The Adhesive Specialist

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Write to The Adhesive Specialist annika.berg@akzonobel.com If you have any views on the contents or engagetions.

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Editorial

Dear industry Colleagues

The European wood industry has adapted and is changing to the needs of the its market. It has met head on the combined challenges of increased efficiencies product innovation and improved sustainability, and is now in a position where it can start to reap the rewards.

of services is empowering us to become world class. At AkzoNobel we are pleased to be able to report that our suite of intelligent digital services held under the Bonding Process Manager (BPM) are being further enhanced to bring the latest in in-line process controls that help reduce and optimise adhesive usage whilst at the same time

AkzoNobel with it long history in the industry has supported these changes is now also in a far stronger position, allowing us to invest, and grow with the industry. I am pleased to be able to announce that our wood adhesives business are finalising investments into both production capacity and new R&D facilities which will allow us to capitalise on the future trends that we have identified. Specifically and in line with our company focus on sustainability, again demonstrated by AkzoNobel's high ranking in the independent Dow Jones Sustainability Index, we have continued to innovate in zero and ultra low formaldehyde alternatives to complement our existing product range.

We believe this trend will not only continue, but accelerate and we want to be at the forefront of technological breakthroughs that provide your business with viable alternatives to more traditional products. Our Research & Development activities will continue to focus heavily in this area and it is our intention to provide the industry with leading technologies to meet the increasing demands of your customers, whilst at the same time driving productivity and total cost savings in your facilities.

All industries must continue to focus on costs by streamlining, automating and improving quality whilst reducing rework and scrap. Without this constant drive our European wood industry would lose out to overseas competition. It is not good enough to just deliver on the best quality, with the most sustainable credentials. It is imperative that we are best in class on total produced costs by doing more with less Automisation is

revolutionising how we work. Rapid change, driven by advancing technology and digitalisation of services is empowering us to become world class. At AkzoNobel we are pleased to be able to report that our suite of intelligent digital services held under the Bonding Process Manager (BPM) are being further enhanced to bring the latest in in-line process controls that help reduce and optimise adhesive usage whilst at the same time giving you and your factory operators in depth analysis on how your bonding process is operating. The data generated when analysed by our technical advisors can be used to assist you in running your existing lines more efficiently and to higher quality standards.

Our in depth knowledge of the industry, our understanding of the processes you use and how our products play their role means we at AkzoNobel are uniquely placed to provide support in your future investments.

We are proud to say that at AkzoNobel we create everyday essentials to make people's lives more liveable and inspiring,

James Thick
European Marketing Manager
Wood Adhesives & Coatings



A pioneer in entrepreneurship

sector in 2005.

Upon entering the wood sector, NASREDDIN ORMAN URUNLERI is established as a result of customer demands and investor directions and opened a new page by selling impregnated wooden products and timber.

Wood is the future

In 2008, considering the wood as a construction material of the future Nasreddin has made an investment decision and established a laminated wood production facility in Serik district of Antalya.

Nasreddin has an approach to achieve important projects with a professional management and by the establishment of this facility he begun developing its technology and indispensible customer-focused quality policy.

Mugla Factory; at the end of 2011, Nasreddin has continued raising its objectives by incorporating region leader Salman Wood Industry Company located at Fethiye-Marmaris-Bodrum triangle. Nasreddin's Mugla facility serves domestic Solid Wood and woodwork in high quality norms. Association has 120,000 m² production capacity with 13.000 m² open and 10.000 m² closed area.

Antalya Factory which has been established in the Industrial Zone of Antalya, covers 13.000 m². It has been planned that this new investment would be an example for domestic and foreign structural wood projects. As a "first" in Turkey, the load-bearing constructions of the office and roof sections of this factory have been

Nasreddin begun its journey in 90s with made of Laminated Wood and CLT system. This straw decoration and entered the wood facility with increasing quality standarts produce CLT and laminated beam systems. It is possible to reach 7.500 m³ annual production capacity and maximum up to 50 m opening for laminated beams. Nasreddin has the capacity to manufacture 250 wooden houses with average each 150 m² usage area in a year by using



market and export by producing Thermowood, The Ukraine facility as Nasreddin's latest investment at the resource of the raw material was This factory, a member of the World Thermowood a new step and stronger vision for worldwide competition. Naswood Ukraine has a stronger position especially in the European market and today NASWOOD has become an inter-Nasreddin had a new investment in 2015, national group of companies with increasing quality standards.



