

Flooring solutions for individual customer needs



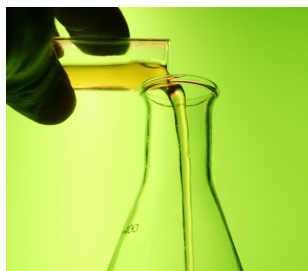
Enriching lives through innovation

Technical Details

Huntsman Polyurethanes, a global manufacturer of MDI, and Alberdingk Boley, one of Europe's leading producers of water-based dispersions and 100% polyols, have teamed up to develop new concepts for two-pack VOC-free coatings for the industrial flooring market.

This partnership provides customers with highly

versatile flooring solutions that can be engineered for a diverse number of applications.



Industrial floor coatings need to provide long-term protection coupled with aesthetic, structural and safety functions. Depending on the application, they may also need to be tough and impact resistant, hard or elastic, anti-static or sound absorbing, smooth or non-slip, matt or glossy – or other combinations thereof.

Thanks to the partnership between Huntsman Polyurethanes, which supplies high quality SUPRASEC® MDI-products, and Alberdingk Boley, offering functionalized, castor oil-modified hydrophobic ALBODUR® polyols, a wide property range is achievable.

SUPRASEC®

The versatility of Huntsman Polyurethanes' MDI technology enables the design of specific properties to meet the needs of many different industries. In order to adjust the application viscosity and reactivity of the formulated coating, different blends of SUPRASEC® prepolymers can be made.

	SUPRASEC® 2496	SUPRASEC® 2651	SUPRASEC® 2647
NCOv (%)	31,3	31,8	32,4
Viscosity (mPa.s @ 20C)	100	30	25
Specific gravity (g/ml)	1,2	1,2	1,2
Av. functionality	2,5	2,3	2,2

Fig 1: SUPRASEC® product range

One of the most important properties for the industrial flooring applicator is to know the pot life or self levelling capabilities of the products they are using. Once the products are mixed together, the reaction starts and the viscosity increases until a solid material is obtained. Pot life measurement gives a clear idea of how long

the mixed product can be manipulated without any visible effect on the coating. Here, the choice of SUPRASEC® MDI pre-polymer will greatly influence pot life. SUPRASEC® 2647 will give the longest pot life whereas SUPRASEC® 2496 is easier to apply and therefore more suited to coat larger areas.

ALBODUR®

The diversity of Alberdingk Boley's ALBODUR® polymerization technology allows the creation of special features to fulfill the requirements of several industries (flooring, adhesives etc.). For the purpose of achieving different coating properties, it is possible to compound ALBODUR® types in every mixing ratio thus creating tailor-made products.

	ALBODUR® 901	ALBODUR® 912	ALBODUR® 941
OH (%)	5,62	6,29	9,64
Viscosity (mPa.s @ 20C)	800 - 1100	800 - 1000	400 - 700
Acid No (mg KOH/g)	< 2	< 2	< 2
Specific gravity (g/ml)	0,98	0,98	0,98
Av. functionality	2,1	2,3	3,0

Fig 2: ALBODUR® product range

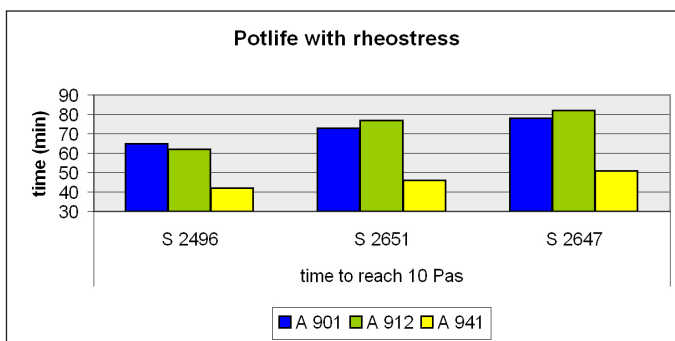


Fig 3: Pot life measured with RheoStress at 25°C

Another important feature is the hardness of the final coating. As Fig 4 shows, the hardness is mainly influenced by the choice of ALBODUR® polyol.

ALBODUR® 901 will give a soft and more resilient coating, whereas ALBODUR® 941 results in a hard wearing and long-lasting coating. Two other important features

of PU flooring systems are crack-bridging capabilities and the high tear strength. SUPRASEC® 2651 resin offers the best possibilities where high elongation is required.

