

Dryflex[®] DW

TPEs for drinking water applications



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INTRODUCTION

When our water supply goes on its journey to our taps, we don't want its quality to be impaired by unwanted odours, colours or flavours. We also want to help safeguard against any microbial contamination along the way.

We have developed [Dryflex DW](#), a special range of Thermoplastic Elastomers (TPE) especially for applications that come into contact, either directly or indirectly, with drinking water. This can include both domestic and commercial applications such as plumbing seals, pipe fittings and shower-heads. Dryflex DW TPEs have passed the German drinking water regulations KTW as well as W270 approval.

In this eGuide we give an overview of the typical properties for some of the Dryflex DW TPE compounds, however, this does not list all available properties and materials. Please use this guide as an introduction to our Dryflex DW range and [contact us](#) to discuss your specific requirements.

KEY PROPERTIES

- Tested and approved for W270 and KTW guidelines for cold and warm water (23°C / 60°C)
- Raw materials compliant with food contact regulation (EU) No 10/2011
- Hardness range from 50 to 90 Shore A
- Available in natural and black, as well as custom colours with compliance certificate
- No microbial growth according to W270, without the use of biocides
- Easy to process via injection moulding or extrusion
- Adhesion to PP and PE for multi-component applications

CERTIFICATIONS

In developing the Dryflex DW TPE compounds, we carefully selected the raw materials to ensure they are compliant with food contact and water hygiene standards.

Dryflex DW TPE compounds have been tested and approved according to 'The Guideline for hygienic Assessment of Organic Materials in Contact with Drinking Water' ([KTW Guideline →](#)).

The Dryflex DW TPE compounds have also been approved according to [DVGW Technical Standard W270 →](#) which describes a test method to determine the microbial growth on non-metallic materials intended for use in drinking water systems.



PLEASE CLICK HERE TO DOWNLOAD THE KTW AND W270 CERTIFICATES

DRYFLEX DW : TYPICAL PROPERTIES

| Grade | Hardness ¹ ISO 868 Shore A | Colour | Density ISO 2781 g/cm ³ | Tensile Strength ² ISO 37 Type 2 MPa | Stress at 100% Strain ² ISO 37 Type 2 MPa | Stress at 300% Strain ² ISO 37 Type 2 MPa | Elongation at Break ² ISO 37 Type 2 % | Tear Strength ² ISO 34-1 Method C N/mm | CS 23°C / 72h ISO 815-1 Type B % |
|----------------------|---|---------|--|---|--|--|--|---|--|
| Dryflex DW 50A001N L | 50 | Natural | 0.89 | 16.1 | 1.1 | 1.9 | 833 | 22.6 | 21 |
| Dryflex DW 55A001N L | 55 | Natural | 0.89 | 17.2 | 1.4 | 2.4 | 828 | 29.2 | 22 |
| Dryflex DW 60A001N L | 60 | Natural | 0.89 | 17.3 | 1.5 | 2.5 | 837 | 34.5 | 23 |
| Dryflex DW 65A001N L | 65 | Natural | 0.89 | 19.7 | 1.9 | 3.1 | 843 | 36.0 | 18 |
| Dryflex DW 70A001N L | 70 | Natural | 0.89 | 19.7 | 2.5 | 3.8 | 831 | 49.2 | 18 |
| Dryflex DW 75A001N L | 75 | Natural | 0.89 | 20.3 | 3.2 | 4.6 | 859 | 54.4 | 23 |
| Dryflex DW 80A001N L | 80 | Natural | 0.89 | 23.4 | 4.2 | 5.6 | 815 | 57.4 | 28 |
| Dryflex DW 85A001N L | 85 | Natural | 0.89 | 21.6 | 4.6 | 6.1 | 811 | 56.4 | 32 |
| Dryflex DW 90A001N L | 90 | Natural | 0.89 | 21.3 | 5.7 | 7.1 | 850 | 64.0 | 34 |

¹ After 15 seconds

² Across the flow direction

TYPICAL APPLICATIONS

Dryflex DW TPE compounds can be used in both domestic and commercial applications such as :

- Plumbing seals
- Pipe fittings
- Shower-heads



PROCESSING

Dryflex DW grades can be processed without predrying when stored under normal conditions. If poor surface finish, bubbles, voids or streaks are seen on the finished article then material should be dried for 2 to 3 hours at 80°C. Cycle times will be governed by temperature and section thickness.

Temperatures should not exceed 240°C and the compound should only be at elevated temperatures for a short period of time. Care must be taken to allow sufficient cooling of the section prior to demoulding in order to prevent permanent distortion of the article.

