

ECOWISE™ CHOICE

Resins & Additives for Industrial Wood





Facts & Figures

- Global company with over €2.1 billion in sales
- Broad technology portfolio: liquid coating resins, energy curable resins, powder coating resins, crosslinkers and additives, composites and construction materials
- Approximately 4000 employees
- Customers in more than 100 countries
- 32 manufacturing facilities
- 23 research and technology centers
- 5 joint ventures
- Extensive range of solutions for key coating segments: automotive, industrial, packaging coating and inks, protective, industrial plastics and specialty architectural



With manufacturing, R&D and technical facilities located throughout Europe, North America, Asia Pacific and Latin America, allnex offers global and reliable supply of resins and additives combined with local, responsive customer support.



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BE ECOWISE TOGETHER

As the leading industrial coating resins company, sustainability is a key part of our continued success and a commitment to our stakeholders.

While we have been continuously and consciously working on green technologies. Sustainability challenges the industry is facing are now more than ever before, requiring robust tools and methodologies to address customers and societal needs.

Our ECOWISE™ CHOICE portfolio is the answer to the need for measurable sustainability performance assessments, in a specific market and application context and is especially designed to deliver the greatest combined value for our customers, the society and the environment.

It is a testament to our pledge to pursue a more sustainable future with our stakeholders – to be ECOWISE together.

Our ECOWISE CHOICE selection for industrial wood is the outcome of applying best practices of Sustainable Portfolio Management (SPM) to our business. Through the SPM we aim to categorize our products by analysing their sustainable benefits and challenges, using a fact-based methodology.

The sustainability assessment refers to the five sustainability pillars of allnex: renewable sourcing, safer materials, air emissions, circular economy, and energy efficiency- and the specific requirements of regulatory and certification bodies, and key industry players within the industrial wood market.

“Sustainable portfolio management is the keystone of our sustainability program. It enables us to steer our product offering and innovation pipeline in line with the sustainability needs of the market. It will enable us to support our customers, end-markets, and stakeholders” – benoit de becker, vp strategy & innovation.“

ECOWISE™ CHOICE

Meeting the sustainability needs of industrial wood market

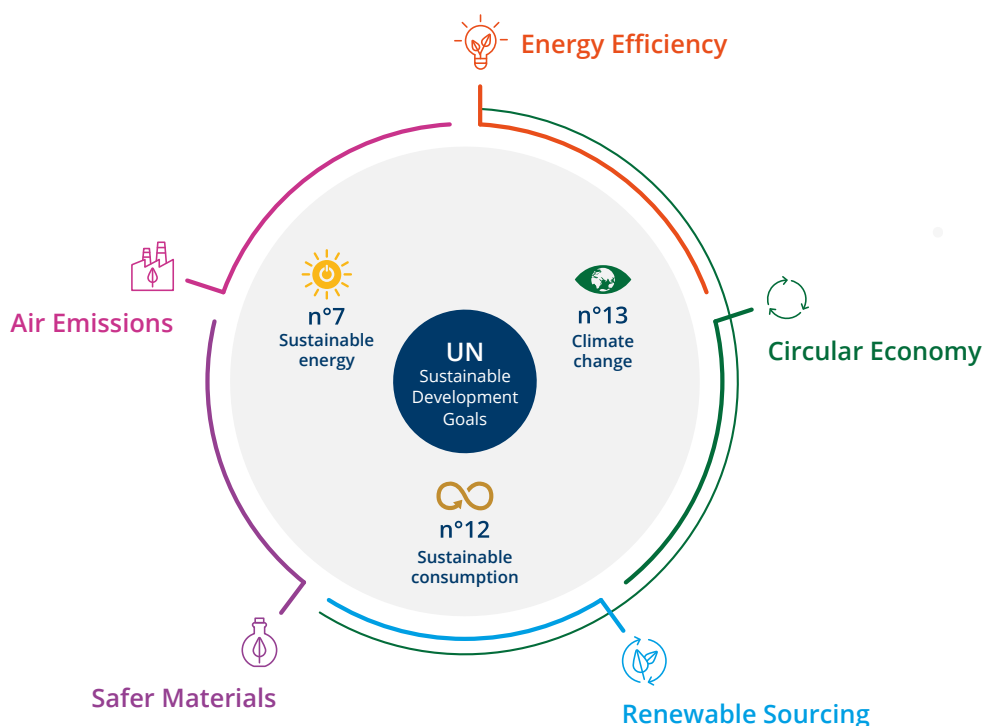
ECOWISE™ CHOICE for the industrial wood market comprises solutions for coatings for applications such as cabinets, furniture, flooring, joinery and special applications like children toys.