Tear-resistant coatings can also be achieved by using ALBODUR® 941 in combination with SUPRASEC® 2496.

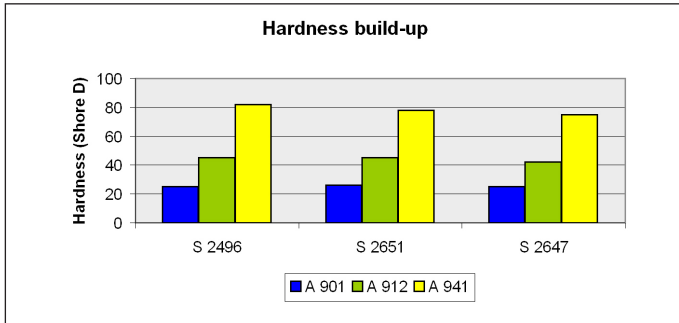


Fig 4: Initial hardness

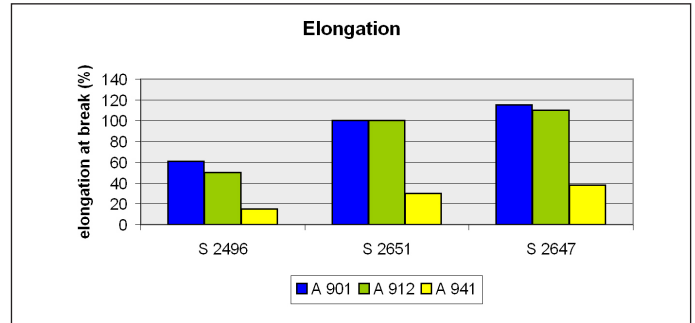


Fig 5: Elongation at break

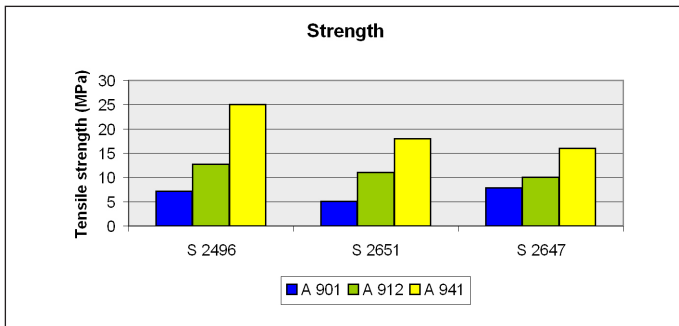


Fig 6: Tensile strength

ALBERDINGK BOLEY

Alberdingk Boley GmbH is a leading German producer of water-based binders for coatings and finishes of all substrates. Originally established in 1828, Alberdingk Boley is the leading European supplier of castor oil and linseed oil as well as its derivatives. Thanks to their broad range of applications, water-based polyurethane and acrylate dispersions today form the basis of the company's product portfolio. Launched in 2005, the new generation of ALBODUR® 100% polyols,

based on renewable resources, successfully combines the company's vast background in oleochemicals with its state-of-the-art technologies for polymerization.

Based in Krefeld (Germany) and with facilities in Kerpen (Germany), Greensboro (USA) and Shenzhen (China), the independent, privately-owned company operates worldwide. In 2011, 300 employees generated a turnover of approx. € 190 M.

Worldwide network for unrivalled customer service

The combined expertise and global reach of Huntsman Polyurethanes and Alberdingk Boley is of significant benefit to polyurethanes customers and formulators around the world.

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HUNTSMAN

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Huntsman Polyurethanes is part of Huntsman, a global manufacturer and marketer of differentiated chemicals. Huntsman's operating companies manufacture products for a variety of global industries, including chemicals, plastics, automotive, aviation, textiles, footwear, paints and coatings, construction, technology, agriculture, health care, detergent, personal care, furniture, appliances and

packaging. Originally known for pioneering innovations in packaging and, later, for rapid and integrated growth in petrochemicals, Huntsman has approximately 12,000 employees and operates from multiple locations worldwide. The Company had 2011 revenues of over \$11 billion. For more information about Huntsman, please visit the company's website at: www.huntsman.com.

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More information about Alberdingk Boley and the complete product range can also be found on the company's website at:

www.alberdingk-boley.de

For more information about Huntsman Polyurethanes please contact:

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