



***Vinnolit***  
Leadership in PVC

**25 years  
of innovation**

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Vinnolit GmbH & Co. KG | Carl-Zeiss-Ring 25 | 85737 Ismaning | Germany

Phone: +49 89 96103-0 | E-Mail: [info@vinnolit.com](mailto:info@vinnolit.com)

**[www.vinnolit.com](http://www.vinnolit.com)**



Vinnolit is a Westlake company.



PVC (polyvinyl chloride) is a growth product and one of the most important plastics worldwide. The quality and versatility of the material, its environmental compatibility and capacity for innovation promise a bright future. As a manufacturer of high-quality PVC specialities, Vinnolit is the world market leader today. We owe this to our customers, innovative strength, demand for quality and service. We will continue to use these strengths in the future. We have had a strong partner with our parent company Westlake Chemical since 2014.

This brochure provides an overview of Vinnolit, our 25-year history and products.

*Dr. Karl-Martin Schellerer*

**PVC Innovation**

since 1993

**25** YEARS





**Experience and  
innovative spirit**

*S plant Burghausen 1953*

# Our History

Our company's history began with a forward-looking decision: in 1993, Wacker-Chemie GmbH and Hoechst AG, both of which had already amassed many years of experience and a wealth of expertise in the manufacturing of PVC by that point, decided to combine their PVC activities. Thanks to combined know-how, targeted innovations and focused growth, Vinnolit has been able to develop into the global market and technology leader in specialty PVC.



# Early 1900's

## Nearly 100 years of PVC experience

In 1935, Dr. Herbert Berg of Wacker-Chemie GmbH discovered the suspension process, which is now used for more than 90% of all PVC production worldwide. Wacker systematically developed its expertise and expanded its large-scale production. Hoechst was also successful in the field from 1951, after Fritz Klatte, a chemist at Griesheim Elektron (later Hoechst AG), was awarded the first patent for producing PVC back in 1913.

Hoechst 

**WACKER**



*Wacker pilot plant reactor for the production of suspension PVC from 1936, Burghausen*

# 1993

# Vinnolit

## Vinnolit's dynamic beginnings

In July 1993, Vinnolit Kunststoff GmbH was founded as a joint venture from the PVC activities of Hoechst AG and Wacker-Chemie GmbH with its headquarters in Ismaning near Munich, Germany. Thanks to their combined expertise, the new company with its two twin production sites in Burghausen/Gendorf and Cologne/Knapsack quickly rose to become the global market and technology leader in speciality PVC.



*Vinnolit headquarters in Ismaning*

# 1998

## Backward integration

In 1998, Vinnolit Monomer GmbH & Co. KG was founded as a 100% subsidiary. Expansion of the monomer production in Gendorf guaranteed the supply of the PVC primary product vinyl chloride to the sites in Bavaria. Sales of the co-product caustic soda also developed into an important second branch of the company.

## New sales channels

Following reorganisation of the European sales structure, Vinnolit founded four subsidiaries in Belgium, France, Italy and the United Kingdom.

## Global licensing operations

Vinnolit Technologie GmbH & Co. KG „VinTec“, the new 100% subsidiary, is responsible for the development and marketing of the global licensing operations of Vinnolit in cooperation with the engineering firm Krupp Uhde. Another focus is the further development of the production processes for manufacturing suspension PVC (S-PVC) and the PVC primary products 1,2-dichloroethane (EDC) and vinyl chloride (VCM).

**VinTec**  
Leadership in Vinyls Technology



*VCM plant with VinTec licence in Qatar 2001*

# 2000

## Strategic reorientation

2000 was a year of important strategic decisions: the company's plastic and monomer activities were merged into Vinnolit GmbH & Co. KG. Also, Advent International, a financial investor, became the majority shareholder. At the same time, Advent took over Vintron GmbH in Knapsack from Celanese and integrated it into the Vinnolit group as a subsidiary.

Vintron supplies the polymer operations in Knapsack and Cologne with VCM. The cooperation between Vinnolit and Vintron creates a backwards-integrated PVC raw material producer up to chlorine with a cost-optimised value creation chain.



VCM plant, Vintron Knapsack

# 2003

## Reorganisation

By 2003, the subsidiaries Vintron and VinTec were integrated into Vinnolit GmbH & Co. KG. VinTec continues as a profit centre. Vinnolit is now even more efficient, streamlined and transparent.

Since 1998, Vinnolit and Vintron have invested approximately € 260 million in the integration of the raw materials chlorine and VCM. In Knapsack, the first membrane blocks in the chlorine electrolysis plant, a new VCM plant and a S-PVC polymerisation plant with newly developed high-performance internal cooling reactors were commissioned.



VCM plant with VinTec licence in Zibo, Shandong, China 2004



## 2006

### Expansion of paste capacity

With the expansion of the paste PVC production plants in Burghausen, by 2006, Vinnolit increased its total capacity to 230,000 metric tonnes of paste PVC per year and reinforced its position as the global market leader in the field. This investment made the plant in Burghausen the largest paste PVC production plant in the world.

