PRODUCT DESCRIPTION



PUR Flexible Foam

Technical Specialist Group PUR Flexible Foam

WEI20160323 · As at 23.03.2016

Introductory remarks

The following description reflects the current state of knowledge and is intended to provide a more detailed description and demarcation of the PUR flexible foam products.

Chemical characterisation

The raw materials for PUR based on mineral oil are reacted with the use of certain additives. This produces the gas carbon dioxide, which causes the mixture to foam. The individual formulation determines the properties of the finished foam - each quality has its own composition.

From a chemical point of view, polyurethane (PUR) flexible foams are polyaddition products of polyalcohols and diisocyanate which react in an exothermic reaction, controlled by blowing agents (CO₂ from the diisocyanate/water reaction) and modified using catalysts, stabilizers and other auxiliaries, to form a broad range of different foams.

The manufacturers of PUR flexible foam in the FSK do not use any blowing agents in their production, which are prohibited under EU Regulation 2037/2000 on substances that deplete the ozone layer (CFCs).

Physical data

Density 14 - 300 kg/m³

State (20°C) Flexible, open cell to semi-open cell foam

Decomposition temperature Ignition temperature > 315°C Self-ignition temperature >370°C

Fire protection classifications Depending on foam type

0dour Weak inherent odour

Product safety

PUR flexible foam is neither a substance nor a preparation, but a product according to Article 3 No. 3 of EU Regulation 1907/2006 (REACH). There is no obligation to classify and label according to EU Regulation 1272/2008 (Classification, Labelling and Packaging).

PUR flexible foam is also not a hazardous product within the meaning of this EU requlation. A safety data sheet in accordance with Article 31 of EU Regulation 1907/2006 (REACH) is therefore not required.

PRODUCT DESCRIPTION



Generally, there are no special measures to be taken when handling, transporting and processing PUR flexible foam. The product is not subject to the hazardous goods regulations ADR, RID, ADN, IMDG and IATA (as of 2015) during transport. The general regulations, guidelines and technical rules for the design of work rooms, workplaces, safe machines and personal protection must be observed during processing (workplace directive).

These include for example:

- Check for safety and health protection in upholstery companies (BG RCI_LI 002)
- · BGV A1 Accident prevention regulation
- BGR 223 Safe working in the plastics industry
- · Ordinance on Industrial Safety and Health for Processing Machines

There are no specific regulations for PUR flexible foam. Therefore, no material-specific measures need to be taken.

Further information on the protection of people and the environment with proper use of PUR flexible foam products can be found in the material data sheet of the Technical Specialist Group PUR Flexible Foam.

Typification of PUR Flexible Foams

There is a wide variety of PUR flexible foams for very different applications. The following foam families can be distinguished.

PUR flexible foam

-> Polyether foam

-> Standard foam

-> HR foam (cold foam)

-> Viscoelastic foam

-> Polyester foam

The foam families differ in their property-determining characteristics and their specific physical properties and can be specified in more detail.

In general, polyether foams tend to have a more irregular, coarser cell structure than polyester foams. Polyether foams have better comfort properties due to higher point elasticity and lower hysteresis loss (compressive stress test). They also have a higher ageing resistance to moisture and heat.

Polyester foams tend to be preferred for industrial applications due to their mechanical strength, their better resistance to organic solutions and their UV stability. Polyester foam can be welded and bonded by melting.

However, through continuous further development of the chemical process and/or subsequent physical treatment of the foams (post treatment), both polyether and polyester foams can be modified in such a way that properties of different foam families can be supplemented and optimised. Further technical data sheets of the FSK on PUR flexible foams are available for this purpose.

PRODUCT DESCRIPTION



This DOCUMENT was developed in the Specialist Association Foamed Plastics and Polyurethanes by the Technical Specialist Group PUR Flexible Foam.



Brussels • Frankfurt • Stuttgart

Postal adress: Stammheimer Straße 35 • D-70435 Stuttgart

Tel. +49 711 993 751-0 • www.fsk-vsv.de • fsk@fsk-vsv.de

In co-operation with:











Disclaimer of liability

This document is for information purposes only. All data and information in this document comes from sources which the FSK considers reliable. In addition, the authors have taken the greatest possible care to ensure that the facts and opinions used are appropriate and accurate. Nevertheless, no guarantee or liability can be assumed for the correctness thereof – neither expressly nor tacitly. In addition, all information may be incomplete or summarized. Neither the FSK nor the participating companies accept liability for damages arising from the use of this document or its contents or in any other way in this context.