SOLUTION DATA SHEET

Pearlthane™ TPU with Special “H” Technology for Hydraulic Seals

Markets	Seals and gaskets
Polymer	Pearlthane™ thermoplastic polyurethane (TPU)
Key Benefits	• Very low compression set • Superior performance in environments with high pressure and temperature • Excellent hydrolysis and abrasion resistance • Higher productivity grades

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Thermoplastic polyurethanes (TPUs) have several outstanding mechanical properties, including high abrasion and hydrolysis resistance. The innovative, high-performing Pearlthane D11HxxS series uses "H" technology for high pressure hydraulic seals and are polycaprolactone (PCL) copolyester- based TPU specialty polymers.

Pearlthane™ D11H92S and **Pearlthane D11H95S** TPUs feature outstanding low compression set values and excellent flow properties. These thermoplastic polyurethane grades, especially developed for manufacturing hydraulic seals, are recommended for injection moulding applications with an extremely short cycle time. The main properties are listed below:

PHYSICAL PROPERTIES	UNITS	Pearlthane D11H92S	Pearlthane D11H95S
Hardness	Shore A	92	96/46
Tensile Strength	MPa	46	475
Elongation	%	460	174
Tear Strength	Kg/cm	125	1.18
Specific Gravity	g/cm3	1.15	149 (Annealed)
Compression Set (23ºC for 70 h.)	%	139 (Annealed)	18
(100ºC for 70 h.)	%	13	36
(70ºC for 22 h.)	%	36	23
(130ºC for 3 h.)	%	19	21
Tg (DMA)	ºC	29	-38

Figure 1: Physical properties of Pearlthane D11Hxx TPU resins.

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Pearlthane™ D11H92S and **Pearlthane D11H95S TPUs** offer high wear resistance and a wide temperature operating range. Their most relevant feature is the low compression set as follows:

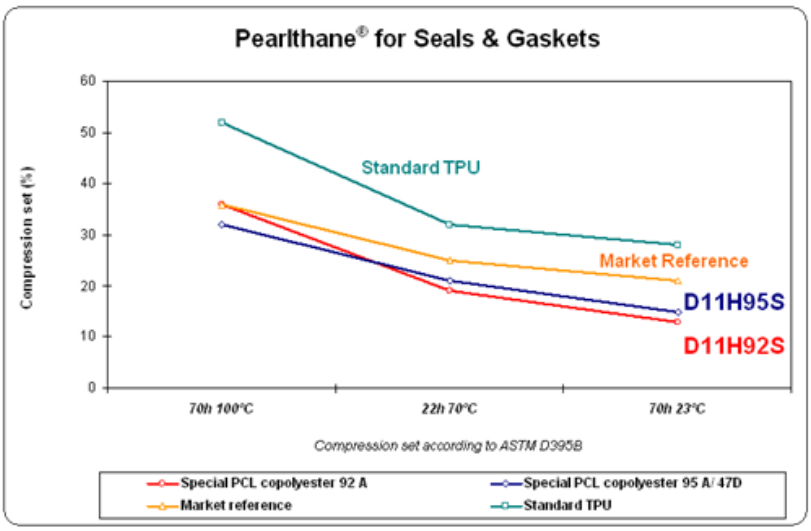

Figure 2: Compression set values of Pearlthane TPU

For more information, please visit our web site: http://www.lubrizol.com/Engineered-Polymers