



# Arlon® 1555 Sealing Solutions

Compound No./Material Name:	Manufacturing Method:	Material Description:	Color:
ARLON® 1555	INJECTION MOLDED	PEEK, CARBON-, GRAPHITE-, AND PTFE-FILLED	BLACK

Description (ASTM Standards)	Typical
<b>Physical &amp; Mechanical Properties</b>	
Specific Gravity (D792)	1.46
Hardness, Shore D (D2240)	87
Hardness, Rockwell M (D785)	98
Tensile Yield Strength, psi [MPa] (D638)	– [–]
Tensile Break Strength, psi [MPa] (D638)	21,200 [146.2]
Tensile 0.5% Secant Modulus, psi [MPa] (D638)	1,650,000 [11,376.3]
Elongation, % (D638)	2.2
Flexural Strength, psi [MPa] (D790)	33,000 [227.5]
Flexural 0.5% Secant Modulus, psi [MPa] (D790)	1,400,000 [9652.6]
Shear Strength, Axial, psi [MPa] (D732)	13,000 [89.6]
Shear Strength, Transverse, psi [MPa] (D732)	10,000 [68.9]
Compressive Strength @ Break*, psi [MPa] (D695)	24,600 [169.6]
Deformation Under Load, % (D621)	0.10
Heat Deflection Temperature @ 264 psi [1.8 MPa] °F [°C] (D648)	>600 [>316]
Coefficient of Dynamic Friction, 83.3 psi & 150 ft/min. [0.6 MPa & 45.7 m/min.] (D3702)	0.43
Wear Factor, 83.3 psi & 150 ft/min. [0.6 MPa & 45.7 m/min.] 10 <sup>-10</sup> in. <sup>3</sup> -min./[lb-ft-hr] [10 <sup>-7</sup> cm <sup>3</sup> -min./[kg-m-hr]] (D3702)	73 [8.6]
Coefficient of Thermal Expansion, Axial (Mold Direction) <300°F [149°C] µin/in.-°F [µm/m-°C] (E831)	11 [19.01]
Coefficient of Thermal Expansion, Axial (Mold Direction) >300°F [149°C] µin/in.-°F [µm/m-°C] (E831)	55 [99.41]
Coefficient of Thermal Expansion, Transverse <300°F [149°C] µin/in.-°F [µm/m-°C] (E831)	26 [47.48]
Coefficient of Thermal Expansion, Transverse >300°F [149°C] µin/in.-°F [µm/m-°C] (E831)	75 [134.90]

\*Tested on axially injection molded test bars according to ASTM D695.

Contact Us

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## Mechanical Properties at Temperature

Temperature	Flexural Strength D790	Flexural Strain D790	Flexural Modulus D790	Shear Strength D732
°F [°C]	psi [MPa]	%	psi [MPa]	psi [MPa]
75 [24]	28,000 [193.1]	2.8	1,380,000 [9514.7]	11,200 [77.2]
150 [66]	27,260 [188.0]	3.1	— [—]	9,900 [68.3]
200 [93]	26,600 [183.4]	3.0	1,250,000 [8618.4]	8,900 [61.4]
250 [121]	20,390 [140.6]	2.5	1,220,000 [8411.6]	8,100 [55.8]
300 [149]	18,390 [126.8]	3.4	950,000 [6550.0]	7,300 [50.3]
350 [177]	— [—]	—	390,000 [2689.0]	5,500 [37.9]
400 [204]	— [—]	—	330,000 [2275.3]	4,500 [31.0]
450 [232]	— [—]	—	270,000 [1861.6]	3,800 [26.2]
500 [260]	— [—]	—	250,000 [1723.7]	3,400 [23.4]

Temperature	Compressive Strength @ Break, D695 Axial Direction	Compressive Strength @ Break, D695 Transverse Direction
°F [°C]	psi [MPa]	psi [MPa]
-58 [-50]	27,220 [187.7]	26,500 [182.7]
75 [24]	21,960 [151.4]	20,840 [143.7]
212 [100]	16,020 [110.5]	15,740 [108.5]

Note:  
 Properties of Arlon 1555® are anisotropic. The published properties, unless otherwise noted, are measured in the axial flow direction of molded test specimens. Strength and stiffness, therefore, are at a maximum while elongation and thermal coefficient of expansion are at a minimum.  
 Compressive Properties were tested on compressive cylinders that were machined axially and transversely with respect to mold flow direction according to ASTM D695.

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