While these coatings are factory applied and aimed at providing increased durability on wood and aesthetic properties, they are mostly used indoors. The coating used greatly influences the indoor air quality and exposure to the chemicals used.

As a result, furniture manufacturers, building certification bodies, government regulations and end users' environmental awareness are driving the industrial wood market to shift to compliant coating systems such as water borne, UV, powders and formaldehyde free solutions which improve air quality and are safer to use.

Furthermore, the demand from society and key industry players for more circular, lower carbon footprint products drives the need for solutions that improve material and energy efficiency at the factory and reduce paint consumption or improve durability in use, especially in exterior applications. Within this context the increased interest on the use of sustainable raw materials, as well as resins with renewable or recycled content, is central to the ECOWISE™ CHOICE selection criteria.

Our ECOWISE™ CHOICE selection for industrial wood offers a complete range of green technologies, designed to help our customer in the industrial wood market with building a sustainability & performance based proposition, meeting key requirements of eco labels and key industry players.



SUSTAINABILITY PILLARS

Circular Economy

We explore options to limit resources consumption, keep them in use as long as possible, and finally recover and recycle them at the end of service life.

Energy Efficiency

We design our product and manufacturing process to achieve the highest efficiency in energy utilization across the product lifecycle.

Renewable Sourcing

We aim at minimal use of finite resources and reduce the impact on climate change by looking at renewable alternatives for raw materials and energy we use.

Safer Materials

We are committed to making the substitution of potentially harmful chemicals with safer options one of our top priorities.

Air Emissions

We focus on reducing emissions of Volatile Organic Solvents across the product lifecycle to protect people and the environment.

Technical Features

Amino Crosslinkers

Product name	Type	Non volatile content- 45min- 45°C (%)	Solvent	Dyn. Viscosity 23°C (mPa.s)	Density 23°C (kg/m ³) approx.	Water solubility
CYMEL® NF 3030	Formaldehyde free, waterbased crosslinker	40-45 (3)	Water	<300	1170	Soluble

Powder

Product name	Type	AV	Viscosity*	Tg(°C)**
UVECOAT® 3005	Unsaturated PE for UV	≤10	4000 / 200° C	48
UVECOAT 9010	Unsaturated PE for UV	≤3	350 / 100° C	MT = 85

*melt viscosity measured with Brookfield1 viscometer, mPa.s at temperature/°C

**MT melting point / °C

Waterborne

Product name	Type	Self- crosslinking	Non volatile %	pH	MFFT (°C)
SETAQUA® 6405	Acrylic dispersion, surfactant free		40%	6.5	17
SETAQUA 6716	Acrylic dispersion, surfactant free	●	40%	8.5	20
SETAQUA 6717	Acrylic dispersion, surfactant free	●	44%	8.8	59
SETAQUA 6718	Acrylic dispersion, surfactant free	●	40%	8	40
SETAQUA 6719	Acrylic dispersion, surfactant free	●	40%	7.6	20
SETAQUA 6726	Acrylic dispersion, surfactant free	●	41%	8.1	33
SETAQUA 6756	Acrylic dispersion, surfactant free	●	40%	8.0	15
SETAQUA 6799	Acrylic dispersion, surfactant free	●	41%	8.5	5

