

INNOVATION & PERFORMANCE

VICARD GENERATION 7

CHANGING *the* PARADIGM



WWW.VICARDG7.COM

INNOVATION & PERFORMANCE

" SYSTEMATIC INNOVATION
REQUIRES WILLINGNESS TO SEE
CHANGE AS AN OPPORTUNITY. "

- Peter Drucker

VICARD
GENERATION 7

CHANGING *the* PARADIGM

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15 000

Generation 7 barrels
produced per year



7

Generations of coopers

14

Hectares for a unique
production site based in Cognac



ABOUT VICARD GENERATION 7

Established in 1925, Vicard remains a family group. Driven by five generations of coopers, my passion for this profession and my contact with winemakers from all around the world made me quickly realize through innovation we will write the future of our tradition.

My goal is to produce homogeneous, reproducible quality barrels, that will meet the expectations of our winemaking partners.

It's my ambition to work alongside you in the signature of your wines, sharing my know-how to find the triangular balance between oak, toasting and wine.

My biggest challenge is responding to a requirement of excellence while maintaining an eco-responsible approach. Thank you for your trust. I hope to offer you, through our different lines of products, the best foundation for your wine.

Jean-Charles VICARD
CEO, Vicard Group



85%

of production is
exported

1500 M³

Annual stave production
for Generation 7

OUR PROCUREMENT STRATEGY

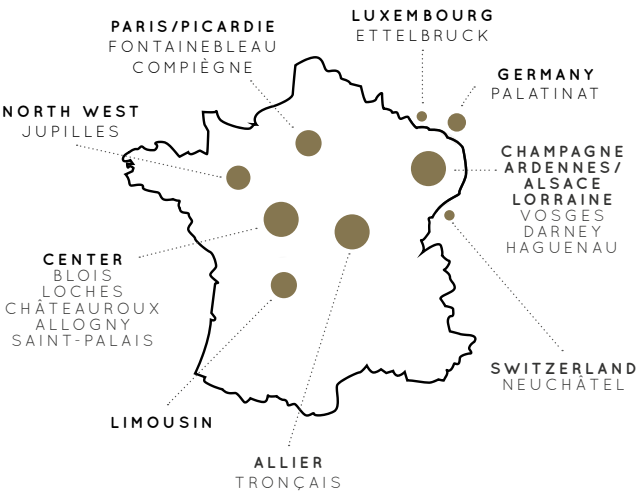
The Vicard Group owns and operates 2 stave mills. Our primary mill, **Merrains du Périgord** is PEFC® certified and has an annual production capacity of 3,000 m³ of stave wood. Our wood buyer, working in partnership with the ONF (French Institute for Forestry Protection) and private suppliers, ensures we obtain the best lots available for production of our oak staves. Incorporation of stave mills at the Vicard Group is a strategic choice and is essential for ensuring a fully traceable, consistent and reliable supply chain for the future.

— VERTICAL INTEGRATION OF RAW MATERIAL

OUR SUPPLIES

The supplies predominantly originate from the French forests in the center, north-east and in Allier. The Vicard Group can extend its purchasing power (15%) to the forests of border countries that belong to the same massif regions as the French forests. For our European and American oak products, the Vicard Group works with suppliers that have been selected and approved by our wood buyers.

FRENCH OAK AND BORDER FORESTS



AMERICAN OAK

MISSOURI | PENNSYLVANIA



EUROPEAN OAK

ROMANIA | CAUCASUS | SLOVAKIA



100% NATURAL MATURATION

The Vicard Group devotes an 8-hectare wood yard for maturation of staves and is committed to an average 30-month natural, air drying-period. Our supply of stave wood, commensurate with three years of production, is testimony to our financial and quality commitment.

TRACEABILITY, FROM FOREST TO BARREL

The Vicard Group system of vertical traceability begins in the forest and follows each stage of production.

KEY FIGURES

8 ha
for stave wood storage

100%
self-procurement

2
wood purchasers

4000 m³
of stave wood produced per year

2
production sites



COMMITMENTS TOWARD THE ENVIRONMENT

In cooperage, material loss is an integral part of the barrel manufacturing process. The Vicard Group makes a point of honor to upgrade all of these losses.