Cooperation with AkzoNobel

AkzoNobel Adhesives AB is the solution provider of Nasreddin group starting with his decision on improved quality structural elements production. Nasreddin preferred AkzoNobel's high quality MUF systems together with machine support. Nasreddin's experienced team worked together with AkzoNobel to decide on the right system and preferred MUF 1247/2526 as separate application system with a separate ribbon spreader. Nasreddin is the first leading and pioneer company in Turkey who prefered MUF and 1247/2526 system. After installation of the separate ribbon spreader system, Nasreddin fully used the advantages of the AkzoNobel solutions and technical support to achieve commitments on leading projects in Turkey. Today, Nasreddin is the leading producer who use AkzoNobel adhesive system in a professional way to increase his productivity with high quality standarts to serve his valuable customers.

Bahadir Kaner

20 Years of Cooperation

AGROP NOVA is one of the largest and most modern producers of 3 layer and multilayer solid wood boards in Europe. The company production plant is based in the East part of the Czech Republic, Over 640 trucks (1 300 000 m²) with multilayer boards leave the factory every year. Main customers are based in Switzerland, Austria, Germany, Italy, and France.



The main production program of the company is multilayer AGROP boards made of sawn softwood which have a very wide range of applications, both indoors and outdoors. In recent years, the company invested heavily in the development of new technologies. The result is an increase in production capacity, improved surface quality and greater flexibility in formats and thicknesses. A major step was the decision to expand the product portfolio with building elements.

The goal of the company is the development and manufacture of high quality products with the greatest respect for nature.

"Swiss experts from the area of wooden houses played an important role there, since just with them, we came to the idea of how to convert our three-layer board into a hollow rib element. Shortly afterwards, an idea of how to create a comprehensive building system on the basis of cross-laminated solid wood and, along with that, the brand NOVATOP was born." says Jiří Oslizlo, Chairman of the Board.



20 Years of Cooperation

Twenty years of cooperation between AGROP NOVA and AkzoNobel has lead into many innovations. Latest innovation was to develop environmentally friendly boards with high water resistance which was achieved by AkzoNobel adhesives systems GripPro® Light and GripPro® Plus. Both systems got extremely low VOC emission which allow our customer to be TopNature and NaturePlus certified. AkzoNobel Automatic Mixing Unit's assure correct ratio between glue and hardener as well as mixing of those two components.

Jaromir Krbila



II Centro – Arese Shopping Center

Building onHuman Values

Moretti is an Italian company that has operated in the construction industry for over 50 years, working with renowned experts in the sector. Architects, building engineers, designers and building craftsmen all united by a strong sense of values.

Moretti is an influential partner with specialized skills and extensive experience.

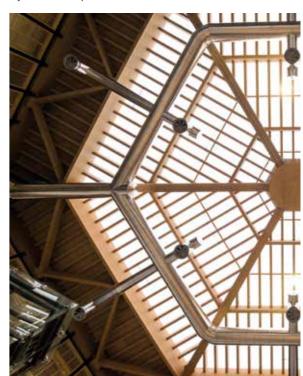
Precast concrete, wooden prefabs and mixed systems featuring metal, glass and stone. Turnkey public and private buildings, infrastructures, real estate. Each project finds in Moretti a timely, comprehensive response. Strategic advice and design, ordinary supply of building products and construction site management, installation and acceptance testing, product contracting and job order contracting. A new concept of entrepreneurship incorporating better skills, improved synergies and more solutions. Man and his values are the heart of a project and, in Moretti's view, of building as well.

