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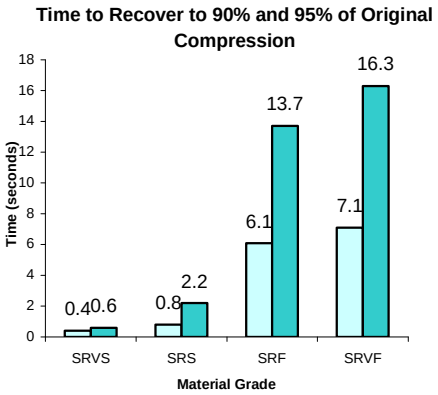
PORON Medical® Urethanes – *Slow Recovery* – Custom Contouring

PORON Medical® Slow Recovery urethanes are unique custom contouring materials. They are available in four different grades for a variety of applications. These materials rebound slowly when compressed, which results in a custom fit or contour during each use. The material is designed to retain its memory and continue to return to its original shape when not in use.

- **Unique Custom Contouring – Controlled Energy Return**
- **Excellent Impact Absorption**
- **Supports Stability and Balance**
- **Long-term Comfort**
  - Compression Set Resistance
  - Open-Cell – Breathable
  - Microcellular Structure
  - Fungal Resistant



PORON Medical Slow Recovery materials are available in Soft, Very Soft, Firm and Very Firm in 3mm (1/8") and 6mm (1/4") thicknesses. Slow Recovery Very Soft is also available in 9.5mm (3/8") and 12.7mm (1/2").

Other combinations are also available upon special order.

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PORON Medical® Urethanes – Slow Recovery – Custom Contouring

Typical Physical Properties

PROPERTY	TEST METHOD	PRODUCT			
Formulation		PORON MSRVS	PORON MSRS	PORON MSRF	PORON MSRVF
Standard Thickness Tolerance, %		See Product Availability ± 10			
Standard Width, mm (inch)		1372 (54)			
Standard Color (Code)		Sea Mist (73)	Light Jade (71)	Patina (79)	Dark Jade (80)
Density, kg/m³ (lb/ ft³)	ASTM D 3574	240 (15)			
Specific Gravity		0.240			
Tolerance, %		± 10			
Compression Set, % max.	ASTM D 3574 @ 70°C (158°F)	10			
Compression Force Deflection, kPa (psi)	ASTM D 3574 @ 25% Deflection	2 - 24 (0.3 - 3.5)	10 - 45 (1.5 - 6.5)	21 - 124 (3 - 18)	28 - 152 (4 - 22)
Hardness, Durometer	Shore "OO"	26	53	73	82
Resilience, Shore Instrument Resiliometer, Typical (Ball Rebound Tester)	ASTM D 2632, Vertical Rebound	4	4	7	8
Tear Strength, kN/m (pli), min.	ASTM D 624	0.7 (4)	0.9 (5)	1.7 (10)	2.1 (12)
Elongation, % min.	ASTM D 3574	120		100	
Tensile Strength, kPa (psi), min.	ASTM D 3574	104 (15)	276 (40)	552 (80)	690 (100)
Antimicrobial, Fungal Resistance	ASTM G 21	Does not promote fungal growth.			
Surface Contact - Medical Device Primary Skin Irritation	ISO10993-10, 2010	Pass			
Air Permeability	Gurley Porosity Meter	Open-Cell – Breathable			
Water Vapor Transfer, Typical g/m²/24hrs (g/ft²/24hrs)	Based on ASTM E 96	400 (37)			
Water Absorption, Typical % Wt Gain	Based on ASTM D 570	< 30			
Chemical Resistance		PORON® Urethanes are unaffected by mild organic acids and bases. They show modest swelling with oils and greases and other linear hydrocarbons. Strongly polar solvents will greatly swell PORON Urethanes. In most cases, physical properties recover to a great extent as the solvents evaporate.			
Temperature Resistance, max. Recommended Constant Use	SAE J-2236	90°C (194°F)		70°C (158°F)	
Hydrolysis Resistance, Tensile Strength, kPa (psi) Compression Set, % max.	ASTM D 3574 Test J / Test D after autoclaved 5 hrs @ 121°C (250°F)	Good Resistance, 5			

* *ISO 10993 certifications are specific to colors and density. Consult ISO 10993-1:2003(E) Guidelines for further detail.*

Notes:

1. Typical values are a representation of an average value for the population of the property. For specification values, contact Rogers Corporation.
2. All metric conversions are approximate.
3. Additional technical services are available.

