



## CONTACT

### Deutschland

Dr. Dietrich Müller GmbH  
Hauptsitz und Werk Flexibles  
Zeppelinring 18  
26197 Ahlhorn  
+49 4435 97 10-318  
+49 4435 97 10-11  
info@mueller-ahlhorn.com

### USA

Dr. Dietrich Mueller GmbH - Sales office  
USA  
1201 N. Orange Street Suite 7160  
19801 Wilmington, Delaware  
United States  
+1 302 4988371  
+1 302 4988372  
info.usa@mueller-ahlhorn.com

### United Kingdom

Dr. Dietrich Mueller (UK) Ltd.  
49 Greek Street  
London W1D 4EG  
United Kingdom  
+44 20 80894197  
+44 20 80894198  
info.uk@mueller-ahlhorn.com

### China

Dr. Dietrich Mueller GmbH.  
Level 8, International Finance Center,  
Tower 2, 8 Century Avenue  
200120 Shanghai, Pudong  
China  
info.china@mueller-ahlhorn.com

## ABOUT OUR COMPANY

Dr. Dietrich Müller GmbH is a global solution provider for electrical insulation materials, thermally conductive products, seals and technical films.

We advise on the selection of the right material and manufacture precision parts from flexible and rigid materials. We operate 6 sites and provide services to companies around the world.

We are ISO 9001 and ISO 14001 certified and UL listed as a repackager (E341377).

Dr. Dietrich Müller GmbH

# PORON® 4701-30 Very Soft

PROPERTY	TEST METHOD	TYPICAL VALUE		
<b>PHYSICAL</b>				
Density, kg/m <sup>3</sup> (lb./ft <sup>3</sup> )	ASTM D3574-95, Test A	240 (15)	320 (20)	400 (25)
Tolerance, %			± 10	
Thickness, mm (inches)		4.78 - 12.7 (0.188 - 0.500)	1.57 - 3.18 (0.062 - 0.125)	0.79 - 1.14 (0.031 - 0.045)
Tolerance, %		± 10	± 10	± 15
Standard Color (Code)		Black (04)		
Compression Force Deflection, kPa (psi)	0.51cm/min (0.2"/min) Strain Rate Force Measured @ 25% Deflection	7 - 35 (1 - 5)	21 - 55 (3 - 8)	35 - 83 (5 - 12)
Typical kPa, (psi)		21 (3)	35 (5)	62 (9)
Hardness, Durometer Shore O Shore A	ASTM D2240-97	<3 <3	8 5	16 12
Compression Set, % max	ASTM D1667-90 Test D @ 23°C (73°F) ASTM D3574-95 Test D @ 70°C (158°F) ASTM D3574-95 Test J/Test D Autoclaved 5 hrs @ 121°C (250°F)		2 10 5	
Dimensional Stability, % max change	22 hrs @ 80°C (176°F) in a Forced-Air Oven		± 1	
Tensile Strength, kPa (psi) min.	ASTM D3574-75, Test E	138 (20)	207 (30)	242 (35)
Typical kPa, (psi)		207 (30)	346 (50)	484 (70)
Tensile Elongation, % min.	ASTM D3574-75, Test E	100	100	100
Typical		160	155	150
Tear Strength, kN/m (pli) min.	ASTM D264-91 Die C	0.2 (1)	0.5 (3)	0.7 (4)
Typical kN/m (pli)		0.9 (5)	1.2 (7)	1.8 (10)

PROPERTY	TEST METHOD	TYPICAL VALUE		
<b>ELECTRICAL &amp; THERMAL</b>		240 (15)	320 (20)	400 (25)
Dielectric Constant, K' ("DK")	ASTM D150 Measurements at 22°C (72°F) Relative Humidity 50% for 24 hrs.	1.75		
Dielectric Strength, kV/m (volts/mil)	ASTM D149-97a	1969 (50)		
Dissipation Factor, tan D ("DF")	ASTM D150-98	0.05		
Volume Resistivity, ohm-cm (ohm-in)	ASTM D257-99	3 x 10 <sup>11</sup> (1.18 x 10 <sup>11</sup> )		
Surface Resistivity, ohm/sq	ASTM D257-99	6 x 10 <sup>11</sup>		
Thermal Conductivity, W/m-C (BTU-in./hr/ft <sup>2</sup> -F)	ASTM C518-98	-	0.076 (0.53)	-
Coefficient of Thermal Expansion		2.3-3.1 x 10 <sup>-4</sup> in/in/°C (1.3-1.7 x 10 <sup>-4</sup> in/in/°F)		
<b>TEMPERATURE RESISTANCE</b>				
Recommended Constant Use, max.	SAE J-2236	90°C (194°F)		
Recommended Intermittent Use, max.		121°C (250°F)		
Embrittlement	ASTM D746-98	-51°C (-60°F)		
Cold Flexibility	MIL-P-12420D 1991 @ -40°C (-40°F)	Pass		
<b>FLAMMABILITY AND OUTGASSING</b>				
Flammability, mm (inches)	UL 94HBF <sup>†</sup> (File E20305) (Pass ≥)	4.8 (0.188)	2.4 (0.093)	-
	FMVSS 302 (Pass ≥)	4.8 (0.188)	1.6 (0.062)	1.6 (0.062)
	CSA Comp HBF (File 188149) (Pass ≥)	4.8 (0.188)	2.4 (0.093)	-
Fogging	SAE J-1756 3 hrs @ 100°C (212°F)	Pass		
Outgassing, Total Mass Loss (TML) %	ASTM E595-93 24 hrs @ 125°C (257°F) @ <7kPa (1.02 psi)	0.8	1.0	1.3
Outgassing, Collected Volatile Condensable Materials (CVCM) %		0.1	0.1	0.2
Outgassing, Water Vapor Regain (WVR) %		0.2	0.3	0.6
<b>ENVIRONMENTAL</b>				
Gasketing & Sealing	UL JMST2 (Consisting of UL50 & UL508) CAN/CSA - C22.2 No. 94-M91	File MH15464 File 188149		
Moisture Absorption, High Humidity Exposure, % Weight Gain, Typical	AMS 3568-95	2		
Water Absorption, Immersion Testing, % Weight Gain, Typical	ASTM D570-95	12	9	14
UV Resistance	ASTM G53-96	Good		
Ozone Resistance	GM 4486P-95	Pass	Pass	-
Corrosion Resistance	AMS 3568-91	Pass		
Mildew/Bacteria Resistance	ASTM G21	Good		
Staining	ASTM D925	No Stain		

- Notes:
- †Designed to meet UL 94 HBF based upon 2022 test criteria. As of 2023 items with nominal density ≥ 15.6lb/ft<sup>3</sup> (250kg/m<sup>3</sup>) are no longer eligible to be tested for UL 94 HBF but remain equivalent.
  - Represents testing not available at this time.
  - All metric conversions are approximate.
  - Additional technical information is available.
  - Typical values should not be used for specification limits.

To order PORON materials, please contact our Sales Specialists at 860.928.3622 or via email at EMS\_CT\_cust\_serv@rogerscorporation.com