The long and important experience

The long and important experience in the development of vast shopping centres abroad and in Italy, together with the assurance in time records, high quality materials and the excellent know-how, are determining to Moretti Construction Systems, guided by the managing director Evans Zampatti, the assignment of the development of Il Centro – Arese Shopping Center, the biggest shopping centre in Europe built in Arese as a requalification project of the former Alfa Romeo. The massive building site, developed by Moretti in temporary joint venture with

Itinera – Gruppo Gavio, involving thousands of workers for approximately 24 months in a synergic work that engaging Moretti's engineers and production regarding precast structures in concrete and wood.

Il Centro – Arese Shopping Center has a predominant environmentally friendly green vocation. For the extraordinary dimensions of the shopping mall, Moretti Construction Systems has produced and installed an overall deck of



around 100.000 m², with about 12.000 m² of wood linings certified by the Green Building Council, ensuring a span of over 650 m between the first and the last pillar of the shopping mall. The solution applied to the Arese Shopping Center by Moretti Construction Systems is one of the ultimate roof structures of laminated wood ever seen before in Europe.

The whole structure was designed following strict eco-sustainability and high energetic performances criteria to obtain the prestigious LEED Gold Certification. The same design attention
Along with concrete and iron within Moretti Construction for the eco-sustainability of the structures were also aimed on the high levels of structural safety of the building: the shopping centre optimally fulfils the performance requirements of functionality, lightness, reliability and attention to the relatoday's technical standards in relation to earthquake-resistant buildings through high-tech resources.

Among the best are the "Shock transmitters", sophisticated hydraulic pistons (28 in total, for three types of load). Situated along the structural expansion joints, these mechanisms are installed to "sew" all the structural portion of the building in seismic condition, in order to provisionally make a single structural body designed to successfully overcome project earthquakes.



a shopping centre of such dimensions and the naturalness of its colour creates for the visitors a completely new experience of wellness and close contact with nature. The Arese Shopping Center, therefore, marks a new stage in the process of creating GripPro® Plus adhesive along with the Ribbon Spreader 7230. a new concept of shopping malls, setting a new course for the future.

Moretti Construction Systems

Moretti Construction Systems lead by Managing Director Evans Zampatti, whose competence and experience were essential for the realisation of this extensive building site, constructed in record times, but also for the projected and implemented engineering solutions, confirms once again its position as a precursor of innovation and technology, with a green attitude.

Systems' reality, laminated wood is an important production standard, a real stylistic feature able to combine beauty, tionship between location and environment, architecture and habitability.

Wood is live, dynamic, so irreducibly natural that it is able to adapt to challenging tasks, while continuing to show all its glory. Skilful cuts and the union of artfully folded layers sustain vaults and spans of wide spaces.

In Moretti, the industrialised manufacturing of laminated wood complies with the highest quality certificated standards. The partnerships with the best specialists in the field and universities allow the employment of the most innovative structural solutions. A quality offer inscribe wine cellars, wooden houses and roofing systems for large spans and big industrial, tourist, sport, commercial and religious structures.

The great ability to meet the most sophisticated design requirements, let Moretti be the perfect interlocutor to those who are looking for tailor-made services and solutions. An increasingly international guide for architecture, which combines beauty, functionality, reliability and energy-saving.

The choice of using a quantity of wood never used before for Moretti Construction Systems has been using for many years now, a combination of Akzo Nobel's 1247/2526 adhesives for the production of laminated wood: and in the last months has started with a combined use of the latest generation

Emanuele Forloni

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Viersen nurserv

In schools and nurseries, healthy living and indoor climate play an important role. Wood is the perfect choice for projects such as this nursery in Viersen. The Derix Group delivered 70 m³ BSP and the required BSH elements.

Viersen organic supermarket

For the Vienhues organic supermarket in North Rhine-Westphalia, the Derix Group delivered 71 m³ BSP as well as BSH double-tapered beams. Especially in sensitive areas - such as in the sale of organic products - wood manufacturing can play to its strengths.

Stuttgart Fair

In Stuttgart, the tenth exhibition hall is currently being constructed, which will expand the exhibition grounds by 14,600 m². Visually adapted to the existing buildings, it is the first hall in Stuttgart with a roof that is not made from steel. The Derix Group is delivering 47 BSH main and cantilever beams up to 67 m in length for the complex roof structure. The 1,700 m³ glued timber required for this was glued by the company using GripPro® Plus by AkzoNobel.

