

|   |   |
|---|---|
| Material name, short description            | EPDM  |
| Material name, based on technical standards | Ethylene-propylene-diene rubber   |
| Material description / intended use         | Elastomer with good resistance to hot water and vapour as well as UV and ozone. |
| Color                                       | black   |
| Compound code                               | EPDM 70.10-02   |
| Old, but still valid compound code          | EPDM 70.409-03 / EPDM75.5/KW75F   |
| Crosslinking/curing agent                   | Peroxide  |
| Remarks                                     | ASTM code: ASTM A26 B36 C32 EA14 F19 G11 Z1                                     |

## Mechanical properties

|                     |                                     |
|---------------------|-------------------------------------|
| Hardness nominal    | 70 ±5 Shore A                       |
| Density nominal     | 1.12 ±0.03 g/cm <sup>3</sup>        |
| Tensile strength    | 20 N/mm <sup>2</sup><br>ISO 37-1    |
| Elongation at break | 183 %<br>ISO 37-1                   |
| Compression set     | 7 %<br>ISO 815-A<br>22 h, 150 °C    |
|                     | 13 %<br>ISO 815-B<br>70 h, 150 °C   |
|                     | 10 %<br>ISO 815-B<br>3000 h, 110 °C |
| Tear resistance     | 30 N/mm<br>ISO 34-1C                |

## Thermal properties

|                              |                       |
|------------------------------|-----------------------|
| Operating temperature min.*  | -55 °C                |
| Operating temperature max.*  | 150 °C                |
| TR 10 value                  | -36 °C<br>ASTM D 1329 |
| Glass transition temperature | -48 °C                |
| Brittleness point            | -58 °C                |

\* Approximate value, dependent on the application

## Storage in medium 1

|                |  |
|----------------|--|
| Medium         | Water / Ethyleneglycole 50:50  |
| Test parameter | 70 h, 100 °C   |
| Test standard  | ISO 1817   |
| Value change   | Hardness: -1 Points<br>Tensile strength: +2 %<br>Elongation at break: -7 %<br>Volume: +1.5 %<br>Weight: +1 % |

## Storage in medium 2

|                |   |
|----------------|---|
| Medium         | Water ASTM  |
| Test parameter | 70 h, 100 °C  |
| Test standard  | ISO 1817  |
| Value change   | Hardness: -1<br>Tensile strength: +5 %<br>Elongation at break: -5 %<br>Volume: +2 %<br>Weight: +1 % |

In compliance with **RoHS** and **REACH** directives.

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. The customer is solely responsible for quality and suitability of material for his application. He has to test usage and processing prior to use. Angst+Pfister makes no guarantees for the suitability of the material for any given application and assumes no obligation or liability in connection with the information provided above.

**Air aging 1**

|                |  |
|----------------|--|
| Test parameter | 70 h, 100 °C   |
| Test standard  | ISO 188-B  |
| Value change   | Hardness: +1 Points<br>Tensile strength: +10 %<br>Elongation at break: +10 %<br>Volume: -0.1 %<br>Weight: -0.1 % |

**Air aging 2**

|                |  |
|----------------|--|
| Test parameter | 70 h, 150 °C   |
| Test standard  | ISO 188-B  |
| Value change   | Hardness: +2 Points<br>Tensile strength: -15 %<br>Elongation at break: -24 %<br>Volume: -1 %<br>Weight: -1 % |

**Ozone test**

|                               |            |
|-------------------------------|------------|
| Ozone concentration           | 100 ppm    |
| Test standard                 | ISO 1431-1 |
| Duration of test              | 72 h       |
| Temperature during test       | 40 °C      |
| Elongation during test        | 100 %      |
| Relative humidity during test | 72 %       |
| Test result                   | PASSED     |

In compliance with **RoHS** and **REACH** directives.

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. The customer is solely responsible for quality and suitability of material for his application. He has to test usage and processing prior to use. Angst+Pfister makes no guarantees for the suitability of the material for any given application and assumes no obligation or liability in connection with the information provided above.

## Approvals / Compliance

|  |  |
|--|--|
| Drinking water   | NSF 61 for drinking water cold and warm up to 82 °C                              |
|  | AS/NZS 4020:2005 Report ID 242234  |
|  | ACS (DGS/VS4 n° 99/217 dated 12/04/1999 and DGS/VS4 n° 2000/232 dated 27/04/2000 |
|  | D.M. 06/04/04 n° 174   |
|  | DVGW EN 681-1 WA-WB-WC-WD  |
|  | DVGW W270 for drinking water   |
|  | DVGW W534 cold and warm drinking water   |
|  | KIWA (BRL-K17504) for cold and warm drinking water                               |
|  | ÖNORM (B 5014-1) for drinking water cold and warm up to 85°C                     |
|  | UBA Elastomer-Guideline Cold water (23 °C) and hot water (85 °C)                 |
|  | WRAS (BS 6920) for drinking water cold and warm up to 85°C                       |
|  | Food & Beverage  |
| FDA CFR 21 - 177.2600 a) – f)  |  |
| NSF 51 for food  |  |
| BfR XXI Category 4   |  |
| D.M. 21/03/1973 (Migration test)   |  |
| Dlgs. 25.01.1992 n.108 Art.2 (ex. DPR 777/82 art 2) - Complies with Arsenic content limits |  |
| EC 1935/2004 (excl. article 15) and EC Regulation 2023/2006 (GMP)                          |  |
| GB 4806.11-2016 (Migration test)   |  |
| Mercosur GMC/RES N° 03/92 (Food law)   |  |
| Mercosur GMC/RES N° 28/99 (Positive List)  |  |
| Medical / Pharma   | USP class VI Chapter <87> (In Vitro) and Chapter <88> (In Vivo) - 121°C          |
| Others   | PAH Category 2 (AfPS GS 2019:01)   |
|  | ADI free (free of Animal Derived Ingredients) resp. TSE/BSE related substances   |
|  | DEHP, free of Phthalates   |



In compliance with **RoHS** and **REACH** directives.

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. The customer is solely responsible for quality and suitability of material for his application. He has to test usage and processing prior to use. Angst+Pfister makes no guarantees for the suitability of the material for any given application and assumes no obligation or liability in connection with the information provided above.



In compliance with **RoHS** and **REACH** directives.  
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. The customer is solely responsible for quality and suitability of material for his application. He has to test usage and processing prior to use. Angst+Pfister makes no guarantees for the suitability of the material for any given application and assumes no obligation or liability in connection with the information provided above.