Thanks to the new capacity and newly founded representative offices in Moscow in 2005 and Poland in 2006, the company could accompany the dynamic growth in Central and Eastern Europe.



*Polymerisation reactor for producing paste PVC, Burghausen*

## 2007

### Focus on specialties

In 2007, with the purchase of the paste PVC business of Ineos ChlorVinyls with its PVC production sites in Hillhouse (UK) and Schkopau (Germany), Vinnolit expanded its leading position in speciality PVC even further. This acquisition increased annual production capacity from 230,000 to 330,000 metric tons of paste PVC.



*Paste PVC plant Hillhouse (UK)*

# 2009

## Environmentally friendly technology

In 2009, the conversion of the chlor-alkali electrolysis plants in Gendorf and Knapsack to energy-saving and environmentally friendly membrane technology was completed. Boosted by an investment of € 100 million, chlorine capacity increased from 390,000 to 430,000 metric tons in total per year. This ensures and improves raw material supply for the subsequent PVC production and the delivery situation for the important co-product caustic soda. At the same time, the new process is environmentally friendly and improves the CO<sub>2</sub> balance.



*Cell hall of the membrane electrolysis plant in Gendorf*

# 2012

## Further expansion of paste PVC

In the summer of 2012, Vinnolit completed the further expansion of the paste capacity at the Burghausen site. The production capacity of the world's largest plant for the production of paste PVC is now to 100,000 tons per year.



*New polymerisation vessel for producing paste PVC in the expanded paste plant in Burghausen*

# 2014

## Vinnolit becomes part of the Westlake family

In 2014, Vinnolit became part of Westlake Chemical Corporation, a leading international manufacturer and supplier of petrochemicals, polymers and PVC construction products headquartered in Houston.

Westlake is strong in suspension PVC, especially in North America and is well positioned in Asia. Vinnolit is strong in PVC specialties and is an important player in Europe. With their comprehensive product portfolio and broad market coverage, both companies together are an even more important player in the global PVC business. As part of Westlake, Vinnolit has numerous opportunities to further strengthen its leading position as a manufacturer of PVC specialties.

# Upcoming 2019-2021

## Expansion of PVC specialties

Capacity for PVC specialties is being further expanded in Burghausen.

## Investment in PVC intermediates

Vinnolit expands its chlorine and VCM capacities at the Gendorf site and strengthens its value chain. The latest, particularly energy-efficient Thyssen-Krupp Uhde single-element membrane technology is used in chlorine production and Vinnolit's own technology in the VCM plant. Customers also benefit from the capacity increase for the co-product caustic soda.



*Symbolic handing over of keys of the previous owner Advent to Westlake Chemical*



*VCM bowls at Gendorf*

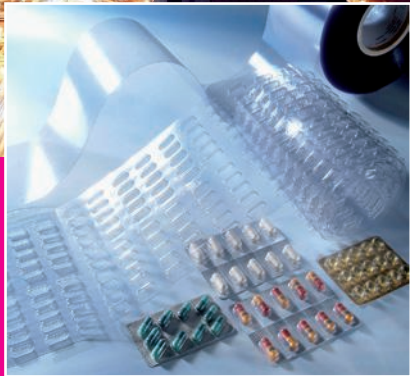




*Photos: Unsplash/Daniel Zacatenco, Benecke-Kaliko, Schüco International, Marburger Tapetenfabrik, Bilcare, Westlake, AGPU*

## Global megatrends shape the future

As a versatile and sustainable material, PVC offers ideal properties for many of the challenges of today and tomorrow. Some megatrends are of particular importance for PVC: the world population is growing and needs housing, infrastructure, transport and medical products. With globalisation, the income and standard of living of a growing global middle class is rising. Urbanisation and mega-cities demand a more efficient, cost-effective and resource-saving construction method and an intelligent and sustainable public infrastructure. Lastly, climate change confronts the world with unexpected challenges. PVC can make a valuable contribution in these areas.







**Acting responsibly**



# Our Vision and Values

Our slogan „Leadership in PVC“ - Our vision „Market leader in PVC specialties“.

The values of Westlake form the core of our business activities. This includes a focus on health, safety and environmental protection, on the advancement of our employees, on quality and continuous improvement, on strengthening our competitiveness and being a socially responsible company.



**Outstanding product quality  
and first-class service are  
a top priority**

# Our Products

Our customers are leading PVC processors and caustic soda users from a wide range of fields, from SMEs to international corporate groups. Thanks to experience and production processes which are tailored to meet a variety of customer requirements, we can offer our customers the right product. At Vinnolit, the focus is always on the customer. For that very reason, we not only place high demands on our product range and quality, but also on our customer service. Our business is founded on long-term partnerships.

## PVC for all applications

Vinnolit produces and markets a broad spectrum of PVC products covering all kinds of PVC applications.