— 100%
REPURPOSING
OF RAW
MATERIAL LOSS



SIGNIFICANT WATER CONSERVATION

Vicard Group's eco-responsible strategy includes reducing water consumption using innovative strategies:

- Pressure testing using steam instead of water allows conservation of more than 20L of water per barrel produced.
- Molecular toasting of barrels by radiant heat uses 98% less water compared to traditional toasting methods.



ECO

TO PROGRESS FARTHER

The Vicard Group has implemented a range of sustainably resourced barrels developed to utilize the previously unused parts of traditional cooperage oak. Ask for our brochure for more information.

KEY FIGURES

70%
of raw material losses from the log to the barrel reduction

100%
of these losses are upgraded and used by the Vicard Group

98%
water conservation achieved with the toast

20L
quantity of water saved by testing tightness with steam

COMPLETE REPURPOSE

There are two types of losses: Green losses from stave production account for 70% and dry losses during barrel coopering make up 30%. The Vicard Group upgrades 100% of these losses into other products.

THREE RECYCLING SYSTEMS

GREEN LUMBER (STAVE MILL)



PULP
CHIPS



HEAT
ENERGY

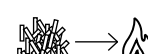


FUEL
WORKSHOPS

SAPWOOD,
HEARTWOOD

BARK

DRY WOOD (STAVES)



TOASTING
PELLETS

ALL LOSSES



INNOVATIONS

Guided by a passion for his craft, and buoyed by five generations of expertise, Jean-Charles Vicard chose to innovate in the essential steps in the manufacturing of his products. This has enabled us to combine an advanced degree of technology with a craft which remains artisanal.

— MORE THAN 20 YEARS OF R&D AT THE SERVICE OF INNOVATION

TONGUE & GROOVE TECHNIQUE® (2000) ⁵

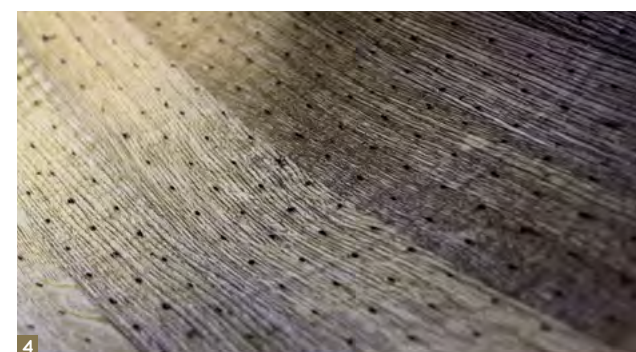
This involves assembling rabbeted pieces of wood with pressure in order to obtain perfect water-tightness between the pieces of wood. Microbial and food safe hazards are thus reduced compared with the traditional technique.

STEAM BENDING (2005) ¹

This operation is carried out automatically in less than 5 minutes using low pressure steam. The barrel comes out dry, conserving its original properties including chemical composition of the raw material. The result yields perfect uniformity and a better controlled toast.

SCARSTAVE® - BLISTER-FREE PROCESS (2009) ⁴

Before any bending or toasting takes place, the staves are scarified during the milling stage (Scarstave® patent, 2009). This micro-perforation technique removes all risk of blistering and enables a deeper toast.



MOLECULAR TOASTING (2011) ²

This toasting system, developed in 2005 and perfected in 2011, is one of a kind in this field. It is fully computerized, and uses radiant heat for a uniform, reproducible and precise toast. The barrel is enclosed in a chamber equipped with a smoke extraction chimney, which considerably improves the working conditions for the cooper and removes any traces of smoke. The dual cone furnace avoids any contact between the barrel and the flame. This tool's precision has made it possible to create innovative toast profiles such as gradual and premium toasts, which are based on a gradual increase in temperature.

TANNIN POTENTIAL (TP) (2012) ³

In 2010, after two years of research, Jean-Charles Vicard launched "Esprit de Dryades", which became the "Generation 7" brand in 2012. Tannin potential selection is a reliable and quick measurement methodology of the ellagitannin content in unheated oak. This innovative wood selection process, associated with molecular toasting, yields homogeneous TP barrels with no variation.