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PORON Medical® Urethanes

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PORON Medical® Urethanes – *Soft* – Cushioning & *Soft* – Supporting Typical Physical Properties

PROPERTY	TEST METHOD	PRODUCT	
Formulation		PORON Medical (Soft - Cushioning)	PORON Medical (Soft - Supporting)
*Density, kg/m^3 (lb. / ft)^3)	ASTM D 3574-95 Test A	240 (15)	320 (20)
Specific Gravity		0.24	0.32
Tolerance, %		± 10	
*Standard Thickness		See Product Availability	
Tolerance, %		± 10	
Standard Colors (Code)		Neutral (05) Aquamarine (72)	Beige (40) Light Blue (14)
Air Permeability	Gurley Densometer	Open-Cell – Breathable	
*Compression Set, % max.	ASTM D 3574 Test D @ 70°C (158°F)	10	
Compression Force Deflection, kPa, (psi)	0.2"/min. Strain Rate Force Measured @ 25% Deflection	27 – 55 (4 – 8)	41 – 97 (6 – 14)
Hydrolysis Resistance, Compression Set, % Max	ASTM D 3574 Test J / Test D after autoclaved 5 hrs @ 121°C (250°F)	Good Resistance 5	
Resilience, Shore Instrument Resiliometer, avg (Ball Rebound Tester)	ASTM D 2632-96, Vertical Rebound	24	25
Water Vapor Transfer, Typical g/m^2/24hrs (G/ft^2/24hrs)	Based on ASTM E 96-00	200 (19)	
Water Absorption, Typical % Wt Gain	Based on ASTM D 570	< 20	
Antimicrobial, Fungal Resistance	ASTM G21	Does not promote fungal growth	
Skin Contact Primary Skin Irritation	ISO 10993-10, 2010	Pass	
Tear Strength, kN/m (pli, min.)	ASTM D 624 Die C	0.5 (3)	0.9 (5)
*Tensile Elongation, % min.	ASTM D 3574 Test E	100	
*Tensile Strength, kPa (psi, min.)	ASTM D 3574 Test E	276 (40)	448 (65)
Temperature Resistance, max Recommended Constant Use Recommended Intermittent Use	ASTM D 746-98	90°C (194°F) 121°C (250°F)	
Chemical Resistance		PORON® Urethanes are unaffected by mild organic acids and bases. They show modest swelling with oils and greases and other linear hydrocarbons. Strongly polar solvents will greatly swell PORON Urethanes. In most cases, physical properties recover to a great extent as the solvents evaporate.	

Notes:

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PORON Medical® Urethanes

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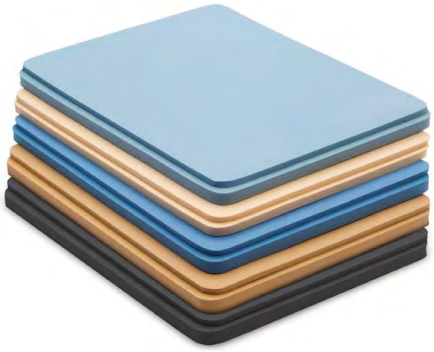
PORON Medical® Urethanes – *Soft* Cushioning & *Soft* Supporting Materials

PORON Medical® cellular urethanes are engineered, medium density, microcellular (cells are roughly 100 microns in diameter) foam materials. They are used in orthopedic and prosthetic applications, including custom orthotics, custom prefabricated orthotics, prosthetic padding and other biomechanical supports.

