

FDA Polyurethane Natural (FCPU)

This material is composed of prepolymers based on polyadephate glycols and diphenylmethane diisocyanate (MDI). The hardness is adjusted at 93 +/-2 Shore A. The product is recommended for a continuous use in 70 - 90°C in water and a maximum service temperature of 100°C. The system passed all official FDA tests by Akron Polymer Laboratory Inc. - Ohio - USA.

PHYSICAL PROPERTIES

| | | | |
|---------------------|-----------|-------------------|---------|
| Specific gravity | DIN 53479 | g/cm ³ | 1.10 |
| Hardness at 20°C | DIN 53505 | Shore A | 93 +/-2 |
| 100% Modulus | DIN 53504 | N/mm ² | >10 |
| 300% Modulus | DIN 53504 | N/mm ² | >16 |
| Tensile strength | DIN 53504 | N/mm ² | >40 |
| Elongation at break | DIN 53504 | % | 460 |
| Tear strength | DIN 53515 | KN/m | 135 |
| Resilience | DIN 53512 | % | 38 |
| Abrasion loss | DIN 53516 | mm ³ | <35 |
| Compression set* | DIN 53517 | % | 31 |
| Hardness at -5°C | DIN 53505 | Shore A | 96 |
| Hardness at +80°C | Din 53505 | Shore A | 93 |

*Compression set 25% deflection 22 hours at 70°C, after 3 weeks ageing

CHEMICAL FOOD STUFF RESISTANCE

| | |
|--------------------------|---|
| Water | R |
| Demineralized water | R |
| Salty water | R |
| Mineral / vegetable oils | R |
| Peanut oil | R |
| Beer | R |
| Alcohols | S |
| White spirit | S |

CHEMICAL RESISTANCE

| | |
|-------------------------|---|
| HFA, HFB, HFC Fluids | S |
| HFD Fluids | U |
| Greases, Diesel, Petrol | R |
| Petroleum products | R |

KEY TO CHEMICAL RESISTANCE

| |
|----------------|
| R = resistance |
| S = suitable |
| U = unsuitable |

FDA approved system (n-Hexane and water extraction test)

We, Swan Seals Ltd, certify that the following polyurethane elastomer system "U203 FDA95 polyurethane natural white" is FDA approved for use in applications that will come in contact with dry, and/or aqueous, and/or fatty foodstuff.

Tests have been performed in accordance with the US code of federal regulations 177-2600.

Both n-Hexane and water extractables FDA CFR 177-2600 were performed by Akron Polymer Laboratory – Ohio - USA. The tests determine if elastomer formulations can be used with dry, and/or wet, and/or oily foodstuffs.

The results clearly show that the formulation passed the FDA requirements.

ANALYSIS AND EVALUATION

The mentioned properties are fundamental values for Polyurethane products. Values mentioned above are corresponding to the European ASTM/DIN Norm and have been tested on test samples in the laboratory. All immersion tests in the laboratory are made on test samples under normal conditions for sealing products.