TOASTS

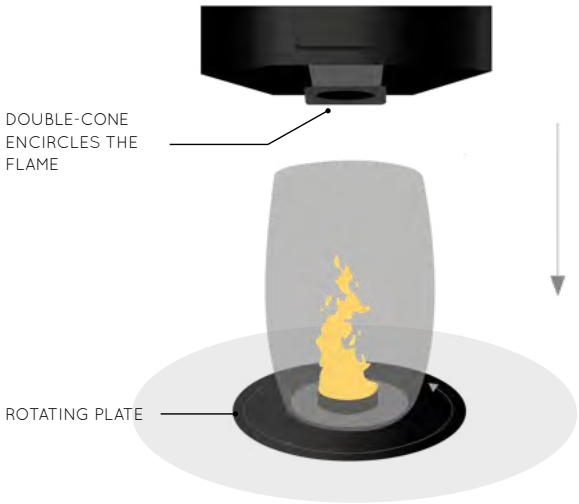
With our unique molecular cooking system, the Vicard Generation 7 offers a selection of two categories of consistent and reproducible toasts (Gradual and Innovative).



OUR PROFILES

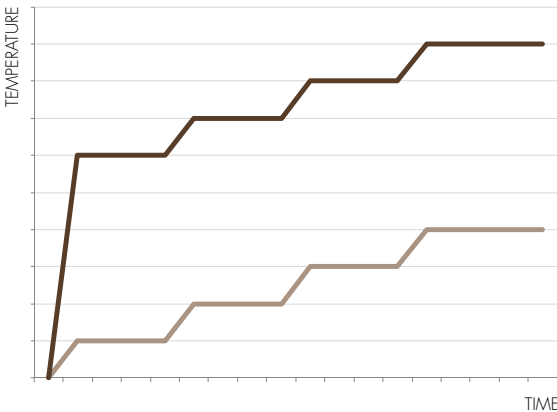
The different toasting profiles were developed with the goal of mastering the expectations of our clients regarding precision and is based on the equation of

“WINE | AGING PERIOD | SELECTION OF RAW MATERIAL | TOAST ”

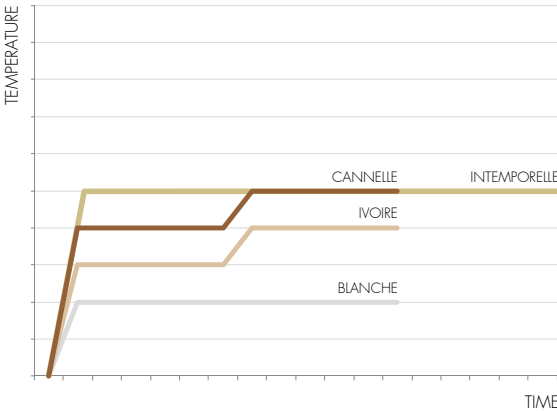
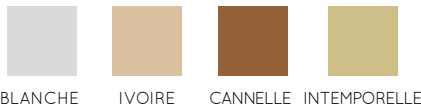


GRADUAL

The Vicard Generation 7 offers seven gradual toasts starting between 140 and 200°C (see the adjacent examples).



INNOVATIVE





METHODOLOGY 1/2

GENERATION 7 PROJECT




The development of new analysis technologies in cooperage, such as near-infrared spectroscopy, has enabled new wood selection criteria to be defined.

