

# Dryflex® PS

Thermoplastic Elastomers (TPE)  
for pipe joint seals



# CONTENTS

INTRODUCTION →

KEY PROPERTIES →

PRODUCT ASSURANCE →

EN 681-2:2000 →

DRYFLEX PS GRADE TABLE →

PROCESSING →

CONTACT US →

# INTRODUCTION

**Dryflex PS** is a range of thermoplastic elastomer (TPE) compounds designed for seals and pipe joints used in waste water applications.

In this guide we show typical properties for our most common grades, these tables are not exhaustive and by no means list all available properties and materials. Our aim is to supply a material that precisely matches application requirements and where an existing grade cannot satisfy the specific demands of your application, we have the proven expertise to customise a material that will.

Please use this guide as an introduction to our **Dryflex PS** range and [contact us](#) to discuss your specific requirements.

# KEY PROPERTIES

- Meets the requirements of EN 681-2:2000
- 50,60 and 70 IRHD Hardnesses
- Easy to colour
- Service temperature range from -50 to 120°C
- 100% Recyclable
- Good UV and Ozone resistance
- Easy to process via extrusion and injection moulding
- Production waste can easily be reprocessed

# PRODUCT ASSURANCE

We support our customers by proving the performance of our products via relevant testing and working with industry standards.

The Dryflex PS grades meet the requirements of EN 681-2:2000, the European Standard EN 681-2, Type WT.

This testing allows our customers to be confident that the materials meet the necessary requirements for sealing of waste water systems by conforming to recognised industry standards.

# EN 681-2:2000

The EN 681-2:2000 standard specifies requirements for TPE materials used for moulded seals used in joints of:

1. Thermoplastic piping systems for non-pressure waste water discharge (intermittent flow up to 95°C) inside buildings
2. Thermoplastic piping systems for non-pressure underground drainage and sewerage (continuous flow up to 45°C and intermittent flow up to 95°C)
3. Thermoplastic rainwater systems

The EN 681-2:2000 standard sets physical property requirements based on three hardness classifications; 50, 60 and 70 IRHD. In the tables on the following pages you will find the properties for the Dryflex PS grades. We have also included the tolerances specified in the standard.

# DRYFLEX PS GRADE TABLE

## 50 IRHD HARDNESS

Grade	Hardness		Density g/cm <sup>3</sup>	Tensile Strength MPa		Elongation at Break %		Compression Set %			Ageing 7 Days At 70°C			Stress Relaxation %		Volume Change	
	IRHD ISO 48	Shore A <sup>1</sup> ISO 868	ISO 2781	ISO 37 Type 1	ISO 37 Type 1	ISO 815-1 Type B						ISO 3384					
				In Flow	Across Flow	In Flow	Across Flow	72 hours at 23°C	24 hours at 70°C	72 hours at -10°C	Hardness Change IRHD ISO 48	Tensile Strength Change ISO 37 %	Elongation Change ISO 37 %	7 days at 23°C	100 days at 23°C	Water (7 days at 70°C) ISO 1817 %	Ozone Resistance ISO 1731-1 %
Dryflex PS 50R201B	50	46	1.05	4	8	>750	>850	15	36	58	2	4.5	4	15	21	1	no cracking
Standard <sup>2</sup>	50 +/-5	-	-	3	-	300	-	25	40	65	+/-5	+/-10	+/-15	19	28	+8/-1	no cracking

