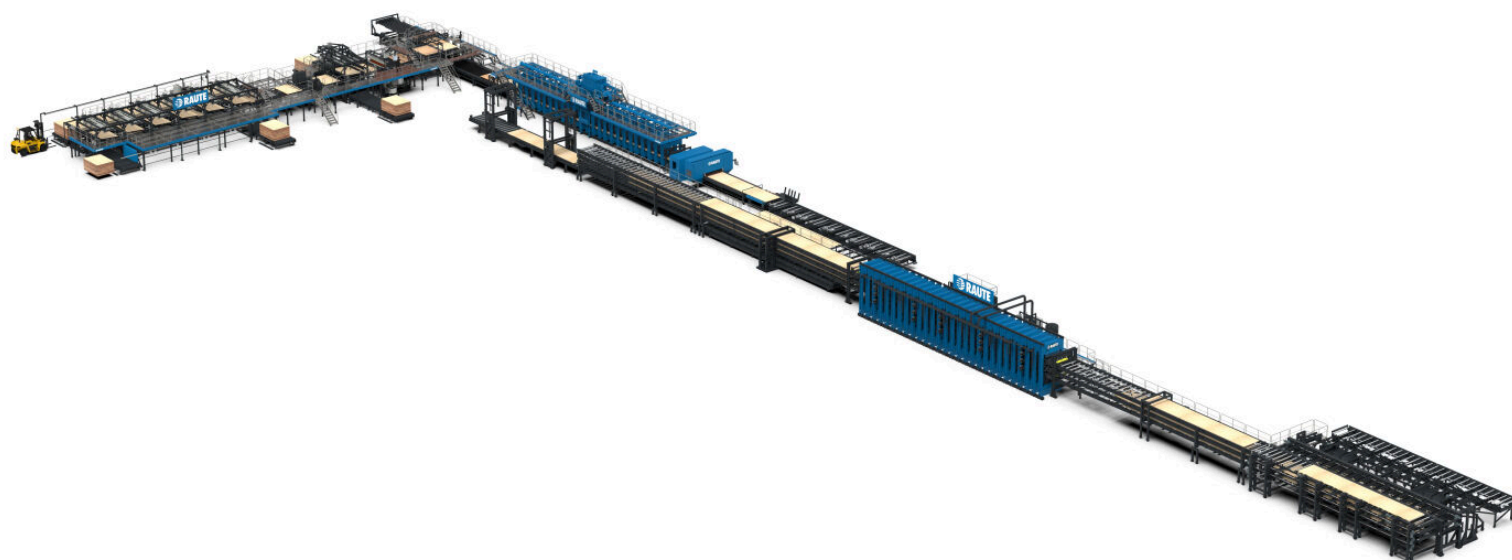




LVL Lay-up and Pressing Line R7

**THE SUPERIOR QUALITY LVL STARTS  
HERE**



## LVL Lay-up and Pressing Line R7 guarantees premium quality

The first steps of the LVL production process start from veneer scarfing followed by the lay-up. At this stage, the LVL gets its load-bearing structure, and the pressing line finalizes the product.

The LVL Lay-up and Pressing Line R7 is capable to manufacture LVL according to all international standards and all customer specifications. With our line, you can produce LVL products from the most common LVL raw materials – pines, spruce, and firs. Hardwoods can be sometimes added to increase the strength properties of an LVL product.

The Lay-up and Pressing Line R7 needs only three operators which makes this line almost fully automated and easy to use. Our process is continuous, and every production phase is intact in one line. The prepressing enables short stoppages for removing sheets or trash without harming the quality of the end product – on the contrary, this improves the quality because no defective material stays in the billet.

We use phenol glue to make the LVL products strong and glue lines permanent in any condition over the whole life span. The hot-pressed glue lines prevent the product from splitting or warping.

With Raute's experience of over 40 years in LVL manufacturing, you can be sure to have the best solutions for your needs. In addition, the line's hot-press is heated with the factory's by-products, which makes the line energy efficient. This adds value to what you get by choosing Raute's lay-up and pressing line R7.

The LVL Lay-up and Pressing Line R7 guarantees the producer the highest quality LVL products with a vast variety of options concerning the production capacity, dimensions, or state of automation and add-ons.