MU without F GripPro® a melamine adhesive almost **VOCfree**

ment against construction with melamine wood glue. The Derix Group was the first company to completely convert its plants to the system. GripPro® Plus is often an sensitive areas.

are attributes that are often cited in relation to solid wood constructions; properties that give wood an advantage, compared to other solid construction systems. The formaldehyde-emitting glued joint in conventional MUF systems is usually offered as a counter argument to this. AkzoNobel has now solved this problem with the especially low-emission GripPro® Plus melamine adhesive.

Compared to conventional systems, this system only emits around a tenth of formaldehyde and therefore is extremely low-emission. The required pressing times remain unchanged. An analysis carried out by the Eco-Institut, Cologne, in line with the German Committee for Health-Related Evaluations of Building Products (AgBB), revealed a formaldehyde concentration of just 11 µg/m³ centres – the largest is 78 m long – ready for use.

AkzoNobel has attained great success with after 28 days. The LCI, or what the AgBB refers the melamine adhesive GripPro® Plus. The to as the "lowest concentration of interest", is virtually VOC-free glue system refutes the 100 µg/m³. Glued BSH was tested according "gas-emitting glued joint" as a strong arguto prEN 16516. The R-value – a dimensionless figure - calculated from the ratios of the actually occurring concentrations of individual volatile organic compounds and the associated LCIs was allowed to amount to a maximum of one. The important sales argument, particularly in determined R-value of the test structure is 0.17. Furthermore, unlike conventional MUF systems, GripPro® Plus is not a CLP-classified adhesive. Sustainability, authenticity and healthy living This means that the product is not considered a dangerous substance according to EU law.

Entire production converted

The Derix Group was the first company to entirely convert both plants to GripPro® Plus. For a vear now, the wooden structure specialist from North Rhine-Westphalia has been glueing its fingeriointed elements, laminated timbers and board plywood elements exclusively with the new AkzoNobel glue system. The annual production quantity of the two locations in Niederkrüchten DI Günther Jauk and Westerkappeln is 60,000 m³ BSH and 10,000 m³ BSP. The Derix Group mainly focusses on industrial constructions, but also carries out public projects. The maximum length of curved beams is 65 m. The company bonds every element before delivery with numerous processing

Here CNC machines are used, with which the components are precisely and reliably processed according to individual requirements.

Advantage in sensitive areas

However, it is not just prestige buildings, such as a terminal at Oslo Airport, a nine-storey hotel in Amsterdam or an exhibition hall in Stuttgart that the Derix Group does, often it is sensitive constructions, such as nursery schools or organic supermarkets, that are close to the company's heart. "Here healthy living and indoor climate play a pivotal role," explains Stefan Groot. former CEO of the Derix Group. In some cases, Groot even sees GripPro® Plus as a door opener. By way of example, he mentions a nursery school construction that explicitly required adhesive-free building products in its tender. With the help of the virtually VOC-free glue system by AkzoNobel, Derix was awarded the bid and carried out the

Editorial in Holzkurier, Vienna, Austria



Viersen nursery



Viersen organic supermarket



Stuttgart Fair

New era for home furniture

We all know IKEA - the world leader in furnithe industry and we constantly work to develop IKEA supplies millions of furniture pieces to our customers. our houses and takes overall responsibility for their quality and function.

One of the biggest IKEA Industry production sites for furniture is located in the small village of Zbaszynek in the west part of in Zbaszynek. Poland, and here our story begins.

Zbaszyn and Babimost, and has grown to customer's production. the world's biggest furniture factory under one single roof.

Today the site has started a brand new journey in their supply history for IKEA.

But let's start from the very beginning. It is not much more than one year since IKEA announced an upcoming big change for gluing technology in the business area called FLAT LINE. The decision was made to fully replace the urea-formaldehyde adhesive technology (UF) and change to formaldehyde free alternatives.