<sup>1</sup> After 15 seconds

<sup>2</sup> Requirements for EN 681-2:2000 standard

# DRYFLEX PS GRADE TABLE

## 60 IRHD HARDNESS

Grade	Hardness		Density g/cm <sup>3</sup>	Tensile Strength MPa		Elongation at Break %		Compression Set %			Ageing 7 Days At 70°C			Stress Relaxation %		Volume Change	
	IRHD ISO 48	Shore A <sup>1</sup> ISO 868	ISO 2781	ISO 37 Type 1	ISO 37 Type 1	ISO 815-1 Type B						ISO 3384					
				In Flow	Across Flow	In Flow	Across Flow	72 hours at 23°C	24 hours at 70°C	72 hours at -10°C	Hardness Change IRHD ISO 48	Tensile Strength Change ISO 37 %	Elongation Change ISO 37 %	7 days at 23°C	100 days at 23°C	Water (7 days at 70°C) ISO 1817 %	Ozone Resistance ISO 1731-1 %
Dryflex PS 60R201B	60	51	1.05	4.5	9.5	>650	>800	22	34	60	1	1	3	21	29	1	no cracking
Standard <sup>2</sup>	60 +/-5	-	-	4	-	300	-	25	40	65	+/-5	+/-10	+/-15	29	32	+8/-1	no cracking

<sup>1</sup> After 15 seconds

<sup>2</sup> Requirements for EN 681-2:2000 standard



# DRYFLEX PS GRADE TABLE

## 70 IRHD HARDNESS

Grade	Hardness		Density g/cm <sup>3</sup>	Tensile Strength MPa		Elongation at Break %		Compression Set %			Ageing 7 Days At 70°C			Stress Relaxation %		Volume Change	
	IRHD ISO 48	Shore A <sup>1</sup> ISO 868	ISO 2781	ISO 37 Type 1		ISO 37 Type 1		ISO 815-1 Type B						ISO 3384			
				In Flow	Across Flow	In Flow	Across Flow	72 hours at 23°C	24 hours at 70°C	72 hours at -10°C	Hardness Change IRHD ISO 48	Tensile Strength Change ISO 37 %	Elongation Change ISO 37 %	7 days at 23°C	100 days at 23°C	Water (7 days at 70°C) ISO 1817 %	Ozone Resistance ISO 1731-1 %
Dryflex PS 70R201B	70	59	1.05	5.5	10	>550	>800	23	36	60	1	7	-2	21	29	1	no cracking
Standard <sup>2</sup>	70 +/-5	-	-	5	-	300	-	25	40	65	+/-5	+/-10	+/-15	24	35	+8/-1	no cracking

<sup>1</sup> After 15 seconds

<sup>2</sup> Requirements for EN 681-2:2000 standard

# PROCESSING

These 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. Care must be taken to allow sufficient cooling of the section prior to demoulding in order to prevent permanent distortion of the article.

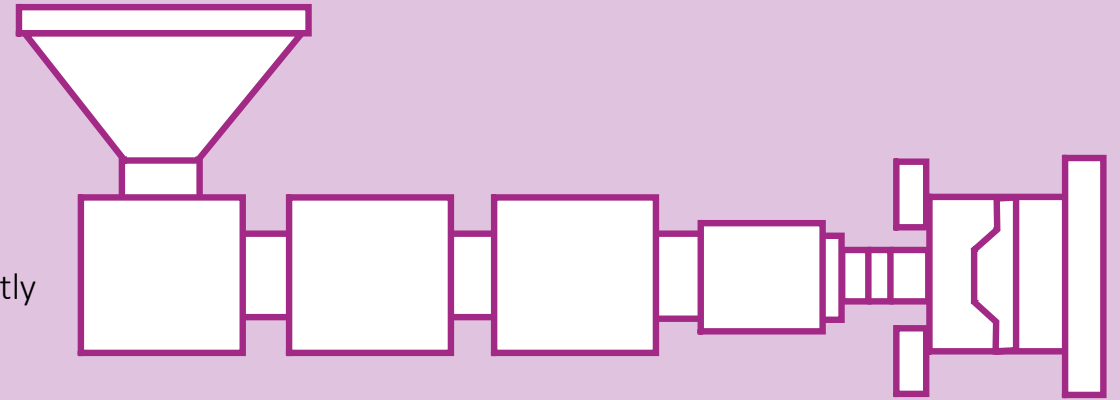
Venting of extrusion lines may be used as a method of preventing the build up of volatiles during continuous processing.



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

# INJECTION MOULDING GUIDELINES

Injection Speed:	Medium - Fast
Injection Pressure:	Medium - Fast
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

180 - 190    190 - 200    200 - 210    210 - 220    15 - 50

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

# 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](mailto: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.