Waterborne UV curable

Product name	Type	Solid content	Viscosity 25°C (mPa.s)	pH	Max. average particle size	MFFT (°C)
UCECOAT® 7999	Polyurethane Dispersion	33 - 35	< 200	7.0 - 8.5	< 100	0

100% UV curable

Product name	Type	Functionality	Viscosity 25°C (mPa.s)	Acid Value, mg KOH/g	Color
EBECRYL® 4690	Aliphatic urethane acrylate	3.8	25000 - 33000	1	< 75 (APHA)
EBECRYL LED 03	Amine modified polyether acrylate	2	~ 450	n/a	< 1
EBECRYL 5848	Epoxidized soya oil acrylate	3	~ 20000	~ 9.6	< 10 (Gardner)

ECOWISE™ CHOICE is a living selection following evolution of our product offering and changing benchmarks and markets needs. Please always refer to allnex.com for the latest ECOWISE CHOICE product list.

Xylene solubility	Technical features
Insoluble	Formaldehyde free, industrial wood coatings, no VOC.

Technical features
For wood and wood substrate applications. Can be pigmented or used as clear. Excellent scratch resistance.
Semi-crystalline co-resin for UV-curable formulations giving improved mechanical performance, flexibility and smoothness.
















Technical features
Excellent flow and uniform staining properties when used in dip processes. Formulation of tannin stain blocking primers with very good sandability.
Excellent hardness and blocking resistance, fast drying, good sandability and chemical resistance. Excellent in-can clarity and solvent-like appearance in the dry coat. Good colour stability.
Excellent chemical and stain resistance, good dry and wet heat resistance, good scratch resistance.
Excellent hardness and blocking resistance, fast drying, good sandability and chemical resistance. Excellent in-can clarity and solvent-like appearance in the dry coat. Good colour stability.
Excellent hardness and blocking resistance, fast drying, good sandability and chemical resistance. Good in-can clarity and solvent-like appearance in the dry coat. Good colour stability
Excellent hardness, fast drying, good sandability and excellent blocking resistance with good transparency in clear coatings. Very good filling (such as on MDF), viscosity stability and stackability within short drying process
Excellent hardness and blocking resistance, fast drying, good sandability and chemical resistance. Excellent in-can clarity and solvent-like appearance in the dry coat.
Excellent blocking resistance when applied in thick films, good transparency and non-yellowing properties. Good outdoor durability and dirt pickup resistance, long open time




Technical features
Tack-free before cure, good colloidal stability, excellent chemical & mechanical resistance, balance between flexibility and hardness

Technical features
Tin free, high abrasion and chemical resistance, low yellowing, good mechanical properties.
Low energy curable, low viscous, good flexibility & adhesion promotion, high gloss, low migration potential.
Moderate viscosity, good pigment wetting, excellent surface wetting, multi-substrate adhesion and high hardness.



Application features

Product	Technology	allnex sustainability pillar	Primer/ Basecoat	Topcoat	Interior	Exterior	Furniture	Wood Flooring	Joinery	Deck Stains/ Wood Care	Siding
CYMEL® NF 3030	Formaldehyde free, waterbased crosslinker				•		•			•	
EBECRYL® 4690	Aliphatic urethane acrylate			•	•	•	•	•	•	•	•
EBECRYL LED 03	Amine modified polyether acrylate			•	•		•	•			
EBECRYL 5848	Epoxidized soya oil acrylate		•		•		•	•			
SETAQUA® 6405	Acrylic dispersion, surfactant free		•		•		•			•	
SETAQUA 6716	Acrylic dispersion, surfactant free		•	•	•		•	•			
SETAQUA 6717	Acrylic dispersion, surfactant free			•	•		•				
SETAQUA 6718	Acrylic dispersion, surfactant free		•	•	•		•	•			
SETAQUA 6719	Acrylic dispersion, surfactant free		•	•	•		•				
SETAQUA 6726	Acrylic dispersion, surfactant free		•	•	•		•				
SETAQUA 6756	Acrylic dispersion, surfactant free		•	•	•		•	•			
SETAQUA 6799	Acrylic dispersion, surfactant free		•	•	•	•			•	•	
UCECOAT® 7999	Polyurethane dispersion		•	•	•		•	•			
UVECOAT® 3005	Unsaturated PE for UV			•	•		•				
UVECOAT 9010	Unsaturated PE for UV			•	•		•				

