Dryflex® WS 40E850

Thermoplastic Elastomer

ELASTO

Message:

With our Dryflex® WS range we have turned the usual water-resistant properties of thermoplastic elastomers (TPE) on their head to create materials that swell up to ten times their volume when immersed in water. These materials have been developed to expand upon contact with aqueous solutions (pH7 to 12) to form a positive seal and prevent the ingress or exit of water.

Material Science

A range of formulations have been developed to offer swell rates from 300 to 1000% when immersed in water. When there is no longer water present the compound shrinks back to its original size, a process of expansion and contraction that can be repeated an unlimited number of times.

The compounds have solid structural integrity; unlike many of the equivalent clay based products which can erode and shatter over time. Compounded in any colour, the water swellable TPE is 100% recyclable and can be processed using conventional fabricating methods, including extrusion and injection moulding. Antimicrobial versions are available.

Applications

Waterstops, building & construction, water treatment plants, tunnels, drains, sewers, tanks, automotive sealant parts, glazing, headlights and cable protection are just a few of the potential applications for Dryflex® WS materials.

We have developed softer grades which offer excellent drapability. They are an ideal choice for water stop applications where the profiles may be coiled or need to be fitted around complex structures.

HardnessNominal ValueUnitTest MethodDurometer Hardness (Shore A)40ISO 868ThermalNominal ValueUnitService Temperature 1-50 - 75°C	General Information				
Good weather resistance Hydrophilic Uses Building materials Architectural application field Sealant Application in Automobile Field Water tank Assembled glass Forms Processing Method Extrusion Physical Nominal Value Unit Test Method Density 1.25 9/cm³ 1SO 2781 Molding Shrinkage 1.5 9/cm³ 1SO 2781 Molding Shrinkage 1.5 9/cm³ 1SO 2781 Molding Shrinkage 1.5 9/cm³ 1SO 2781 Test Method Durometer Hardness (Shore A) 40 Unit Test Method Durometer Hardness (Shore A) 40 Unit Test Method Durometer Hardness (Shore A) 40 Unit Service Temperature 1 50 868 Thermal Nominal Value Unit Service Temperature 1 50 - 75 4C Water Swell - 3 weeks (23°C) 850 % Estrusion	Features	Recyclable materials			
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Extrusion Nominal Value Unit	Service Temperature ¹	-50 - 75	°C		
	Water Swell - 3 weeks (23°C)	850	%		
Cylinder Zone 1 Temp. 110 °C	Extrusion	Nominal Value	Unit		
	Cylinder Zone 1 Temp.	110	°C		

Cylinder Zone 2 Temp.	110	°C		
Cylinder Zone 3 Temp.	110 - 120	°C		
Cylinder Zone 4 Temp.	110 - 120	°C		
Die Temperature	130 - 140	°C		
Extrusion instructions				
Air Cool Only (Must not come into contact with water)				
NOTE				

1. Unstressed Material

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