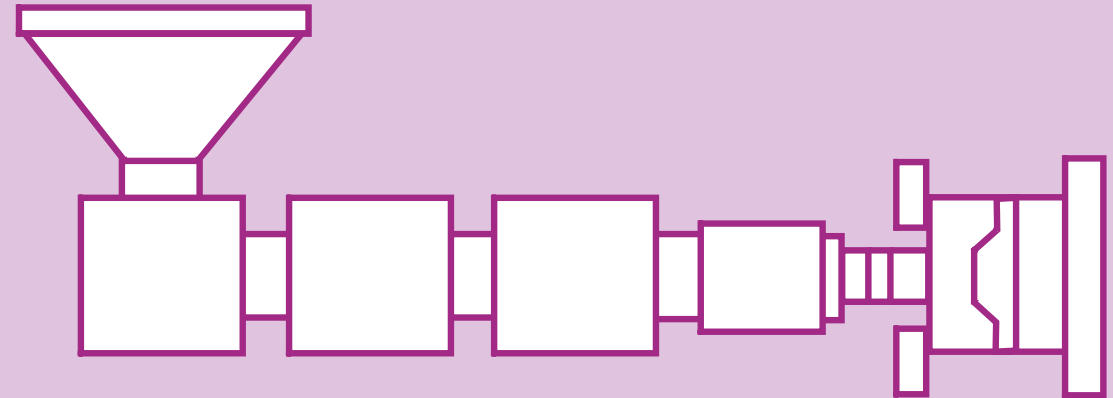
This processing information is intended only as a guide. The actual parameters will depend on the machine used and the moulding being produced.



Further TPE processing & problem solving information is available to download from our website

INJECTION MOULDING

| | |
|-------------------|--|
| Injection Speed: | Low - Medium |
| Back Pressure: | Low - Medium |
| Holding Pressure: | Sufficient to pack the mould |
| Cooling: | Can be demoulded when parts have cooled sufficiently |



Recommended start-up temperatures °C

170 - 190

180 - 200

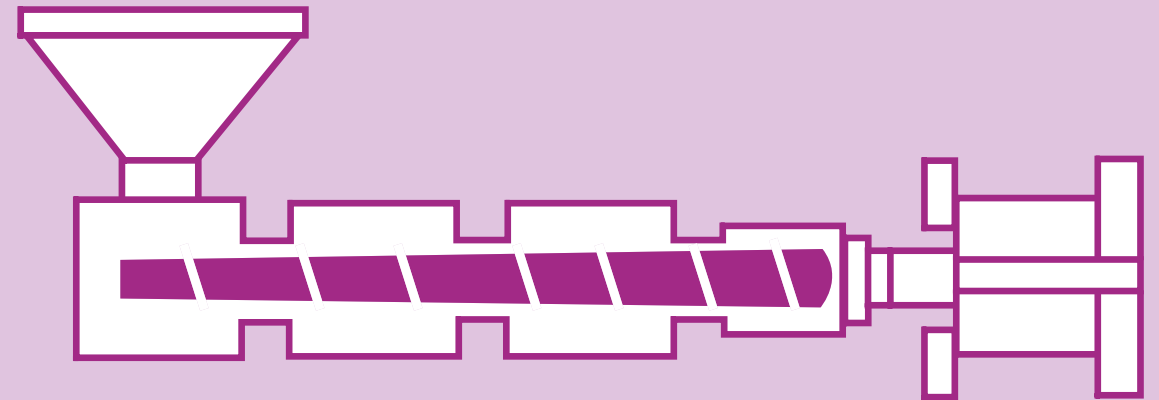
190 - 210

200 - 210

15 - 60

EXTRUSION

| | |
|-----------------------|---------------------|
| L/D Ratio: | 20:1 - 25:1 |
| Compression Ratio: | 2.5 - 3.0 |
| Breaker Plate/Screen: | Both should be used |
| Draw Down: | 5 - 10% |
| Cooling: | Cold water bath |



Recommended start-up temperatures °C

150 - 160

160 - 170

170 - 180

180 - 190

180 - 200

CONTACT US

If you can't see what you're looking for or have any questions, please get in touch. Click the button to find your local contact from our global network of plants, offices and distribution partners.

Or, simply send us an email to info@hexpolTPE.com

ABOUT HEXPOL TPE

HEXPOL TPE is a global compounding group specialising in Thermoplastic Elastomers (TPE) for key industries such as consumer, medical, packaging, automotive and construction. We have a core belief in being the easiest company to do business with. That's why we invest in our operations, teams and technologies to offer our customers the most reliable, relevant and cost-effective TPE compounds, backed by highly responsive support, technical know-how and application expertise. Our teams work together, across boundaries, applying the knowledge, experience and talents we have all around the world to meet the needs of our customers.

All the information about chemical and physical properties consists of values measured in tests on injection moulded test specimens. We provide written and illustrated advice in good faith. This should only be regarded as being advisory and does not absolve the customers from doing their own full-scale tests to determine the suitability of the material for the intended applications. You assume all risk and liability arising from your use of the information and/or use or handling of any product. Figures are indicative and can vary depending on the specific grade selected and the production site. HEXPOL TPE makes no representations, guarantees, or warranties of any kind with respect to the information contained in this document about its accuracy, suitability for particular applications, or the results obtained or obtainable using the information. Some of the information arises from laboratory work with small-scale equipment which may not provide a reliable indication of performance or properties obtained or obtainable on larger-scale equipment. We retain the right to make changes without prior notice. HEXPOL TPE makes no warranties or guarantees, express or implied, respecting suitability of either HEXPOL TPE's products or the information for your process or end-use application. Dryflex® is a registered trademark, property of the HEXPOL TPE group of companies.