-  Renewable sourcing
-  Safer materials
-  Energy Efficiency

Key Performance features

Does not contain formaldehyde or emit formaldehyde during curing. Excellent compatibility with a variety of OH functional resins with a fast cure response in ambient and heat cure applications. Extended pot life in 2K systems.

Outstanding outdoor durability, good reactivity for producing hard and tough coatings.

Increased surface cure at low energy radiation as a co-resin, for increased productivity, good flexibility & adhesion promotion, high gloss and transparency, low migration potential.

Good pigment wetting, good hardness & balance of properties, multi-substrate adhesion, good substrate wetting,.

Highly suitable for impregnation of hard woods, excellent flow, uniform staining in flow coats.

Excellent blocking resistance, excellent in-can and dry film clarity, good sandability and colour stability.

Excellent chemical and stain resistance, good scratch resistance, good dry and wet heat resistance.

Excellent hardness and blocking resistance, fast drying, good sandability and chemical resistance
Excellent in-can clarity and solvent-like appearance in the dry coat. Good colour stability.

Excellent blocking resistance, good in-can and dry film clarity, good sandability and colour stability.

Fast drying, excellent blocking resistance, good sandability, stackability and filling power.

Excellent blocking resistance, fast drying, excellent in-can and dry film clarity, good sandability.

Excellent blocking resistance, when applied in thick films, good transparency and non yellowing properties. Good outdoor durability and dirt-pick up resistance. Long open time.

Easy film formation without co-solvent use, high reactivity, physically drying, perfect use in white and clear coats for wood furniture and parquets

Can be pigmented or used as clear. Excellent scratch resistance.

Co-resin for UV-curable formulations giving improved mechanical performance, flexibility and smoothness.

Questions & Answers

What is ECOWISE™ CHOICE?

- a. ECOWISE™ CHOICE is the allnex attribute for all initiatives with a sustainability value and ECOWISE™ CHOICE is a portfolio of products meeting the most stringent sustainability requirements in the industry.
- b. We have assessed our products against ecolabels' criteria to ensure products in the ECOWISE™ CHOICE range can help our customer meet these requirements. We have documentation available to communicate the criteria used.

How is allnex selecting the ECOWISE™ CHOICE portfolio?

- a. In setting up the methodology, process and guidelines we have closely followed the recommendations provided by World Business Council for Sustainable Development (WBCSD, 2019). Additionally KPMG Sustainability analyzed our Sustainability Portfolio Management methodology, which helped us to identify key areas in our process, governance structure and methodology to focus on for a continuous improvement approach. More information is available at <https://www.allnex.com/en/technologies/ecowise-choice>

How often is the ECOWISE™ CHOICE portfolio reviewed?

- a. The ECOWISE™ CHOICE portfolio is a living selection following evolution of our product offerings, changing benchmarks and market needs. You will see more products being added as we continue the assessment of our current portfolio and new products are introduced to market. Furthermore allnex is continuously monitoring regulatory updates and developing trends. These identified changes will be implemented during annual reviews. However, this process may be expedited if we see a strong indication of changing trends which would significantly impact the relevancy of ECOWISE™ CHOICE. The products and questionnaire listed in this version of the document are updated as of 31st March 2020. Kindly refer to the allnex website for the latest version <https://www.allnex.com/en/technologies/ecowise-choice>

How can allnex support me with regards to data on renewable and recycling content?

