



ZEOTHERM® TPV

PROPERTY COMPARISON OF VARIOUS GRADES

THERMOPLASTIC ELASTOMERS

Product Description

A high-performance thermoplastic vulcanizate (TPV) designed to survive long-term exposure to 150 °C (300 °F) air and oil. Ideal for automotive and industrial applications where there is exposure to heat and/or oil.

Composition

TPV based on polyacrylate elastomer dynamically vulcanized in a matrix of polyamide (nylon) plastic.

Product Characteristics

PHYSICAL FORM: Free-flow pellets
 COLOR: Black
 MELT TEMPERATURE,
 °C (°F): 220 (428)
 PACKAGING: 50 lbs (22.7 kg)
 moisture-barrier bags

Physical Properties, Nominal	100-70B	110-70B	100-80B	131-90B	151-40D
ORIGINAL PHYSICALS					
Specific Gravity	1.15	1.15	1.15	1.10	1.10
Hardness, Shore A (15 sec delay)	75	75	85	92	97
Hardness, Shore D (15 sec delay)	-	-	-	28	40
Tensile Strength, MPa (psi)	8 (1160)	6.5 (950)	9 (1305)	14 (2031)	19.1 (2777)
Elongation at Break, %	200	200	200	240	277
100% Modulus, MPa (psi)	5 (725)	5 (725)	6 (870)	9.8 (1422)	16.5 (2388)
Young's Modulus, MPa (psi)	12.3 (1780)	-	12 (1740)	-	-
Flex Modulus (22 °C), MPa (psi)	30 (434)	40 (5802)	80 (11643)	95 (13779)	271 (39294)
Elastic Modulus, MPa (psi)	75 (10878)	45 (6527)	0 (1383)	105 (15229)	-
Tear Strength, Die C, N/mm (ppi)	27 (152)	27 (155)	31 (175)	64 (365)	-
COMPRESSION SET, METHOD B - BUTTONS					
70 Hrs @ 125 °C, % Set	60	55	60	-	-
LOW TEMPERATURE PROPERTY					
Brittle Point, °C (°F)	-44 (-47)	-48 (-54)	-44 (-47)	-44 (-47)	-44 (-47)
Gehman T10, °C (°F)	-35 (-31)	-	-35 (-31)	-45 (-49)	-
AIR AGED PROPERTIES, AFTER 168 HRS @ 150 °C (300 °F)					
Tensile Strength, % Change	-10	5	-10	-10	-6
Elongation at Break, % Change	-20	-20	-30	-35	-23
Hardness, Point Change	+3	+5	+3	-3	-2
OIL AGED PROPERTIES, SF150 OIL 168 HRS @ 150 °C (300 °F)					
Tensile Strength, % Change	+10	+10	+10	-10	-12
Elongation at Break, % Change	-30	-25	-30	-16	-24
Hardness, Point Change	+3	+3	+4	-4	-1
Volume, % Change	-4	+12	-4	+2.5	+1

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RTP Company Corporate Headquarters • 580 East Front Street • Winona, Minnesota 55987 USA website: www.rtpcompany.com • email: rtp@rtpcompany.com

TELEPHONE: U.S.A. +1 507-454-6900 SOUTH AMERICA +55 11 4193-8772 MEXICO +52 81 8134-0403 EUROPE +33 380-253-000 SINGAPORE +65 6863-6580 CHINA +86 512-6283-8383 WIMAN CORPORATION +1 320-259-2554 ESP™ +1 800-432-2386



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