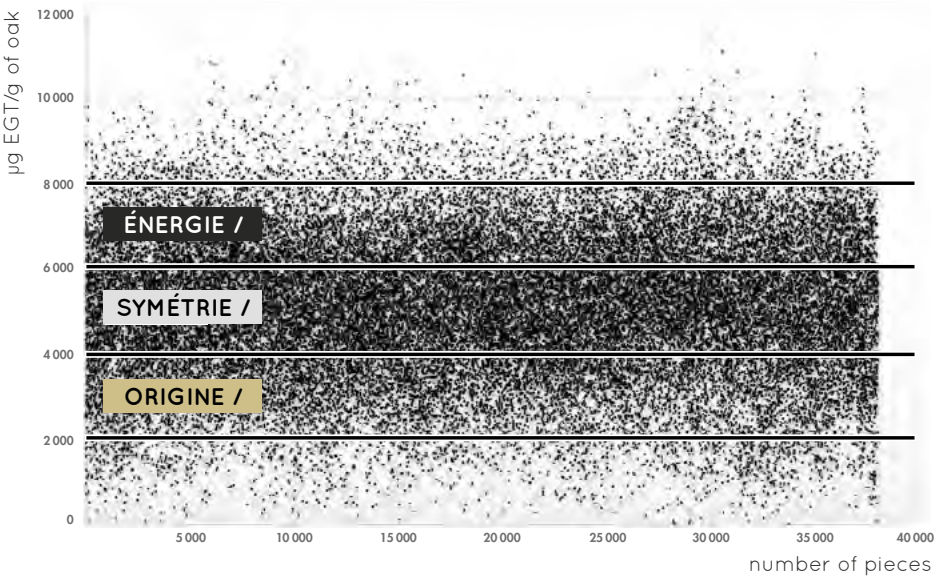
TANNIN POTENTIAL

University studies over several years have demonstrated the large variability of wood selected based on the forest selection (Snackers (2000); Feuillat (2003) ; Prida (2006)). In addition, these studies proved a wide range of tannin concentrations exist within the same tree (Masson et Al. (1995)). Selection of staves based on grain size can offer more uniform results, however this selection criteria still yields a level of variability between 20 to 40%.

In order to understand these significant differences, we launched an analysis programme, in collaboration with a certified, independent laboratory, on more than 2500 staves. This study enabled us to isolate and define the causes of one important variable: the ellagitannin content in the oak.

THREE CLASSES OF TANNIN POTENTIAL

-  **ORIGINE /**
2,000 to 4,000 EGT/ μ g of oak
-  **SYMÉTRIE /**
4,000 to 6,000 EGT/ μ g of oak
-  **ÉNERGIE /**
6,000 to 8,000 EGT/ μ g of oak



In 2009, the Vicard Group embarked on a huge research program to better control the factors that cause variability. **These studies have resulted in the development of a completely new brand, named Generation 7.**

This unique brand of barrels based on an analytical selection of woods, is combined with the unique Vicard toasting process. This revolutionary approach has resulted in a range of products with greater precision, uniformity, and reproducibility. **Vicard Generation 7 has changed the paradigm of cooperage.**



SORTING METHOD

Tannin potential selection

The ellagitannin content is measured after machining and before assembly. Operated by near-infrared spectrometry, this wood analysis method differentiates three classes of tannin potential corresponding to distinct levels of ellagitannin content in oak.

RADIANT HEATING PROCESS

Sorting by tannin potential segregates highly uniform batches of raw material, however, it is essential to perfectly control the oak toasting process, in order to maintain this uniformity in the final product.

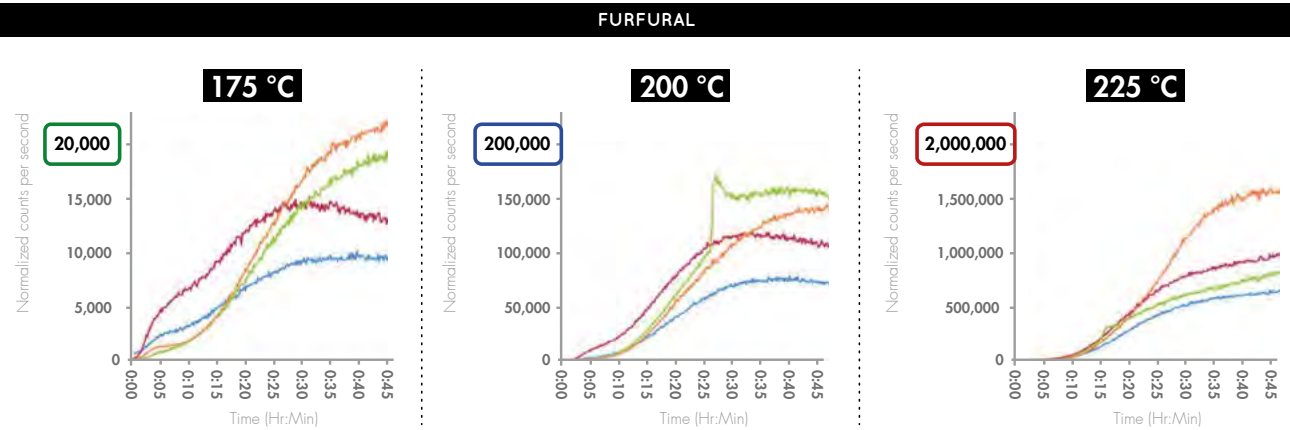
In 2005, Vicard began developing a toasting system that is unique in the cooperage industry. The fully automated system means that the toast profiles can be controlled to + /- 2°C, thus maintaining the uniformity of the raw material.

