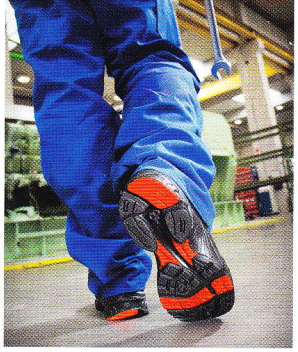
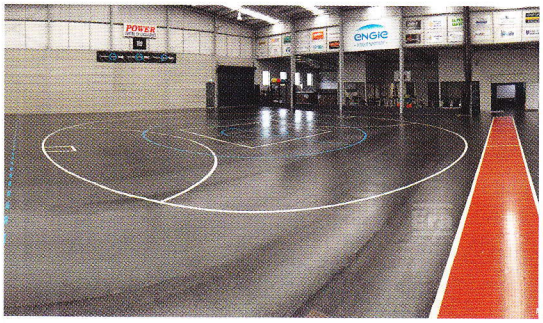


The development of Avalon 50 AHG TPU increases the range of polyurethane-based solutions that Huntsman can offer manufacturers creating safety shoes, casual unit soles and footwear for sports and lifestyle applications. Avalon 50 AHG TPU is part of an extensive portfolio of products that Huntsman has developed to satisfy the design and production requirements of modern footwear manufacturers.

## Good Sport? Eracoat makes for Great Sports ... floor



Era Polymers Eracoat WB1K Gloss was recently used indoors on an existing rubber floor. The floor had been laid many years ago and had started to lose its gloss and was showing some signs of ageing. The customer wanted something to rejuvenate the floor.

We recommended our Eracoat WB1K available in Gloss, Satin and Matt, they chose the Gloss and were extremely happy with the results it was both easy to apply and restored the floor to its former glory.

Eracoat WB1K is a single pack (1K), waterborne polyurethane coating for internal use, developed for application onto a wide variety of porous substrates including but not exclusive too concrete, masonry, pavers and rubber flooring.

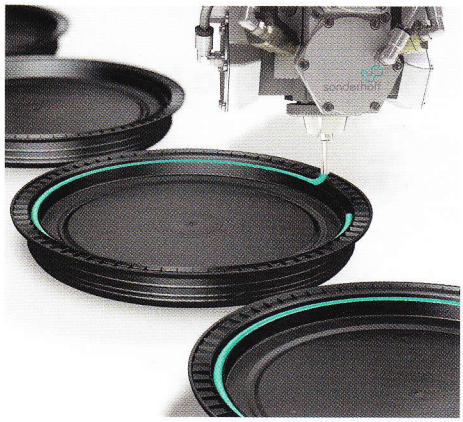
Eracoat WB1K is an ideal coating for entrances to shopping centres, walkways, ramps, sports floors and can be used in conjunction with Eracoat WB1K Antislip which was developed to reduce the risk of slipping particularly when the surface is wet.

Both Eracoat WB1K and Eracoat WB1K Antislip are:

- Low VOC – Polyurethane Waterborne Technology
- Low Odour
- Fast Drying – To a tack free surface
- Easy to apply
- Easy to clean from application equipment

Due to the ease of application of Eracoat WB1K this system can be incorporated into regular cleaning regimes and used as maintenance product increasing the longevity of your flooring.

## FDA-compliant PU seal for direct contact with food – the international standard for food packaging



The new polyurethane (PU) foam seal from Sonderhoff in the Fermapor K31 product range received sought-after American FDA conformity. It is considered to be the recognised standard for food packaging worldwide. The Fermapor K31 seal is applied automatically, precisely and seamlessly in the lid groove of drums and hobbocks using an Formed In-Place Foam Gasket process. The PU seal is also approved for direct contact with food in accordance with the EU Regulation No. 10/2011 which entered into force on 1 January 2016.

The Fermapor K31 polyurethane foam with FDA conformity is used as a seamless lid seal for food containers with a filling volume from two litres. It is suitable for use in direct contact with aqueous, acid, alcoholic, fatty and dry raw food materials. This also applies for cold or hot filled or pasteurised milk and for milk products. The right ratio of the contact surface of the seal surface to the filling volume must be adhered to here.