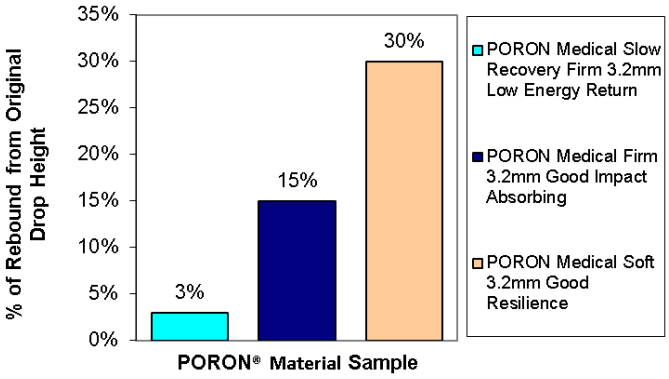
- Long-term Comfort
- Compression Set Resistance
- Open-Cell – Breathable
- Microcellular Structure
- Fungal Resistant



PORON® Soft Supporting materials have a density of 20 pounds per cubic foot, and are available in thicknesses from 1.5mm (1/16") up to 12.7mm (1/2").

PORON® Soft Cushioning materials have a density of 15 pounds per cubic foot, and are available in thicknesses from 3mm (1/8") up to 12.7mm (1/2").

Other combinations are also available upon special order.



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PORON Medical® Urethanes – Soft Cushioning & Soft Supporting Materials
Typical Physical Properties

PROPERTY	TEST METHOD	PRODUCT	
Formulation		PORON MS Soft - Cushioning	PORON MS Soft - Supporting
Standard Thickness Tolerance, %		See Product Availability ± 10	
Standard Width, mm (inch)		1372 (54)	
Standard Colors (Codes)		Neutral (05), Aquamarine (72)	Beige (40), Light Blue (14) Onyx (89)
Density, kg/m^3 (lb/ ft^3)	ASTM D 3574	240 (15)	320 (20)
Specific Gravity		0.240	0.320
Tolerance, %		± 10	
Compression Set, % max.	ASTM D 3574 @ 70°C (158°F)	10	
Compression Force Deflection, kPa (psi)	ASTM D 3574 @ 25% Deflection	27 - 55 (4 - 8)	41 - 97 (6 - 14)
Resilience, Shore Instrument Resiliometer, Typical (Ball Rebound Tester)	ASTM D 2632, Vertical Rebound	24	25
Tear Strength, kN/m (pli), min.	ASTM D 624	0.5 (3)	0.9 (5)
Elongation, % min.	ASTM D 3574	100	
Tensile Strength, kPa (psi), min.	ASTM D 3574	276 (40)	448 (65)
Antimicrobial, Fungal Resistance	ASTM G 21	Does not promote fungal growth	
Surface Contact - Medical Device Primary Skin Irritation	ISO10993-10, 2010	Pass	
Air Permeability	Gurley Porosity Meter	Open-Cell – Breathable	
Water Vapor Transfer, Typical g/m^2/24hrs (g/ft^2/24hrs)	Based on ASTM E 96	200 (19)	
Water Absorption, Typical % Wt Gain	Based on ASTM D 570	< 20	
Chemical Resistance		PORON® Urethanes are unaffected by mild organic acids and bases. They show modest swelling with oils and greases and other linear hydrocarbons. Strongly polar solvents will greatly swell PORON Urethanes. In most cases, physical properties recover to a great extent as the solvents evaporate.	
Temperature Resistance, max. Recommended Constant Use	SAE J-2236	90°C (194°F)	
Hydrolysis Resistance, Tensile Strength, kPa (psi) Compression Set, % max.	ASTM D 3574 Test J / Test D after autoclaved 5 hrs @ 121°C (250°F)	Good Resistance, 5	

* *ISO 10993 certifications are specific to colors and density. Consult ISO 10993-1:2003(E) Guidelines for further detail.*

Notes:

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2. All metric conversions are approximate.
3. Additional technical services are available.