Thanks to this proprietary process, Generation 7 adapts to each winemaker's unique needs by offering innovative toast profiles that respect the balance between the wood's and the wine's tannin profile.



DEMONSTRATION

A temperature difference of over 10°C could cause a large difference in the barrels' organoleptic characteristics:



"Farrell, R. R. et al. Real-Time Mass spectrometry monitoring of Oak Wood Toasting: Elucidating Aroma Development Relevant to Oak-aged Wine Quality. Sci. Rep. 5, 17334 ; doi .10.1038/srep17334 (2015)"



TOASTING METHOD

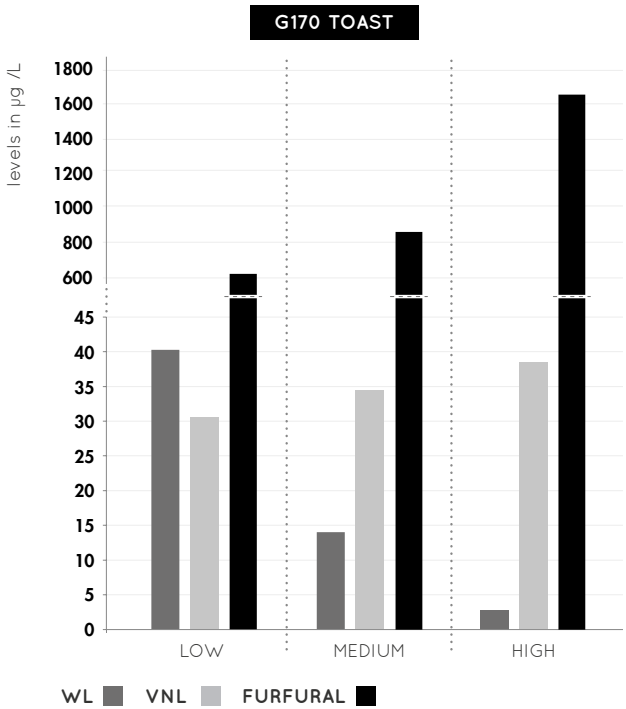
MOLECULAR TOASTING

Also known as "radiant heat toasting", involves applying a controlled, regular and uniform heat to the barrel's inner surface, using a double-cone furnace, which matches the shape of the barrel. The outer chamber eliminates the variations due to external interferences such as humidity and ambient temperature. **This computerized system ensures perfect control of the toasting temperature throughout the entire toast cycle.**

RAW MATERIAL IMPACT ON THE TOAST

We created an experimental barrel made from staves from the same forest, with the same grain-size and humidity level, but with different tannin potentials (Alternating Low and High TP).

SENSORIAL IMPACT



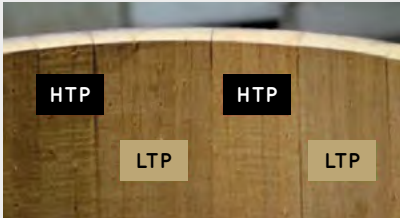
Our methodology enables us to consistently produce barrels with perfectly uniform tannin contents (ellagitannin levels) which respect the vintage's typicity.



TANNIN POTENTIAL INFLUENCE ON THE TOAST

BEFORE THE TOAST

The barrel appeared completely uniform.



AFTER THE TOAST

We observed a large variation in coloration.



OUR PRODUCTS

Generation 7 was born from a desire to control the factors that cause variability in cooperage, and bring greater precision to wine and spirit maturation.

With six generations of expertise, Jean-Charles Vicard launched the seventh update of a intensive R&D program started in 2008.

Generation 7 utilizes NIRS (Near-Infrared Spectroscopy) technology to select staves based on their tannin potential.

This perfectly uniform raw material selection, along with molecular toasting, has enabled Generation 7 to offer very precise, uniform and reproducible products.



BARRELS SORTED BY TANNIN POTENTIAL 20

OVONUM 22

EGGONUM® 24



+ AWARDS

I+Q AWARDS 2016

Innovation of the year

SITEVI 2017

Bronze medal

BARRELS SORTED BY TANNIN POTENTIAL

With the Generation 7 range, the group offers innovative solutions in our search for barrel uniformity and reproducibility.

