PERTEC® UP EPDM

In many industries the requirements for high tech materials are becoming increasingly demanding. Where the automotive industry has a great need for low permeability and good abrasion resistance, the oil drilling industry demands high elongation and hardness and for the electronic and food industry FDA compliance and low release of metal ions is essential. Staying competitive means keeping up with the newest technology and adapting to the newest challenges.

Angst+Pfister developed and produced PERTEC® UP EPDM (UP: „Ultra Pure"), a new high tech compound within the PERTEC® family that is specifically designed for applications where the purity of the material is absolutely essential.

This is definitively the case in the food and beverage, pharma, chemical and biotechnology industry, where human health can be directly affected. Therefore, only materials that do not emit any substances that could contaminate its surroundings can be used. To guarantee health compatibility, all materials must comply with numerous international regulations.

The formulation of this outstanding compound has been defined in accordance with global food contact regulations and positive lists worldwide. All substances used are listed in European, US and Chinese food regulations.

Features

- 70 and 80 Shore A versions are available
- Good mechanical properties within the wide temperature range from -40°C up to +150°C
- Complies with global food contact regulations (positive lists and migration tests)
- For static and dynamic applications

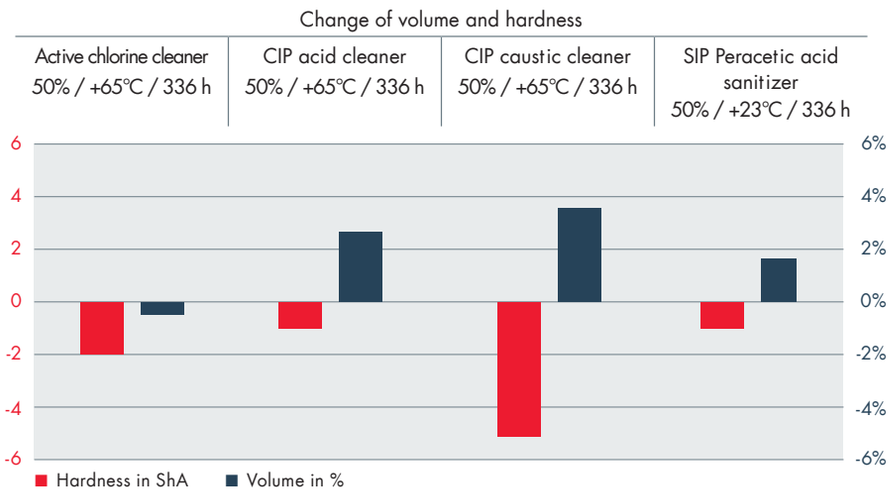
Benefits

- High purity
- Good performance in CIP/SIP cleaning and sterilizing media
- Excellent hot water and steam resistance
- Good ozone resistance

Our contact details

Angst+Pfister AG, Switzerland
Phone: +41 (0)44 306 61 11
engineering@angst-pfister.com
www.angst-pfister.com

PERTEC® UP EPDM performance*



Results of PERTEC® UP EPDM 70.503-04 in different types of CIP/SIP-media, in most challenging concentrations of 50% and over two weeks at +65°C, where appropriate (peracetic acid SIP at room temperature). Very low volume change below 5% and limited hardness changes in the range of -5ShA over this extended time indicate an excellent compound for all applications involving harsh CIP conditions.

Mechanical properties

Hardness nominal	70 ±5 Shore A ASTM D 2240	80 ±5 Shore A ASTM D 2240
Hardness	72.5 Shore A ASTM D 2240	79 Shore A ASTM D 2240
Density	1.024 g/cm³ ASTM D 297	1.102 g/cm³ ASTM D 297
Tensile strength	13.2 N/mm² ASTM D 412-C	14.8 N/mm² ASTM D 412-C
Elongation at break	160% ASTM D 412-C	145% ASTM D 412-C
Modulus 100%	5.7 N/mm² ASTM D 412-C	8.5 N/mm² ASTM D 412-C
Compression set	8.5% ISO 815-1 72h, +23°C	9.5% ISO 815-1 72h, +23°C
	8.5% ISO 815-1 24h, +150°C	9.5% ISO 815-1 24h, +150°C
Tear resistance	28 N/mm ASTM D 624-C	26 N/mm ASTM D 624-C

PERTEC® UP EPDM 70.503-04 and PERTEC® UP EPDM 80.503-01

*This information is based on our available data. These values are measured on standard test specimens and are within the normal tolerance range of material properties and do not represent guaranteed property values. Therefore they shall not be used for specification purposes.

Certificates

PERTEC® UP EPDM complies with most relevant food contact, pharma and medical regulations worldwide.*

Food & Beverage
FDA CFR 21 - 177.2600 "Rubber articles intended for repeated use" a) - f)
3-A Sanitary Standard N°18-03 Class 2
Regulation EC 1935/2004 (excl. article 15) and EC Regulation 2023/2006 (GMP)
BfR XXI Category 4 (Migration test BfR XXI Category 1)
LFGB §30/31
French Arrêté 05/08/2020
Dutch Commodities Act - Chapter III
D.M. 21/03/1973
Dlgs. 25.01.1992 n.108 Art.2 (ex. DPR 777/82 art 2) - Complies with Arsenic content limits
SR 817.023.21
GB 4806.1-2016 (General Safety Standard)
GB 9685-2016 (Positive list)
GB 4806.11-2016 (Migration test)
Mercosur GMC/RES N° 28/99 (Positive list; migration is being tested)
NSF 51 (is being tested)

Others
USP Class VI Chapter 87 (In Vitro) and Chapter 88 (In Vivo) – +121°C
PAH Category 1 (AfPS GS 2019:01)

*For certificates of the different versions please refer to our documents of compliances.

EC No.1935:2004

Industries/Segments				Typical Products
Food & Beverage	Pharma	Chemical	Biotechnology	O-Rings Moulded parts Membranes

Status 05/2024

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