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PORON Medical® Urethanes – *Firm* – Energy Absorbing
Typical Physical Properties

PROPERTY	TEST METHOD	PRODUCT	
Formulation		PORON MF, Energy Absorbing	
Density, kg/m^3, (lb. / ft^3)	ASTM D 3574-95 Test A	15 (240)	17 (272)
Specific Gravity		0.24	0.27
Tolerance, %		± 10	
Standard Thickness		See Product Availability	
Tolerance, %		± 10	
Standard Width, mm (inch)		1327 (54)	
Standard Colors (Code)		Panel Tan (41), Navy (11)	
Air Permeability	Gurley Densometer	Open-Cell – Breathable	
Compression Set, % max.	ASTM D 3574 Test D @ 70°C (158°F)	10	
Compression Force Deflection, psi, (kPa)	0.2"/min. Strain Rate Force Measured @ 25% Deflection	6 – 16 (41-111)	8 – 20 (55 - 138)
Hardness, Durometer	Shore "O"	18	20
Hydrolysis Resistance, Compression Set, % max.	ASTM D 3574 Test J / Test D after autoclaved 5 hrs @ 121°C (250°F)	Good Resistance 5	
Resilience, Shore Instrument Resiliometer, avg. (Ball Rebound Tester)	ASTM D 2632-96, Vertical Rebound	14	15
Water Vapor Transfer, Typical g/m^2/24hrs (g/ft^2/24hrs)	Based on ASTM E 96-00	200 (> 19)	
Water Absorption, Typical % Weight Gain	Based on ASTM D 570	< 20	
Antimicrobial, Fungal Resistance	ASTM G 21	Does not promote fungal growth	
Skin Contact Primary Skin Irritation	ISO10993-10, 2010	Pass	
Tear Strength, pli, min. (kN/m)	ASTM D 624 Die C	6 (1.1)	10 (1.8)
Tensile Elongation, % min.	ASTM D 3574 Test E	100	
Tensile Strength, psi, min. (kPa)	ASTM D 3574 Test E	70 (483)	90 (621)
Temperature Resistance, max Recommended Constant Use Recommended Intermittent Use	ASTM D 746-98	90°C (194°F) 121°C (250°F)	
Chemical Resistance		PORON® Urethanes are unaffected by mild organic acids and bases. They show modest swelling with oils and greases and other linear hydrocarbons. Strongly polar solvents will greatly swell PORON Urethanes. In most cases, physical properties recover to a great extent as the solvents evaporate.	

Notes:

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3. Additional technical services are available.

Product Data Sheet

PORON® Medical DermaBak 56RL

PORON® DermaBak Advanced Dermal Materials are specifically designed for use in wound dressing backings, and can also be used in transdermal patches, IV site dressings and EKG pads. The membrane of the material has a low coefficient of friction to prevent snagging and edge curling during normal contact with fabric or clothing.

Features & Benefits:

- Low coefficient of friction
- Meets ISO 10993 standards
- Provides long-term comfort
- Good conformability and breathability
- Maintains physical properties after sterilization by Gamma or EtO
- Can remain in contact with skin for up to 29 days

PROPERTY	TEST METHOD	VALUE
PHYSICAL	P/N 3120310	DERM-56RL-30016-78-58T-RU-RLPY2-600LF
Material		Foam Membrane on PET Release Liner
Standard Color (Code)		Natural (78)
Design		Maximum Breathability, Drapability and Softness
Standard Thickness, mm (inches)		0.41 (0.016)
Standard Width, mm (inches)		1473 (58)
Density, kg/m^3 (lb./ft^3)	ASTM D 3576	480 (30)
Water Vapor Transfer, grams/m^2	Based on ASTM E 96 24 hr @ 37°C (99°F), 0% RH	1000 - 3000
Tensile Strength, kPa (psi), Typical	ASTM D 3574	1,275 (185)
Elongation, % , Typical	Modified ASTM D 3574	230
Tear Strength, pli, Typical	ASTM D 3574-95	29

Notes:

- All metric conversions are approximate.
- Additional technical information and product specifications are available upon request.
- Typical values should not be used for specification limits.