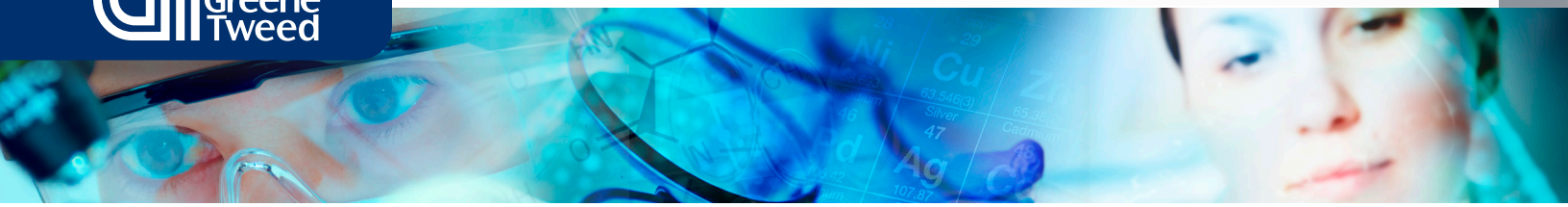

Arlon® 1330 Sealing Solutions

Compound No./Material Name:	Material Description:	Manufacturing Method:	Color:
Arlon® 1330	Polyketone, Lubricated	Injection Molded	Tan

Description	Typical
Physical & Mechanical Properties (ASTM Standard)	
Specific Gravity (D792)	1.38
Hardness, Shore D, Points (D2240)	85
Hardness, Rockwell M, Points (D785)	96
Tensile Yield Strength, psi [MPa] (D638)	13,000 [89.6]
Tensile Break Strength, psi [MPa] (D638)	12,600 [86.9]
Tensile 0.5% Secant Modulus, psi [MPa] (D638)	520,000 [3,585.3]
Elongation, % (D638)	20
Flexural Strength, psi [MPa] (D790)	21,100 [145.5]
Flexural 0.5% Secant Modulus, psi [MPa] (D790)	535,000 [3,688.7]
Shear Strength, Axial, psi [MPa] (D732)	10,400 [71.7]
Shear Strength, Transverse, psi [MPa] D732	10,400 [71.7]
Compressive Strength @ Break, psi [MPa] D695	15,500 [106.9]
Deformation Under Load, % (D621)	0.14
Heat Deflection Temperature @ 264 psi, °F [°C] (D648)	330 [166]
Coefficient of Dynamic Friction, PV=12,600 psi-ft/min (G77)	0.15
Wear Factor, Modified ASTM G77, 0^{-10}in.^{3}-min/(lb-ft-hr) (G77)	20
Coefficient of Friction, Semi-Sperse SSW2000 Slurry, IC1010 Rodel Pad (CMP Tribology†)	0.594
Mean Square Error (MSE), Vibration Resistance, (CMP Tribology†)	0.056
Wear Factor (Weight Loss/Specific Gravity), mg (CMP Tribology†)	2.860
GTC Wear Factor (Weight Loss/Specific Gravity), mg (WI-SC-02-11.002)	0.171
Coefficient of Thermal Expansion, < 300°F (149°C) 10^{-6} in./(in°F) [10^{-6} cm/(cm°C)] (D696)	23 [41.4]
Coefficient of Thermal Expansion, > 300°F (149°C) 10^{-6} in./(in°F) [10^{-6} cm/(cm°C)] (D696)	82 [147.6]

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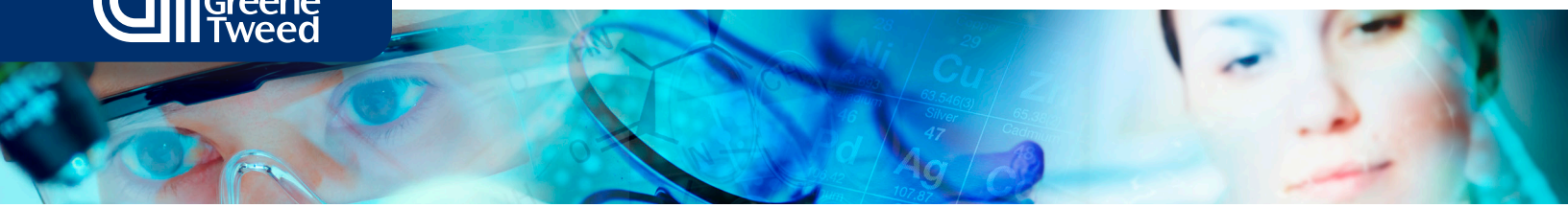
03/19-GT TPS-US-LS-007



Compound No./Material Name:	Material Description:	Manufacturing Method:	Color:
Arlon® 1330	Polyketone, Lubricated	Injection Molded	Tan

High-Temperature Properties		
Temperature	Flexural Modulus, psi [MPa] (D790)	Shear Strength, psi [MPa] (D732)
75°F [24°C]	— [—]	11,250 [77.6]
150°F [66°C]	472,000 [3,254.3]	9,900 [68.3]
200°F [93°C]	446,800 [3,080.6]	9,190 [63.4]
250°F [121°C]	434,000 [2,992.3]	7,840 [54.1]
300°F [149°C]	197,100 [1,359.0]	7,070 [48.7]
350°F [177°C]	53,190 [366.7]	4,530 [31.2]
400°F [204°C]	29,460 [203.1]	3,380 [23.3]
450°F [232°C]	22,870 [157.7]	2,870 [19.8]
500°F [260°C]	— [—]	2,520 [17.4]
550°F [288°C]	— [—]	2,080 [14.3]
ICP - Mass Spectrometry Analysis		
Element	TM/Poly Material, ppb	Leachable TM/SC1, ppb
Aluminum	810	1.5
Calcium	12,000	4.2
Chromium	600	0.3
Copper	*	0.9
Iron	4,000	7.2
Potassium	790	*
Magnesium	370	0.1
Sodium	150,000	2.1
Nickel	450	0.1
Lead	*	*
Tin	*	*
Titanium	370	*
Zinc	100	0.7

Notes: Reference GTC Material Code Numbers. Solid Code: 039; Split Code: 038; AGT Code: P8.
†Tribology Testing, CETR Parameters.
** Analysis revealed that the element was not found at or above the detection limit for the test.*

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