



THE RESIN SPECIALISTS FOR PANEL INDUSTRY

 **NTL**

Offering tailor-made formaldehyde based resin technology to resin manufacturers and panel producers, meeting their special requirements.

Bonding visions with reality.



Who we are

NTL Chemical Consulting is a Licensing Resin Technology Provider of formaldehyde-based resins for wood based panels such as: Particleboard (PB), Medium Density Fiberboard (MDF), Plywood (PLY), Oriented Strand Board (OSB), Paper Impregnation, etc. and for engineered wood such as: Laminated Veneer Lumber (LVL) and Glulam.

Arriving at the correct approach to determine which resin formulation is best suited to a particular application, is the secret of NTL's performance.

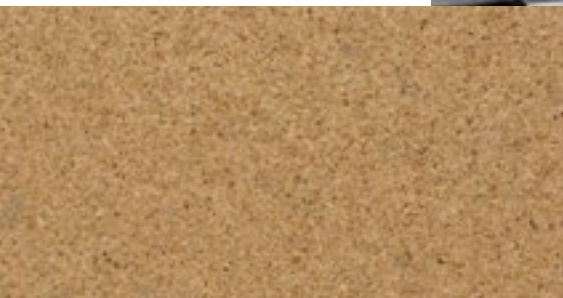
With more than 30 years worldwide experience we offer panel producers tailor-made resins according to their exact production conditions for meeting their precise specifications.

After years of progressive growth, today NTL is one of the leading Licensing Resin Technology Provider for synthetic resin and adhesives manufacturer in the world, providing not only for the forest product industries but also a wide spectrum of other industries such as, mineral wool for thermal & heat isolation, concrete, abrasives, grinding wheels, molting compounds, textile, paper, etc.

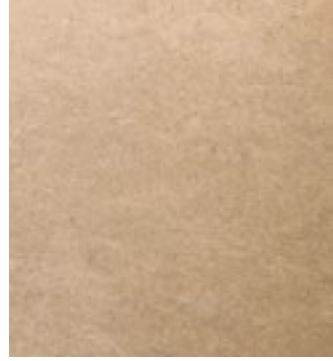
In NTL, we see customers as business partners. We are committed to their success. By our definition, an appreciative customer is the mark of a successful company. In return for investing in us, our customers get to share our wealth of experience and innovative thinking as well as our guarantee of regular and reliable supply of high quality products.

For over 30 years of worldwide experience, we continuously offer precise, tailor-made resins.

LAB



PORTFOLIO



NTL's Other Available Specialty products

NTL can also provide you other specialty product technologies for the following types of applications:

- Phenolic resins for manufacture of rock wool & glass wool
- Phenolic resins for coated abrasives (abrasive paper)
- Phenolic resins for impregnated kraft papers
- Urea-Formaldehyde Etherified resins for manufacture of firelighters
- Melamine-Formaldehyde Etherified resins for paper filter impregnation-automotive, paper foil coatings
- Melamine-Formaldehyde resin for concrete forming
- Melamine-Formaldehyde cationic resins for manufacture of glass fiber matt and glass tissue & for enhancing wet strength of paper

Application	Resins	Formaldehyde Emissions	Moisture resistance
Particle Board (PB) Medium Density Fibre (MDF)	UF UmF MUF	E1 ½ E1 CARB-II EO (F***), Super EO (F****)	V20 V313 V100
Plywood (PLY)	UF, UmF, MUF PF for hardwood, softwood, tropical wood, combined species	E1, CARB-II, EO (F***)	
Oriented Strand Board (OSB-I, OSB-II, OSB-III)	UF, MUF, MUPF PF (core & surface) PF for surface (light color)	E1	
Glulam	MF, MUF	—	
Laminated Veneer Lumber (LVL)	PF PFR (Phenol-Resorcinol- Formaldehyde)	—	
Paper Impregnation	UF, MF PF for SCL, HPL, post forming, High Gloss	—	
Wood Hardening	PF, MF-etherified, DMDHEU	—	

Additives: Activators, Scavengers, Hardeners, Cross-linkers, Fire retardants



Environmental
Friendly



Flame
Retardant



Water
Resistant



ECO-BINDER

NTL's Effective research & development

NTL's strength is its R & D

- Located at Thessaloniki Technology Park, NTL has a modern and newly equipped laboratory
- R&D focuses in developing new innovative & cost effective products meeting our customers' specific requirements & market demand
- Developing, upgrading, continuing our ongoing resin formulations
- Turning innovative ideas to realizable value-added solutions
- Troubleshooting and continual support to our customers
- Conscious of environmental responsibility

With our resin technology systems, you can achieve emission levels down to natural wood.