The business area FLAT LINE runs a number of gluing applications including paper foil lamination in automatic lamination lines, to which AkzoNobel was supplying UF adhesive technology for many years. This big technology change has implied development, testing and implementation of new products into production within a limited time frame of one year.

AkzoNobel Adhesives is a long-term business partner of IKEA, and we have been invited to offer our solution which could fulfill all quality and productivity requirements of IKEA. AkzoNobel has the ambition to be a technology leader for

ture supply to people all over the world. new and innovative adhesive systems for

We had been working with new formaldehyde free solutions for foil lamination since a few years already, and with perfect timing we were ready to present our solution to the IKEA Industry site

Since 24 years this production site in concept, close cooperation with IKEA was Zbaszynek has delivered home furniture needed to optimize the product, and now, to its big parent IKEA. It started out as two as a result of many tests and trials, we have small sites located in the nearby villages implemented our new adhesive system in the

We started to regularly supply the new system from January 2017, according to the scheduled change by IKEA.

Once again very good cooperation with our long-term business partner that pays off.

Both of us are in a win-win situation - IKEA Industry site in Zbaszynek runs formaldehyde free adhesive technology as required by their IKEA parent, and we continue to supply our innovative Since this is a new technology and product and top edge technology for paper foil lamina-

We have named our new solution LignuPro® Foil.

Pawel Weimann

Viscosity	2.000 - 3.000 mPas	
Solid content	65%	
Storage stability	4 months	
Adhesive performance		
Glue amount	20-30 g/m²	
Line speed	Finish foil: up to 50 m/min PP foil: 30 – 35 m/min	
Roller press temperature	100 – 180 °C	
Heat resistance	Pass EN14257 (WATT91)	
Environment	50 % renewable raw material	
Surface	No or little orange skin effect	

vs PVAc
vs PVAc, Hotmelt EVA & APO, UF
vs Hotmelt EVA & APO
vs UF
vs Reactec or other pre-coated glues
vs Hotmelt EVA
vs UF, Hotmelt
vs ALL



IKEA factory in Zbaszynek

Sedil Curvi S.R.I.

Since 1983 Sedil Curvi has been producing finished articles, ending with the application of metal screws or fixing ply pads. In this way Sedil Curvi is able to ensure flexibility during the production process and a high quality level of the finished products#. The company sees occupied about 30 employees divided between the various production departments and the offices. To complete the service. Sedil Curvi avails itself of

the collaboration of external qualified companies for painting and upholstering the products.

The company in recent years is also undertaking company Danzer. This new type of products a policy of sensitivity to the issues of environmental protection by ensuring the use of glues with low formaldehyde content (class E1) and providing, on request, for most of its products the FSC Certification® (Forest Stewardship Council) and the use of glues completely without formaldehyde (class E0).



Sedilcurvi has been using Akzo Nobel adhesives for many years; about one year ago they started to use the new generation adhesive LignuPro™ Zero with very good results.

Emanuele Forlonie



plywood components for office, home and contract furnishing sectors. Besides the traditional beech veneer the company has developed a wide range of articles using innovative materials such as reconstituted veneers, natural veneers and plastic laminates in a large and varied choice of finishes. Moreover Sedil Curvi has the know-how and the professional equipment to apply the innovative production technique of plywood with spherical geometry "3D Furniere" patented by the German exceeds the limits of the classic plywood allowing the realization of more complex and complicated geometries, offering greater

The production, besides the standard models proposed in the catalogue, is especially focused on exclusive articles realized basing on the customers' designs. A deep knowledge of materials and products together with a constant passion makes Sedil Curvi able to offer design solutions, also on articulated and complex projects. Whenever a new prototype may seem a limit for some, becomes instead a stimulating challenge for Sedil Curvi.

creative freedom during the design phase.

This, together with the seriousness, professionalism and punctuality of all the operators involved in the whole production cycle, has allowed the company to earn, over the years, the trust of lead companies in the furniture industry, both in Italy and abroad.