## Key benefits

3

ONLY THREE  
OPERATORS NEEDED

24m

UP TO 24 M LONG LVL  
PRODUCTS

40+

OVER 40 LVL  
PRODUCTION LINES  
DELIVERED GLOBALLY

50%

OVER 50% OF LVL  
GLOBALLY PRODUCED  
BY RAUTE  
TECHNOLOGY



EFFICIENT AND  
ACCURATE  
PRODUCTION



## References



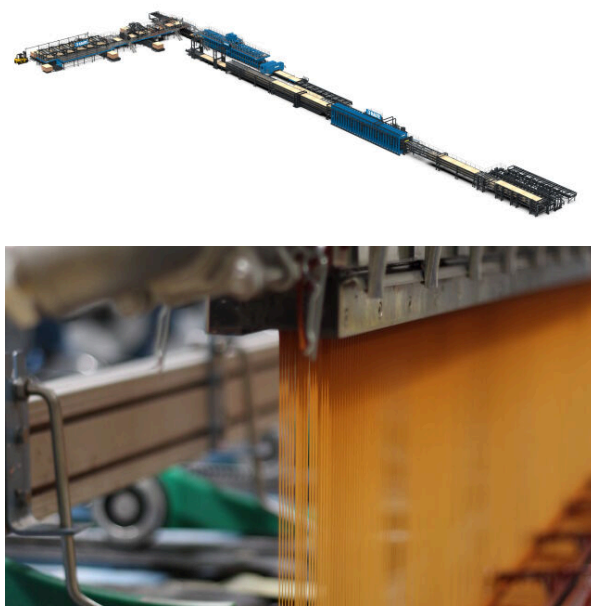
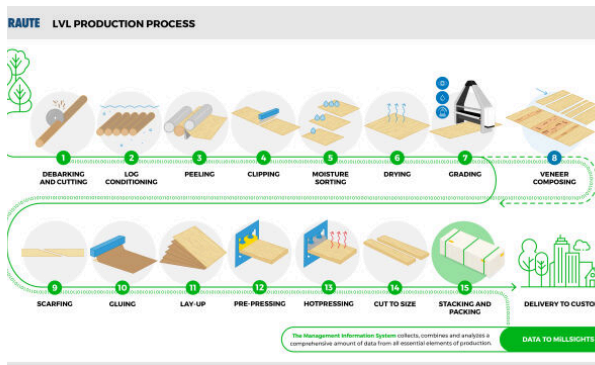
### VMG Lignum

VMG Lignum takes a giant leap towards creating a sustainable home by adding LVL mill.



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## Images and videos








# Downloadable material



## R7-Series LVL Technology

### GREAT QUALITY LVL REQUIRES HIGH-END MACHINERY

To manufacture high-quality LVL efficiently, you need to have the right equipment and optimized process. To get the complete LVL production from veneer to LVL, Raute offers two R7-Series lines: The LVL Lay-up and Pressing Line R7 and LVL Billet Handling Line R7.




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## RAUTE POWERS SUCCESS FOR LVL MANUFACTURERS

Engineered wood products are opening up new market opportunities. Seizing them requires agility as well as the right technology. Meet Global LVL, a manufacturer that's already leading the way in meeting builders' evolving needs.

The 19th century was the era of iron. The 20th century? Concrete. But the 21st century may well be the golden era for one of the world's oldest construction materials: timber.

If so—and present building trends strongly suggest it is—then engineered wood products (and so laminated veneer lumber (LVL)) will undoubtedly play a major role in both residential and commercial construction. In the 2020s, a word is coming to the fore:

**LVL Basics**

LVL is manufactured from veneer sheets that have been laid up in a moisture resistant and bonded with a water resistant phenolic adhesive. In this way, the dimensions of the final LVL product are not limited by the dimensions of the original raw wood. Even small diameter logs can be used to produce large beams and panels.

Because of the lack of natural defects in LVL, its strength and weight ratio is extremely high. In fact, LVL is stronger along its length in proportion to weight. And, due to its laminated structure, LVL is dimensionally stable and consistently free of warps, splinters, and splits.