- a. We can provide an allnex declaration of renewable or recycled content based on our suppliers' statements and our internal auditing. For renewable materials C14 or biomass balance declaration will be issued, depending on customer needs, the raw material supply, and process flows. The ability to issue a C14 declaration for a product may require investments in the supply and process chains which will be considered after validation with customers.
- b. We are adopting a responsible sourcing vision to develop our new renewable products, including considerations on issues as competition with food, land use and impact on local communities in materials selection. We target sourcing from 2nd generation feedstock (by-products/ residues from forestry, agriculture, industry or waste streams) whenever possible, and we evaluate sources that use regenerative agricultural and forestry practices.

For more information, please refer to our renewable materials brochure. https://www.allnex.com/getmedia/f7f51d17-bb2c-47fd-9527-6da07e2b2deb/0141_AL-Renewables_web.pdf

How can allnex support me on LCA data?

- a. Cradle-to-cradle Life-Cycle Assessment (LCA) is a thorough scientific approach to examine a product in its different applications. For the purpose of the ECOWISE™ CHOICE selection we limit the assessment to a qualitative analysis to identify the environmental benefits of our product in comparison to the competition. These benefits range from improved technical performance, increase energy efficiency or lower emissions. The SPM relies on qualitative thinking to ensure other material topics (e.g. durability) are covered.
- b. We are open to having further discussions with you, should you need data for your own LCA. Please reach out to psra-customer-requests@allnex.com if you wish to discuss your needs with an allnex representative.

Glossary of Terms

Term	Definition
BU	Business Unit.
C14	Radiocarbon, or carbon-14 (also written as 14C), is an isotope of carbon that is unstable and weakly radioactive. Recently living materials (the bio based component) have Carbon-14 while fossil fuel derived materials do not. Bio based carbon content of a product is determined by radiocarbon dating method (ASTM 6866) by analyzing the radioactive carbon content versus the total carbon content.
CMR	Carcinogenic, Mutagenic or Toxic for Reproduction.
ECHA	European Chemicals Agency.
GHG	Greenhouse Gas. A gas that contributes to the natural greenhouse effect. The Kyoto Protocol covers a basket of six greenhouse gases (GHGs) produced by human activities: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride. Annex I Parties' emissions of these gases taken together are to be measured in terms of carbon dioxide equivalents on the basis of the gases' global warming potential. An important natural GHG that is not covered by the protocol is water vapor. Source: European Commission. Climate change: Glossary of common terms and acronyms. http://glossary.eea.europa.eu/EEAGlossary/G/greenhouse_gas .
LCA	Life-cycle assessment (LCA) is a process of evaluating the effects that a product has on the environment over the entire period of its life thereby increasing resource-use efficiency and decreasing liabilities. It can be used to study the environmental impact of either a product or the function the product is designed to perform. LCA is commonly referred to as a "cradle-to-grave" analysis. LCA's key elements are: (1) identify and quantify the environmental loads involved; e.g. the energy and raw materials consumed, the emissions and wastes generated; (2) evaluate the potential environmental impacts of these loads; and (3) assess the options available for reducing these environmental impacts. Source European Commission. Climate change: Glossary of common terms and acronyms, https://www.eea.europa.eu/help/glossary#c4=10&c0=all&b_start=0&c2=lca
PAC	Product Application Combination, used to analyse a product in combination with the relevant market application to assess its sustainability value.
REACH	Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals.
SPF	Starting Point Formulation. Recommended formulation for a product for use in a coating.
SPM	Sustainable Portfolio Management.
UNSDG	United Nations Sustainable Development Goals.
UV	Ultraviolet UV curing or energy curing is a type of coating technology cured by ultraviolet radiation.
WB	Water borne. WB coatings are type of coating technology where the carrier is water.



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The operating allnex group is legally owned by Allnex Holdings S.à r.l., a company based in Luxembourg, which also provides long term strategic decisions relating to its investment in allnex.

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