- In accordance with Regulation (EU) No. 10/2011 (formerly EC No. 1935/2004):
  - contact surface max. 100 $cm^2$/5600 $cm^3$ (30 kg contents) for aqueous, acid, alcoholic, fatty and dry foods as well as milk and milk products
- In accordance with the U.S. Food and Drug Administration (FDA):
  - Contact surface max. 35 $mm^2/dm^3$ for all foods
  - Contact surface max. 93 $mm^2/dm^3$ for fat free foods

The FDA-compliant Fermapor K31 foam seal for food packaging is characterised by excellent migration behaviour for the seal material used in the formula. Page 2 of 4 of the press release dated 22/05/2017.

Experts from independent testing institutions certify that the values determined for total migration in the seal material are below the threshold value in the EU Regulation No. 10/2011 of 10 $mg/dm^2$. The odour and flavour as well as the appearance and consistency of the food contained in the lidded drums are not changed as a result.

The polyurethane-based Fermapor K31 lid seal with FDA conformity is characterised by low water absorp-

tion, optimal adhesion to plastic and metal, and outstanding long-term behaviour of the seal effect. The foam seal in the lid groove is compressed when the packaging container is closed and returns almost entirely to normal. The tightness of the lid seal thus remains intact.

Through consistent further development of the mechanical properties, Sonderhoff has specifically improved the tear resistance and elongation at break of the FDA-compliant foam seal. Container lids sealed with the food-safe foam from Sonderhoff remain tight even with drops, shocks and vibrations.

Sonderhoff produces other PU foam seals which, as a whole with the containers, meet the sealing requirements for drop tests certified packaging with UN approval.

The fully automated application process using FIPFG sealing technology is very economical and efficient, particularly for medium-sized and large production runs. The high process reliability of the Sonderhoff dispensing machines ensures quick, precise and clean insertion of material into the lid groove.

The polyurethane-based, FDA-compliant Fermapor K31 food-safe foam cures at room temperature. Investments in tempering ovens are not required and an additional production step is thus eliminated.

## Erabond 6100FC – (Fast Cure) Primer

Primers and preparation are the key to a successful surface treatment which will give your substrate protection against corrosion increasing its longevity. Erabond 6100FC (Fast Cure) Primer with its anti-corrosive properties, excellent chemical & impact resistance teamed with high flexibility is an ideal primer for metal substrates. It has outstanding adhesion to properly prepared Steel, Ductile Iron and Galvanised Steel. A fast curing 2 component PU primer, with a convenient 1:1 mix ratio Erabond 6100FC will typically cure with 2-3 hours of application at 25 °C. Which means you can prime and apply Eraspray in one day.

## Repsol develops a new polymeric polyol grade for the comfort market

The range of Repsol's Polymeric polyols allows obtaining flexible foams to meet the most demanding requirements of the comfort market for the manufacturing of bedding and furniture. The new Alcupol P-3091 polyol has a very low content of volatile organic compounds. With this development, Repsol strengthens its commitment to the comfort market by helping its customers achieve the most stringent European certifications such as CertiPur and OEKO-TEX.

In order to meet these requirements of the polyurethane industry, Repsol has implemented improvements in its processes that have made possible to achieve a specification of styrene-free content in Alcupol P-3091 of less than 5 ppm and a reduction of total volatile organic compounds in 75 % compared to a standard polymer polyol.

## Songwon showcased its TPU expertise at K 2016

With their excellent physical and technical properties, Songwon's extensive Songstomer TPUs are ideally suited for extrusion and injection molding, and have been designed to improve the performance of end products ranging from automotive components to cables and wires (e.g. for flame-retardant, transparent and high heat applications).

With its dedicated TPU testing lab in South Korea and more than 35 years of manufacturing experience, Songwon is able to develop customized TPU grades according to specific customer needs. Most importantly, all of the high quality grades in the Songstomer series meet the industry's stringent EH&S standards.

Songwon's backward integration and polyester polyols production, combined with a strong, global sales organization and distribution channels across Asia, Europe and North America is what enables the organization to provide customers with the proven reliability it has become known for.