NTL's Low Formaldehyde emission resins

With our Innovative 3 resin technology systems combined of a Low emission resin, Polymerised Scavenger & Cross-linker, you can achieve emission levels down to natural wood.

NTL provides consultancy for formaldehyde based resin technology system along with technical support ensuring performance of the most stringent European, American and Japanese Standards of Board Class: V20, V313, V100 and Formaldehyde Class: E1, ½ E1, CARB-II, EO (F***), Super EO (F****) at the most cost effective manner.

NTL 3 parts resin technology system works hand-in-hand with the base resin, has excellent shelf life, is suitable to apply to any PB & MDF line, no need any additional capital investment cost, can be used with existing mill equipment without adversely affecting resin cure & board properties.

Due to the Polymerized Scavenger is substituted part of the base resin, this technology is typically less expensive compared to one-part resins or scavenger solutions and can achieve emission levels down to natural wood at less cost.



NTL'S Joint R&D project with dedicated universities & institutes

Realizing at earlier stage of our activities that the bonding strength of a board consists of two parts, the resin and the wood and thus NTL is actively engaged in technological alliances & research collaboration projects with dedicated Universities & Wood Engineering technology Institutes for better understanding the behavior and performance of different wood species & develop most suitable & best suit resin technology system.

- Analyzing wood composition, determination of cellulose & lignin, wood penetration, testing for extractions, (i.e.: alcohols, fatty acids, tannins, proteins, etc.)
- Fiber Modification techniques
- Enhancement of properties and recyclability of recovered fibers in various wood materials thru thermal & chemical modification, resin treatment, etc.
- Resins for application with bagasse and other annual & fast growing plants, etc.
- Lignin incorporation in formaldehyde-based resins, etc.

Complete Plant and Engineering Services

Apart from NTL's wide range of resin technologies, it also provides through its strong association of International experienced partner network, complete Engineering Services for the construction and operation of Resins Plants of different sizes. NTL's service includes:

- Complete process technology
- Engineering design services
- Procurement
- Technical assistance
- Supervision & complete training to Customer's plant personnel for the construction of Resin plants



SUPPORT

Committed to customers and combined with the best quality technical service available to meet the challenging needs ahead.

Our Technical Support

NTL focuses on providing on-going support Service, Quality & Efficiency which is the basis of our fundamental principle.

Our technical experts, with their skills, knowledge & over 30 years of global experience provide customers continuous technical support which includes:

- New resin technologies and ideas according to the trends & market needs of our Customers
- Training our Customers staff, at their R & D and Resin plants, as well as application work of our technology according to our Customers wood panel production processes

- Troubleshooting and ongoing technical support, consisting of new cost-efficient resin technology development, upgrading, optimization as they occur, focusing on our Customer's production quality and capacity efficiency
- Creating value and profitability to our Customers production operations

NTL is committed and will continue working in close cooperation with our customers worldwide in providing them even higher levels of resin technology efficiency combined with the best quality technical service available to meet the challenging needs ahead.

GLOBALLY



References

(BAC) Bintulu Adhesives and Chemicals, Sarawak
— East Malaysia

A company manufacturing Formaldehyde & Formaldehyde based resins and selling to local wood panel producers.

Foresco Co., Ltd
— South Korea

A company manufacturing MDF panels with its own Integrated Resin Plant.

Krata - Pigment
— Russia

A company manufacturing Formaldehyde and Formaldehyde-Amino & Phenolic based resins and other chemicals for various industries, which they produce and sell to their local & International market.

Kwangwon Timber
— South Korea

A company manufacturing MDF panels with its own Integrated Resin Plant.

(MAC) Malayan Adhesives & Chemicals
— Malaysia

A company manufacturing formaldehyde & Formaldehyde based resins for sale to local wood panel producers.

MKS Marmara Entegre Kimya Sanayi A.S.
— Turkey

A company manufacturing Formaldehyde & Formaldehyde based resins for sale to local wood panel producers.

Perechin Timber and Chemical Plant OJSV (Polyprom Group)
— Ukraine

A company manufacturing Formaldehyde based resins for sale to local wood panel producers.

Royal Plas (ATKA Group)
— Brazil

A company manufacturing Formaldehyde and Formaldehyde-Amino & Phenolic based resins for sale to local producers.

