



ERIKS Sets Benchmark for Food Safety with Blanket (EC 1935) Extraction Testing of its Food Sealing Products Using FDA 177.2600.

Food safety is a hot issue, and with all the recent public scares, one that is not likely to fade any time soon. One key area that is continually under the microscope in the drive towards improved safety is the migration of contaminants from compounds and polymers that come into direct contact with food. This is evidenced by the problems identified with packaging as a source of contamination of foodstuffs.

The relevant European Framework Regulation (EC) 1935/2004 (L338/4), concerning contamination from migration states that: 'Food contact materials shall be safe. They shall not transfer their components into the food in quantities that could endanger human health, change the composition of the food in an unacceptable way or deteriorate the taste and odour of foodstuffs'.

The Regulation, introduced in 2004, also established 17 groups of materials and articles which may be covered by specific measures. These include common materials as ceramics, plastics, glass, paper and board, metals and alloys, cork, rubber, and many more not so common. The problem however, is that, up to the present time, specific measures exist only for ceramics, regenerated cellulose and plastics. This leaves rubber, one the primary materials that comes into contact with food products, without a unified European testing protocol.

This lack of a unified European protocol has resulted in suppliers to the food industry adopting the US FDA 177.2600 regulation, because this norm is the widely used international compliancy standard. However, even this is not straightforward, as there are two ways of stating compliancy. 1) By stating that the ingredients in the rubber are compliant to the white list of FDA. 2) By stating that the ingredients in the rubber are compliant to the white list of the FDA, and by stating that the migration values are following the FDA norms.

The first method of stating compliancy is widely used, because it by far the easier and lower cost of the two. However, it is by no means comprehensive; it only talks about ingredients compatibility, which is no guarantee that these ingredients won't leak out.

The second method, extraction testing, is the superior of the two, providing the most security for the food producer. It is seldom used, because it is far more exacting, requiring actual laboratory testing of contact materials.

The obvious benefits to the food producer of the more comprehensive of this second method have convinced ERIKS, a major European seal manufacturer and supplier, to take the lead in using this method to prove that the compounds in the O rings and moulded parts that it manufactures for food use have minimal migration values. Furthermore, as a result of these minimum migration values the organoleptic properties of the foodstuffs coming into contact will not be changed.

Eriks has its own Materials Sealing Technology Centre at Warrington, and it is here that the extraction tests are undertaken. Certified ISO 9001, the Centre has comprehensive dedicated test facilities for O rings and rubberparts, Oilseals, Mechanical seals, FEA and Clean Rooms.

In order to guarantee maximum customer confidence in its tests, Eriks has decided to publish the exact procedures undertake. These are:

- Extraction in n-hexan at reflux temperature; time 7hours: max migration: 175 mg/inch
- Further extraction n n-hexan at reflux temp; time 2hours: max migration:4 mg/inch
- Extraction in deionized water at reflux temp; time 7hours: max migration: 20mg/inch

"The FDA regulation demands documented proof of safety; and with these tests we are able to deliver that proof; that the



ingredients we use are securely bonded into the rubber of our O rings and moulded parts," said Chris Dixon, Divisional Sales Director for ERIKS Sealing Technology. "The ability to prove our maximum migration values means that we outperform our competitors technically, as most only state white list compliancy."

Specific Extraction Test Materials

Three examples of the 40+ ERIKS materials that have been subject to extraction testing are ERIKS 55985, ERIKS 366287 and ERIKS 714177. These materials are suitable for contact with aqueous or fatty food stuffs.

ERIKS 55985: EPDM 70 IRHD; EC1935; FDA; WRC; KTW; W270; NSF 61. This EPDM compound is typically used in drinking water, process water and steam applications. It provides excellent resistance against aging by weathering and UV light.

ERIKS 366287: NBR 70 IRHD; EC 1935; FDA; 3A. A Nitrile material with a broad spectrum of applications, it is compatible with water and oils and greases, and also has approval for dairy applications.

ERIKS 714177: Silicone 70 IRHD; EC 1935; FDA. A red- coloured Silicone that has the ability to provide effective sealing at more demanding temperatures. It has good flexibility at very low temperatures (down to -60°C), and can withstand continuous temperatures up to 220°C.

In addition to extraction testing, ERIKS also meets the legislation demands for labelling on all of its food sealing products. It also provides certificates of compliancy (COC) and product traceability both as demanded by the legislation. Finally the company keeps records of all certifications of tests and certificates of compliancy in the Materials Sealing Technology Centres of the individual countries from where the products are manufactured and supplied.

ERIKS Sealing Technology

ERIKS Sealing Technology is the only national industrial services company that can offer a complete Sealing Technology supply solution on quality branded sealing products from the UK's largest stock holding. Selecting the ideal sealing system through the use of our un-biased technical advice and using advanced logistics ensures that customers' parameters and service requirements are fully satisfied.

ERIKS is the partner of choice for sealing technology, because we work with closely with our customers and logistics centres to provide a level of service tailored to each customer's demands. As a result of our unique stock holding facilities, ERIKS can offer a superior service to sole operators or multinational companies.

About ERIKS UK

We offer over 90 years technical knowledge and experience from 76 nationwide industrial service centres, supplying over 500,000 unique industrial products. We have 88 integrated on site stores and procurement centres reducing the costs of all maintenance and repair products and industrial services. With 9 core competence centres and 23 fully equipped repair workshops maintaining equipment from electric motors, pumps, gearboxes, generators, transformers through to condition monitoring based preventative maintenance services, such as thermography, air leak surveys and vibration analysis.

Editor Contact

DMA Europa : Roland Renshaw

Tel: +44 (0)1299 405454

Fax: +44 (0)1299 403092



Web: www.dmaeuropa.com
Email: roland@dmaeuropa.com

Company Contact

ERIKS UK : Richard Ludlam

Tel: +44 (0)121 508 6000
Fax: +44 (0)121 508 6255
Web: www.eriks.co.uk
Email: Richard.Ludlam@eriks.co.uk