


**Microcellular Polyurethane**
**U1E21**

## Typical Physical Properties

PROPERTY	TEST METHOD	VALUE
<b>PHYSICAL</b>		
Density, lb./ft <sup>3</sup> (kg/m <sup>3</sup> ) Tolerance, %	ASTM D3574 (1,5)	20 (320) ± 5
Thickness, inches (mm) Tolerance, %	(5,6)	0.062 - 0.500 (1.6 - 12.7) ± 10
Standard Color (Pantone® code)	-	Black (0426)
Compression Force Deflection, psi (kPa) Typical psi (kPa)	ASTM D3489 (1,5) at 25% compression	9 - 16 (62 -110) 12 (83)
Compression Set, % max. (Typical)	ASTM D3574 Test D (1,3) at 50% compression, 73°F (23°C)	2 (0.6)
	ASTM D3574 Test D (1,3) at 50% compression, 158°F (70°C)	8 (1.9)
	ASTM D3574 Test J2 & Test D (1,3,4) Autoclave then 50% compression, 158°F (70°C)	5 (0.6)
Dimensional Stability, % max. change Typical	24 hr at 194°F (90°C)	5 0.3
Tensile Strength, min. psi (kPa) Typical psi (kPa)	ASTM D3574 Test E Die A (5)	75 (517) 90 (621)
Tensile Elongation, % min. Typical	ASTM D3574 Test E Die A (2)	100 108
Tear Strength, min. pli (kN/m) Typical pli (kN/m)	ASTM D624 Die C (5)	7 (1.2) 10.5 (1.8)
Resilience (Ball Rebound), %	ASTM D3574 Test H	16
<b>TEMPERATURE RESISTANCE</b>		
Continuous Use Range	SAE-J-2236	-40° to 225°F (107°C)
Intermittent Use Maximum	-	250°F (121°C)
Low Temperature Flex	24hr at -40°, mandrel diameter = 1 inch	No Cracking

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<b>FLAMMABILITY AND OUTGASSING</b>		
Flammability	FMVSS-302	Pass
	ISO 3795	Pass
	UL94HBF	Pass
Fogging (gloss), reflectivity visual	SAE J1756 3 hr at 194°F (90°C)	99 Dry Film
<b>ENVIRONMENTAL</b>		
Water Absorption, %, typical	ASTM D570	11
Staining, visual	ASTM D925	No Staining
Solvent Resistance, visual	Immerse in: light naphtha naptha trichloroethylene 50/50 mix antifreeze & water windshield washer solution electrical grease 50/50 mix soap & water aliphatic hydrocarbon with emulsifier	No Change
Gasketing and Sealing	UL50/508 JMST2	Pass

- (1) Sample size is 1.5 inch diameter by approximately 0.5 inch stack height
- (2) Based on grip separation
- (3) Ct calculation, percent of original thickness
- (4) Autoclaved for 5 hours at 250°F then test D
- (5) All metric conversions are approximate
- (6) ASTM D3574 method with the following exceptions: 1.5 inch diameter foot on digital thickness indicator with a force loading of 0.9 Newtons (91.8 grams-force) plus the 30 gram weight of the foot

**NOTE:** Information of a technical nature is based on laboratory tests which either GRISWOLD LLC conducts or sends to an independent laboratory for testing for determination of uses as requested in writing by customer. GRISWOLD LLC believes these to be reliable. However, GRISWOLD LLC has no control over the application of the material to, or part of, the final **product** and **therefore**, GRISWOLD LLC makes **no express or implied warranty of result, fitness or merchantability**. The customer should determine reliability for the end use or particular application.

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Page 2 of 2