— CHANGING THE PARADIGM OF COOPERAGE

TECHNICAL CHARACTERISTICS

Capacities : 225, 228, 300, 350, 400, 500 L

Origin : French and French border forests oak

Raw material sorted by tannin potential (TP)

Computer controlled molecular toasting, using radiant heat.



ORIGINE / LTP - TERROIR

Low Tannin Potential Selection. **ORIGINE** (LTP) adds minimal tannins while offering all the benefits and complexities of oak aging. Characterized by fruity, bright notes with a focused palate.

AROMATIC NOTES:



SYMÉTRIE / MTP - EQUILIBRIUM

Medium Tannin Potential Selection. **SYMÉTRIE** (MTP) offers an intermediate profile, combining structure and tension while respecting the fruit.

AROMATIC NOTES:



ÉNERGIE / HTP - STRUCTURE

High Tannin Potential Selection. **ÉNERGIE** (HTP) brings an element of strength, adding structure and roundness, as well as subtle smoky notes.

AROMATIC NOTES:



A STEP CLOSER TO PRECISION

The molecular toasting process enabled the Vicard Group to make a huge step forward in the precision of our products. Yet there was still progress to make to perfectly control the variations found in the raw material. Research beginning in 2008, on the classification of staves according to their ellagitannin content, enabled us to reach our goal and launch the Generation 7 range.

OVONUM

The OVONUM is truly a feat of technical expertise. Each OVONUM is a unique piece hand assembled by our master coopers. A real know-how is necessary to be able to realize this masterpiece of the craft industry.

RIGOROUS SELECTION OF THE RAW MATERIAL

Our rigorously selected raw material (Generation 7's tannin potential analytical selection) is associated with a 30-month natural maturation within our 8-hectare wood park.

DIVINE CURVES

The OVONUM's dimensions align with multiples of the golden ratio. Its cylindrical egg shape, inspired by brownian movement, gives better lees mixing and exchanges between the wine and the wood.

FUSION OF AROMAS

This unique product is characterised by a great complexity developed during the toasting and ageing processes.
Ideal product for white wines.

— THE EGG WITH DIVINE PROPORTIONS

TECHNICAL CHARACTERISTICS

Available in 228L, 400L & 15hL.

Other capacities: contact us.

Origin: French Oak & French border forests oak

Toast: Computer controlled molecular toasting, using radiant heat.

Finishes: Colored hoops (option), Oak stand available on demand.

" DETAILS ARE PERFECTION, AND PERFECTION IS NOT A DETAIL. "

- Leonardo da Vinci



LARGE FORMAT

Also available in Maxi version.
See our dedicated brochure for more details.



NEW



EGGONUM®

Exceptional piece assembled by hand by our master coopers, the EGGONUM® is a technical feat of ingenuity. Vicard takes fermentation casks to the next level by combining two unique materials; French Oak and Stainless Steel into a single fermenter.

+ AROMATIC PROFILE

STAINLESS STEEL :

freshness, roundness and respect for the fruit.

WOOD : complexity, tension and length in the mouth.

— THE PERFECT PARTNERSHIP BETWEEN STAINLESS STEEL & WOOD

TECHNICAL CHARACTERISTICS

Available in 5hL, 10hL
Contact us for other capacities
Origin : French Oak & border forests
Toasting : Molecular toasting using radiant heat

ABSOLUTE MARRIAGE

The most incomparable and unique product on the market, the EGGONUM® is a clever blend of stainless steel and French oak.

