

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

The 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 hobboscks using the 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 cm²/5600 cm³ (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 mm²/dm³ for all foods,
 - Contact surface max. 93 mm²/dm³ for fat free foods

The FAD-compliant FERMAPOR® K31 foam seal for food packaging is characterised by excellent migration behaviour for the seal material used in the formula. 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/dm². 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.

Optimal characteristics profile for the FDA-compliant PU seal

"With the FDA conformity of our food-safe seal in the FERMAPOR® K31 range, we are able to offer our customers in the food packaging industry around the world the price and technical advantages of a PU foam seal for the first time," says Peter Fischer, Head of Marketing at Sonderhoff. The polyurethane-based FERMAPOR® K31 lid seal with FAD conformity is characterised by low water absorption, 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.



Fully automated seal insertion using the FIPFG process

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 to form a flexible foam seal. Investments in tempering ovens are not required and an additional production step is thus eliminated.

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