Tablemac S.A.
— Colombia

A company manufacturing Particleboard, MDF and impregnation papers for LPM and finish foils, as well with their own Integrated formaldehyde and Resin Plant.

TDIC Co., Ltd.
— Thailand

A company manufacturing Formaldehyde & Formaldehyde based resins for sale to local wood panel producers.

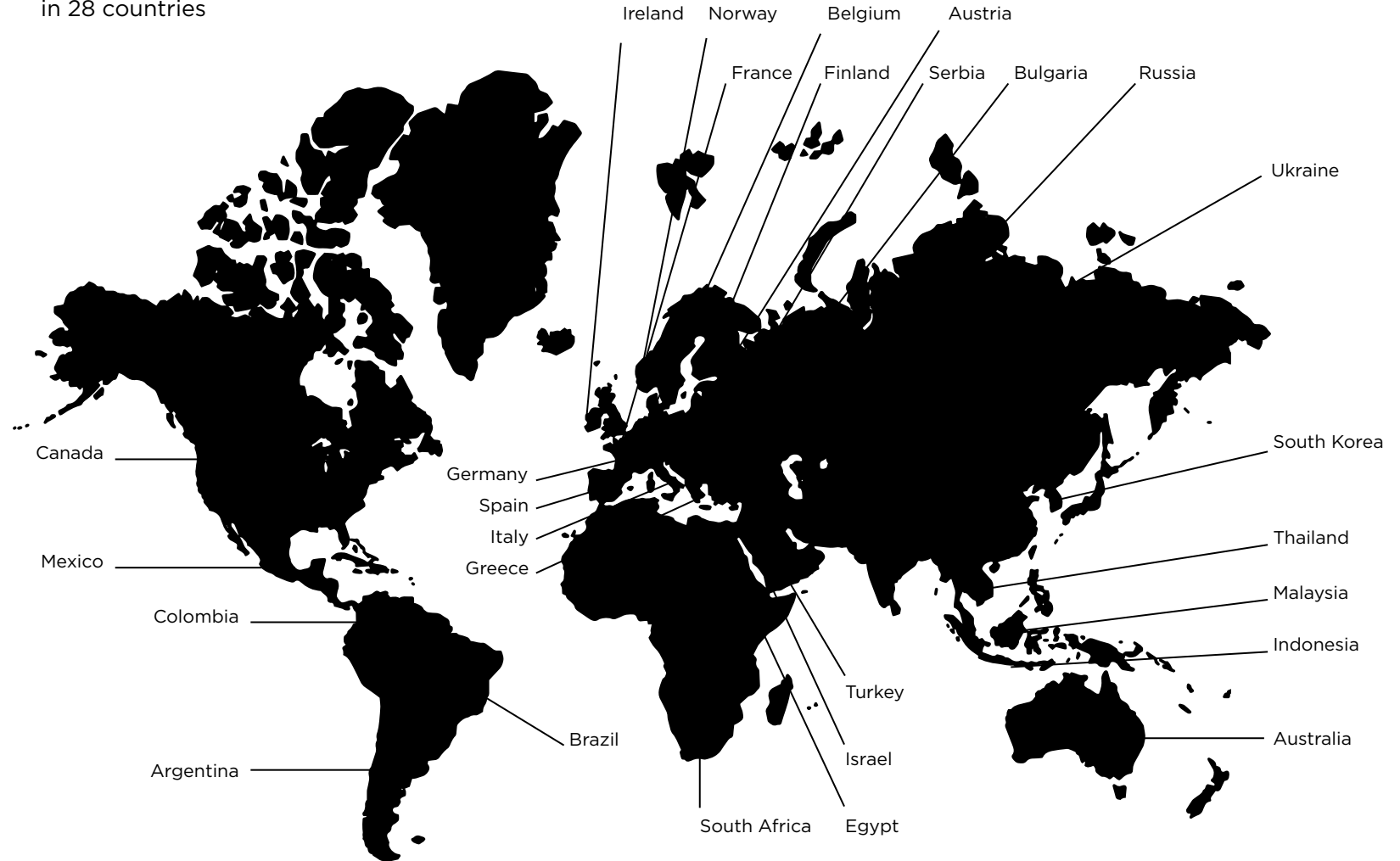
EMMAN TABLEROS S.A
— México

A company manufacturing MDF, Particleboards and Melamine paper impregnation for SCL and has its own Integrated Resin Plant.

Uniboard
— Canada

A company manufacturing MDF, Particleboard and laminates with their own Integrated formaldehyde and Resin Plant.

Our worldwide experience in 28 countries





Bonding visions with reality.



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