The use of high-tech machinery and the high competence and professionalism of the operators allow the company to internally manage the full production cycle: starting with the selection and the preparation of raw materials, continuing with the molding and the shaping of the semi-







Furniture

Since its establishment in the early 1990s in Poland, Nowy Styl Group has grown from an office chair manufacturer to a European leader in comprehensive furniture solutions for office environments and public spaces. Today, the multibrand Group sells to more than 100 countries all over the world and operates around 30 showrooms in major cities, including Warsaw, London, Paris, Düsseldorf, Munich, Prague, Bratislava and Moscow. From the outset, the company has focused on innovation and technological superiority. It has relied on AkzoNobel's wood adhesives for more than 20 years.

Nowy Styl produces furniture in more than a dozen plants equipped with the state-of-the-art technologies in Poland, Germany, Switzerland, Ukraine, Russia and Turkey. In the south-eastern Polish city of Jaslo, Nowy Styl set up the Baltic Wood factory to produce high-quality, 3-layer parquet flooring with AkzoNobel technology. The facility, which was acquired by a new owner last year, continues to use the UF system 1210-7500 and Glue Mixer 6201 from AkzoNobel.

In Rzepedz, also in Poland's southeast, Nowy Styl manufactures form-pressed elements for chairs - probably its best-known product worldwide. Production relies on AkzoNobel's exclusive UF system 1274/2504 for plywood panels. The system features high bonding strength, low emissions and high productivity.

To support its ongoing expansion and innovation. Nowy Styl has recently established a Research & Development Centre. Here, a dedicated staff of engineers and scientific researchers pursue new technologies and concepts aimed at advancing production to Industry 4.0 sophistication. The new site employs around 200 staff members and is fitted with cuttingedge equipment such as a lab for testing furniture ergonomics, a chamber for carrying out acoustics tests and a workstation for testing the UV resistance of materials.

With Industry 4.0 technologies, which interconnect machinery with data capture and processing, Nowy Styl is aiming to enhance not only manufacturing efficiency, but also its capabilities for creating bespoke solutions. Real-time data from the plant itself are used to make adjustments, order material, Pawel Weimann



The factory in Jaslo

maintain equipment and reduce downtime. In addition, data supplied in real time from the outside world or customer can be used to customize or tailor-make furniture.

"We are gradually implementing Industry 4.0 technologies: smart devices that aid in automating production and optimising processes using data gathered in the real time," says Tomasz Bardzik, CTO at Nowy Styl Group.

Nowy Styl is currently cooperating with AkzoNobel to increase volumes and secure bonding quality in a larger area of production. The project combines advanced adhesive systems with unique machinery concepts, outstanding technical expertise and local technical service.

As a company dedicated not only to developing high-quality, contemporary furniture, but equally to creating ideal spaces for people to live and work, Nowy Styl is in a strong position to utilize the benefits of Industry 4.0. Also termed the Industrial Internet of Things (IIoT) the new era of connectivity opens up a new dimension of customer-centric manufacture.

Global competence - Local service



Akzo Nobel Adhesives AB Stockholm, Sweden +46 8 743 40 00 info@wfaeurope@akzonobel.com

Akzo Nobel Adhesives High Point, USA +1 336 841 5111 infowfaus@akzonobel.com

Akzo Nobel Hilden GmbH Hilden, Germany +499 2103 77 366 info.deutsch@akzonobel.com Akzo Nobel Adhesives Singapore +65 6762 2088 becky.chew@akzonobel.com

Interquim c/o Nobel Adhesives +57 4 3618888 interquim@akzonobel.com



www.akzonobel.com

AkzoNobel creates everyday essentials to make people's lives more liveable and inspiring. As a leading global paints and coatings company and a major producer of specialty chemicals, we supply essential ingredients, essential protection and essential color to industries and consumers worldwide. Backed by a pioneering heritage, our innovative products and sustainable technologies are designed to meet the growing demands of our fast-changing planet, while making life easier. Headquartered in Amsterdam, the Netherlands, we have approximately 46,000 people in around 80 countries, while our portfolio includes well-known brands such as Dulux, Sikkens, International, Interpon and Eka. Consistently ranked as a leader in sustainability, we are dedicated to energizing cities and communities while creating a protected, colorful world where life is improved by what we do.