Thanks to its quality and versatility, PVC is an ideal material for a wide range of applications: floorings made of PVC are particularly easy to maintain and available in many designs, decorative vinyl wall coverings create atmosphere and PVC window frames are excellently suited to energy-saving window systems. In the construction sector, PVC is additionally used for durable pipes, cable sheaths and robust sheeting.

In day-to-day life, the versatile material also serves us in the form of credit cards, artificial leather, sturdy waterproof clothing and car interiors. Not to forget the role of PVC in medical applications like blood and infusion bags.




## Caustic soda

The company's product range also encompasses co-products and intermediate products such as caustic soda, vinyl chloride and tin tetrachloride, which are required for further processing in the chemical industry among other purposes.

Caustic soda is an important basic chemical and is used in the production of paper, glass and ceramics, aluminium, detergents and cleaning agents and viscose fibres. In addition, it is also used as a neutralizing agent, precipitating agent, cleaning agent and food additive.



A close-up photograph of laboratory glassware, including a large Erlenmeyer flask on the left and a graduated cylinder on the right, both containing clear liquids. The background is a blurred laboratory setting. A semi-transparent white rectangular box is overlaid on the lower-left portion of the image, containing black text.

**As one of the most innovative companies in the PVC industry, we aspire to develop two new products annually.**

# From the Laboratory to our Customer

Vinnolit invests in research & development and applications technology. We work on the continuous development of our production technologies and develop the PVC raw materials for the markets and requirements of tomorrow also cooperating with customers and universities.

More than a third of our currently sold PVC products for paste applications have been developed and launched in the last ten years. On average, two new developments are added every year.

In Vinnolit's application technology center, all important PVC processing methods can be adjusted. In close cooperation with research & development and with customers, the company continuously seeks to optimize processing methods and products, and develop solutions for customer requirements.







**We strive to be energy efficient  
and environmentally friendly.**

*Salt delivery in Gendorf*



# PVC and Sustainability

PVC is composed of 57% chlorine, which is harvested from the practically unlimited supply of rock salt by means of electrolysis. Due to the raw material component rock salt, PVC production requires comparatively little non-renewable fossil fuels. This is an advantage from both economical and ecological perspectives. PVC products protect resources and are particularly cost-efficient, high-performance and low maintenance. In addition, they can be recycled.

## Sustainability initiatives

Within the framework of the European Sustainability Programme VinylPlus ([www.vinylplus.eu](http://www.vinylplus.eu)), Vinnolit works together with many other companies in the PVC industry to promote the recycling of PVC, to further reduce environmental pollution, to use safe and environmentally compatible additives, to protect the climate through energy efficiency and the responsible use of raw materials and to promote awareness of sustainable management.



In addition to VinylPlus, Vinnolit supports Euro Chlor's Sustainability Program and participates in the chemical industry's Responsible Care program for continuous improvement of safety, health and environmental protection. In Germany, the Working Group PVC and Environment (AGPU) has been committed to the sustainable development of PVC for 30 years.

## Environmental protection and energy efficiency at Vinnolit

An integrated management system for quality, safety, environmental protection and energy ensures the continuous development and improvement of products and processes in the company.

An important corporate goal is for us to be as energy efficient as possible. Therefore, Vinnolit continuously invests in the modernization of plants and the improvement of process flows. Examples include energy-saving membrane electrolysis for the production of the PVC precursor chlorine or the company-wide VinSavE project, in which employees developed ideas for saving energy.

Vinnolit is also active in water saving: In Knapsack, the company has been operating „PVClean“, the first industrial-scale plant for recycling the process waste water of a suspension PVC plant since 2008.



**We are actively committed to be  
socially responsible.**

# Corporate Social Responsibility (CSR)

Responsibility for people and environment is a key element of Vinnolit's corporate strategy, and Corporate Social Responsibility (CSR) is increasingly demanded in the worldwide supply chain. As evidence of its commitment, the company has been regularly reviewed by the globally active assessment platform EcoVadis ([www.ecovadis.com](http://www.ecovadis.com)) for a number of years. As in the past, Vinnolit again received an excellent rating ("Gold Recognition Level") in 2018 for its CSR performance.

During the assessment, the company's activities in the areas of environmental protection, labor practices & human rights, fair business practices, and sustainable procurement are examined. The rating is based on international CSR standards such as the United Nations Global Compact, the Global Reporting Initiative, and ISO 26000.



Scoring 64 out of 100 possible points in the assessment, Vinnolit ranks significantly above the industrial average of 42.5 points and is one of the best 4 percent of the companies worldwide (over 40,000) that have been reviewed by EcoVadis so far.

The assessment by EcoVadis is an important building block in our CSR strategy and helps us to determine where we stand and what we can do to improve even further. As it includes additional aspects of social relevance, business ethics, and supply chain, it is an ideal complement to our certification in accordance with the criteria of the international environmental management standard ISO 14001.



Once a year, Westlake and Vinnolit hold a Community Service Day, on which employees volunteer to take part in a charitable campaign. The employees of the Vinnolit site in Gendorf helped to renovate a children's playground in 2018.