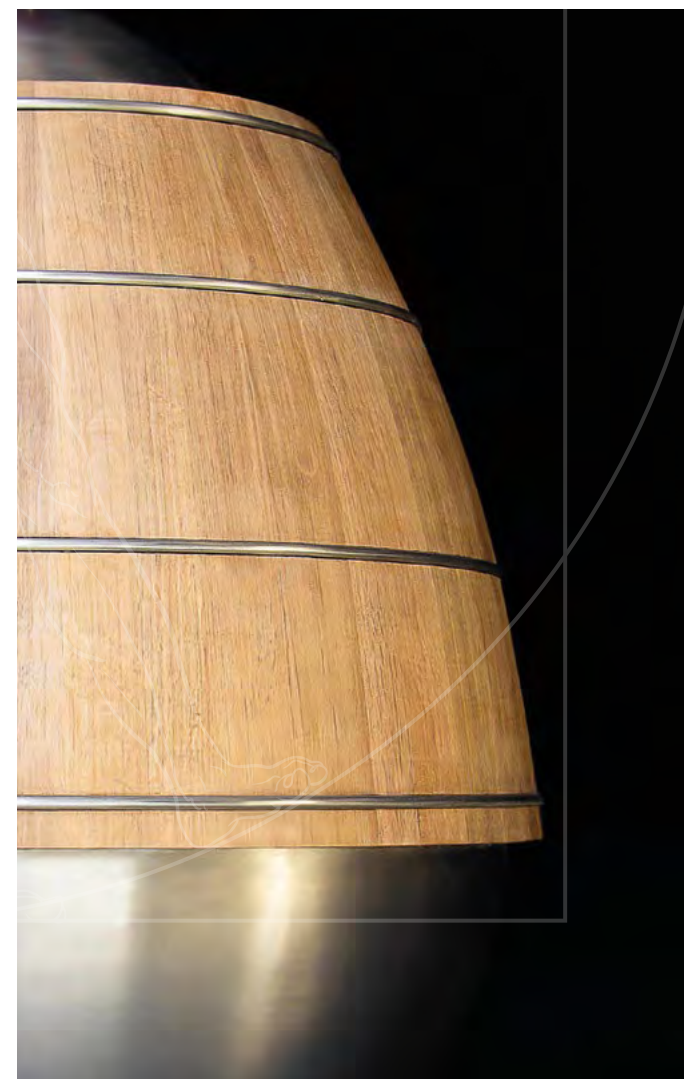
Thanks to the combination of materials, the ovoid benefits from both the micro-oxygenation inherent in oak and enhanced freshness and fruit from the stainless steel.

SUPERIOR RAW MATERIALS

Our rigorously selected oak staves are naturally dried for 30 months in our 8-hectare wood yard. Before coopering the EGGONUM®, the oak staves are gradually toasted with our unique molecular toasting process. Our food-grade stainless steel is known for its adaptability and durability.

CLEVER STRAPPING

Traditional hoops have been replaced by removable stainless steel cables so after 3-4 fills, the oak staves can be removed and replaced with new wood. With this unique innovation, the life of the product is greatly extended (recommendation: change the staves every 3 to 4 years).



ŒNOLOGICAL INTEREST

The true egg-shape of the cask encourages Brownian motion adding depth, volume and texture to the wine. Research has shown wines made with the lees kept in suspension, have substantially creamier mouthfeel and richness.

PRODUCT BENEFITS



RENEWABLE
WOODEN HULL



MOLECULAR
TOASTING



SMOOTH
INTERIOR



CERTIFICATIONS

At the Vicard Group, we are deeply committed to sustainable development. This commitment is the result of rigorous efforts, over many years, regarding the origin of our wood, controlling the procurement, hygiene and traceability of our raw material.

— ORGANIZATIONS THAT CERTIFIED THE VICARD GROUP



HACCP
To adapt to the new regulatory and food safety requirements, we have implemented a HACCP system recognition.



BUREAU VERITAS
In order to ensure the highest traceability, Bureau Veritas recognizes and certifies the French origin of our woods.



PEFC®
The different entities of the VICARD group are certified PEFC® since 2009. This certification is based on the implementation a chain of control whose aim is to monitor the entire wood industry, from the forest to the end user. Thanks to this programme, the Vicard Group also contributes to sustainable management of forests through concrete actions regulated by international rules (ONF).



CREDITS

Special thanks to: Jean-Luc PINEAU, Frédéric GUY, Florent DUPUY, Stéphane CHARBEAU, Marcelo MARENGO, Emilie FAUGÈRE

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CHANGING *the* PARADIGM

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GROUPE VICARD

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**Driven by the passion of his work and born from five generations of expertise,
Jean-Charles Vicard and his team are crafting, quality barrels, casks and tanks using
the best essence of oak for winemakers around the world.**

.....

*Guidé par la passion de son métier et porté par cinq générations de savoir-faire,
Jean-Charles Vicard et son équipe élaborent pour vous, avec les plus belles essences
de chêne, des barriques, cuves et foudres de qualité.*