Finally, LVL is resistant to the factory built, solidified moisture content, which eliminates the risk of shrinkage or swelling, providing dimensional stability throughout its life.

In fact, LVL is a natural material, manufactured from certified raw materials, that also serves as a carbon storage building volume it's used. One cubic meter of LVL can store around 100 kg of CO<sub>2</sub>. That makes LVL an environmentally friendly choice, particularly for



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## With LVL we don't try to predict the future. WE BUILD IT.

What's driving the move to use more and more engineered wood, such as LVL, in buildings? Taller or low rise structures, residential or commercial, while cost per span effectiveness is usually viewed as the main reason to use LVL. In construction, most building professionals involved in this movement, include the environment, as being part of their inspiration. They are driven by the need to find safe, carbon-neutral, and sustainable alternatives to steel, brick and concrete. LVL allows designers to achieve both of these objectives: higher density at efficient cost and a smaller carbon footprint for their projects.

In addition to environmental sustainability, new structural regulations in many markets across the world, continue to increasingly drive the use of engineered wood products such as LVL, CLT, glulam and D-glue, compared to brick, concrete or steel, due to their lower thermal conductivity. LVL-laminated structures are easier to make more thermally efficient through increased air-tightness, airtightness values and reduced cold bridging. This increases more as more relevant as the use of energy has come double-digit percentage increase by the power companies, pushing energy efficiency across the world's fast growth.



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## GET TO KNOW LVL

Laminated veneer lumber (LVL) is an engineered wood product used in a diverse range of construction applications. LVL beams, columns, and panels have become established as essential components in modern timber construction due to their numerous advantages, versatility, and proven structural performance.

Limited by the dimensions of the raw material, and even small diameter logs can be used to produce large beams and panels.

Although the production costs of LVL, like all engineered wood products, are higher compared to mass timber, with LVL the same construction can be designed with smaller LVL veneer sheets. LVL's enhanced structural properties. Through LVL's manufacturing technology, the product can be made with continuous length and large dimensions and widths, allowing LVL to be used in applications where smaller mass timber sizes are not available.

The low deviation of LVL's high strength and stiffness means that the properties can be fully utilized in a characteristic value in structural design. In addition, due to the lack of natural defects, the strength to weight ratio of LVL is extremely high. LVL is twice as strong as steel in

LVL is made of veneer sheets, laid up in a moisture resistant and bonded together with water resistant phenolic adhesive. This means that the dimensions of the final product are not



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## LVL Laminated Veneer Lumber Technology




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## Technical specifications

Operators on the Line	3
Capacity up to (m3/h)	24
Daylight No. (max)	8
Daylight opening (max)(mm)	150
Product Thickness Range (mm)	15-90
Veneer sizes (ft)	6x6, 8x4, 8x6, 8x8
Line widths available (m)	1.2, 1.8, 2.5
LVL length (max)	24
Veneer grades	7
Parallel Ply (LVL-P)	●
Cross Ply (LVL-C)	●
Phenolic resin glue	●
Smart thickness control	●

# LVL lay-up and pressing

## Good quality graded veneer sheets are the base for good quality LVL

The first steps of the LVL production process start from the lay-up. At this stage, the LVL gets its load-bearing structure, and the pressing line finalizes the product.

On the LVL lay-up line the structurally graded veneers in correct order are scarfed and glued, and after the final quality check laid-up in a continuous manner. Under the supervision of one operator, an endless lay-up is formed and immediately prepressed to secure flawless gluing of veneers. Billets of desired lengths are then cut and transferred to the hot press, where heat and pressure secure waterproof glue bonds.

The veneer sheet goes through a scarfing saw where a joint is cut, and it ensures the correct and secure jointing of consecutive veneers. This increases the durability of the end product. With continuous lay-up, you can produce up to 75 mm thick and up to 24 meters of LVL material according to your needs. With this technology and hot pressing, the measurements stay unchangeable, and you can produce high-quality LVL with high recovery.

Raute, with over 40 years of experience, offers the highest quality and the most sophisticated R7 Series and the new R5 Series LVL lay-up and pressing machinery. The solutions add value to your production with modern and intelligent technology, sustainability, and energy efficiency.



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Making Wood Matter