and a more international approach, together with investment in new technologies, new facilities, and a strong boost to the sales network, quickly led to the Global extension of the customer base. At that time, RANCAN began to collaborate with all the important international transformer groups.

As the demand grew steadily, RANCAN SRL invested once again in the expansion and bought a second building, with

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an area of 5000 m², in the same industrial area (Plant 2).

This new structure allowed the expansion of the machining department and production reorganisation along with the addition of brand-new automatised machinery. All this displays the company's core values, flexibility, and strong

customers' support, even more. All that was possible because of another fundamental principle: the constant drive for quality, which allowed the company to grow together with the power transformers industry and its increasingly higher voltage classes.

The necessary strive for quality was also confirmed by the several certificates obtained in the last twenty years, such as ISO 9001, ISO 14001, OHSAS 18001. In addition to that, there have been many audits performed by Siemens, ABB, GE, Hyundai, Toshiba (just to name a few), and the type approvals obtained by the material.

High technical value of our laminated densified wood is obtained by our cooperation with many EU and global laboratories and universities, along with the development of an internal laboratory for R&D and constant monitoring of the production output. Nowadays, the internal laboratory performs all types of tests according to the reference norm IEC 61061, including the very critical partial discharge one performed in a PD free shielded room.

Currently, RANCAN SRL owns three buildings occupying a plot surface of about 20,000 m², 11,000 m² of it covered, with the expansion possibility of another 6,000 m² of the covered area.

The company, along with many automated processes, constantly invests in

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Figure 2. Plant 2

stress than all other wood types or insulating materials do, helping them with the technical calculation.

During the drying process, the benefit of using red beech wood can be noticed since it dries faster and impregnates sooner without residuals or air bubbles. This property occurs because the oil is penetrating the wide and straight fibres easier, a characteristic that cannot be found in any other insulating material installed inside the active part. This advantage also helps to avoid long processing operations such as drying and impregnation holes.

Another point of strength lies in the competitive price, considering that the same performances can be obtained with a lower specific weight when compared to other insulating materials.

The intrinsic quality of Ranprex[®] is supported by the philosophy of the RANCAN itself, granting its customers relevant consultancy service and technical cooperation. Therefore, technical and innovative solutions often lead to consistent savings. A word must also be spent on tangential rings, which have better and more uniform mechanical

characteristics allowing them to reduce the thickness of the parts and consequently the volume of the entire transformer. Moreover, this approach reduces the quantity of steel, oil, etc. used and allows the structure to be fitted and

placed into smaller spaces.

A very important trend throughout the last few years, accepted and applied by many international groups, is changing steel press beams to laminated wood



Figure 3. Shielded room and electric test field



Figure 4. Tangential ring



Figure 5. Tangential ring

press beams for medium and large power transformers.

All that is a part of the agenda to reduce the environmental impact in regards to the raw material production (an increasingly important topic), along with the reduction of the losses, vibrations,

and noise, as well as the obvious economic impact. We regularly produce beams, which are 5-7 meters long. But we also manufacture beams that are 9 or even 13 meters long.

Service and customer support, fast delivery, and high-quality materials make

RANCAN and Ranprex® the preferred choice of most Global transformer manufacturers.

Mauro Rancan's market vision

"The constantly growing need for energy and the need to transport it to ev-



Figure 6. Pressing plate



Figure 7. Containment box



Figure 8. The family

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ery region of the World makes me think that the next few years will be prosperous and that we will have a great need for modern transformers. This will be mainly driven by the need for green energy, requiring older energy production structures to be substituted by newer ones with lower losses, that are more environmentally friendly, granting the younger generations a cleaner World.

The World economy itself is investing in the switch from fossil fuels to electric energy. Just consider that an increasing number of cities have public transportation powered by electric motors, not to mention the constantly growing number of electric cars," says Mauro Rancan.

RANCAN supports the new market's requirements

A few years ago we noticed a growing number of technicians asking us for solutions for solving issues related to the new standards. Every day our tech-

nical department discusses technical aspects of the production with several of our customers, from simple topics to the strategic choices, which include the design of the new components or replacement of the existing materials with our Ranprex®. The use of high-quality material leads to the improvement of the transformer performance which contributes to issue solving. The good thing is that RANCAN is ready for all these steps because it has been investing in a strong technical team that, along with our high-quality product, is our greatest value.

RANCAN's plan for the future

We have already planned for the next 8 to 10 years in advance. It will involve a challenging project of reorganizing the company to make it prepared for the implementation of the latest standards of the future and continuing the already started consistent investments in infrastructure, avant-garde machinery,

and new qualified personnel. But, despite the latest international events, the biggest and most impactful challenge will be regarding the managerial positions. For several years, Fulvio's sons, Enrico, Leonardo, and Alberto, have been working in sales, R&D, and production management, respectively. Soon, Mauro's children, Ilenia and Giacomo, will join the company, and by then, we will have a new generation of leaders, new energy that will make RANCAN ready for new challenges.

Website: www.rancan.com

Mauro Rancan was born in 1966. He obtained a degree in Electronic Engineering and has been working at Rancan Srl since 1986. He is CEO, leading and supervising Sales and Production, as well as all the technical aspects of the expansion projects in the last 25 years. Together with his brother Fulvio, CEO, managing Financial and Purchasing, Mauro has always had a practical and positive attitude that has served as a common drive for finding fast and concrete solutions to everyday challenges, as well as making decisions based on the long term vision.