

Certificate

Food regulatory assessment of sealing plated of PTFE ("TF1580")

Customer: Teadit International Prod. GmbH
Rosenheimer Straße 10
6330 Kufstein, Österreich

Order: PA/4017/14

Sample: Dichtungsplatte „TF 1580“ (Ref-No. ST057/07)

The sealing plate "TF 1580" consisting of polytetrafluoroethylene (PTFE) and the filler barium sulfate shall be used as sealing material in food processing machines. The food processing machines in which such sealing materials are used are designed for a capacity of great amounts of food (for at least 1000 l/h).

For Europe, the applicability for food processing machines is evaluated according to Regulation (EU) No 10/2011 and Art. 3 of the EU-Framework Regulation No 1935/2004 based on the potential migration of components from the material into the food and the maximum concentrations resulting therein.

The overall migration was determined according to the European Standard 1186 with 95 % ethanol (6 h / 60 °C), isooctane (6 h / 60 °C), 3 % acetic acid (4 h / 100 °C) and modified polyphenylene oxide (Tenax®) (2 h / 200 °C) (test report PA/4017/14 part 1, dated 7.2.2014). Furthermore, the specific migration of barium was determined according to the European Standard DIN EN ISO 17294-2 in 3 % acetic acid (4 h / 100 °C, test report PA/4017/14 part 3, dated 13.2.2014).

The overall migration limit is set at 10 mg/dm² food contact area according to Regulation (EU) No 10/2011 (lastly amended by Regulation (EU) No 202/2014). The specific migration limit of authorized barium containing compounds is set at 1 mg/kg (1000 µg/kg) food (simulant) (calculated as barium) according to Regulation (EU) No 10/2011.

For the evaluation of potentially migrating components the dichloromethane extracts were investigated for semi volatile substances by gas chromatography with FID-/MS detection. Evaluation was done on the basis of the functional barrier principle of Art. 13 of Regulation (EU) No 10/2011, according to which a limit of 0.01 mg/kg is applied for non-evaluated substances.

In addition, fluorinated compounds were investigated specifically in methanol extracts using a high resolution mass spectrometer. Furthermore the material was analyzed for fluorinated compounds by purge and trap gas chromatography with EPED-detection (test report PA/4017/14 part 2, dated 7.2.2014).

Including the analytical tolerance the investigated sample is in compliance with the overall migration limit in contact with all types of foodstuff at the intended contact conditions up to 200 °C.

With a sealing area of 1 dm² the limit of 10 µg/kg is met at a total contact area between sealing material and sealed container of at least 5.4 dm². Applying this surface to volume ratio the migration limit of barium is also met. For differing dimensions the total area has to be adapted respectively.

Therefore there are no objections to the use of the investigated PTFE sealing in food processing machines. The sealing plate mentioned above is in compliance with the food regulatory requirements of Article 3 of the Framework Regulation (EC) No 1935/2004.

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