



ECHOCEL[®]

P O L Y U R E T H A N E

- ECHOCEL PROFESSIONAL
- ECHOCEL PERFORMANCE



Trade name and logo:



Echocel[®] Polyurethane

Uses

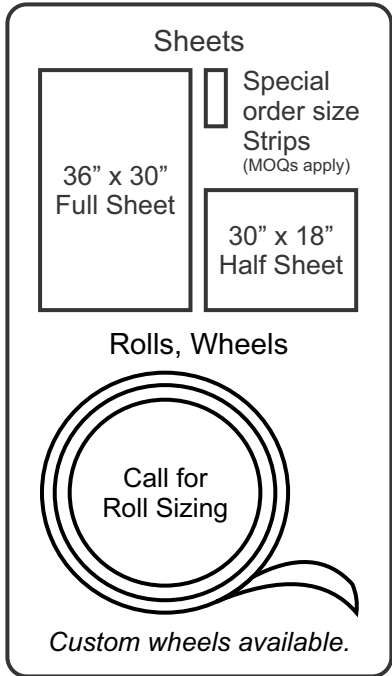
Cushioning layers in foot orthotics, elbow pads, knee pads, orthopedic braces.





Description

The Echocel[®] Family of Urethanes provides cost-effective solutions for your performance urethane requirements. Four distinct categories of foam enable the end-user to optimize material selection based on performance, cost, and competitive advantage.

All products are offered in standard 60" wide rolls with full sheets, half sheets, custom strips and wheels available, all slit to meet Acor's thickness tolerances. Fabrics, vinyls, top covers and foam composites are available utilizing our custom lamination capabilities, enhancing product design and performance.

For footwear, medical devices, orthopedic soft goods, automotive, electronics, aerospace, protective equipment and beyond, Echocel[®] is the technological, cost-effective solution.



	PRO	PERFORMANCE		
	Professional	High Rebound	Impact	Slow Rebound
	 Blue, Tan and Black 1.5, 3.0, 6.0 mm	 Spring Green 3.0 mm	 Vivid Yellow 3.0 mm	 Deep Red 3.0 mm
Target Density	18 pcf	20 pcf	15 pcf	10 pcf
Compression Set 50%	3 max	3 max	3 max	3 max
Tensile Strength (PSI)	110 min	70 min	70 min	50 min
Elongation %	130 min	130 min	170 min	190 min
Resilience %	32	55	8	6

Typical Properties of EchoCel® Professional

Polymer	EchoCel® Professional Urethane			Compare to PORON®
Physical Property	Test Method	Result (US Units)	Result (Metric Units)	Result (Metric Units)
Density	ASTM D3574	15 – 21 pcf	240.2- 336.4 kg/m ³	240-320 kg/m ³
Compression Deflection 25%	ASTM D1056	12 - 18 psi	82.7 – 124.1 kPa	41-97 kPa
Compression Set 50%	ASTM D1056	3% Max	3% Max	Not published
Compression Set 50%	ASTM D3574	5% Max	5% Max	Not published
25% CFD	ASTM D3574	10.5 psi	72.3 kPa	41-97 kPa
Tensile Strength	ASTM D3574	110 psi	758.4 kPa	448 kPa
Elongation	ASTM D3574	130%	130%	100%
Tear Strength	ASTM D624	14.7 lb./in	2.57 kN/m	0.9 kN/m
Resilience	ASTM D2632	32%		25%
Flammability	FMVSS-302	Pass @ .063" or Thicker		Not published
Service Temperature		-40 to 250 F		Not published

Characteristics

- **Breathable**
- **Excellent High Temperature Compression Set**
- **Superb Compression Fatigue Properties**
- **Dimensionally Stable**

Disclaimer: This information is furnished as a guide for selecting materials. Acor Orthopaedic, LLC. makes no warranties, expressed or implied, of merchantability with respect to the goods or that such goods are fit for any particular purpose. It is the customer's responsibility to obtain and test samples when determining suitability of material for a particular application. Poron® comparison data from Rogers Corporation 0315-PDF, Publication #10-017.

ACOR'S FAMILY OF PERFORMANCE URETHANES

Typical Properties of EchoCel® High Rebound

Polymer	Polyurethane		
Physical Property	Test Method	Result (US Units)	Result (Metric Units)
Density	ASTM D3574	17 – 23 pcf	272.3 - 368.4 kg/m ³
Compression Deflection 25%	ASTM D1056	12 – 18 psi	82.7 – 124.1 kPa
Compression Set 50%	ASTM D1056	3% Max	3% Max
Compression Set 50%	ASTM D3574	10% Max	10% Max
25% CFD	ASTM D3574	15 psi	103.4 kPa
Tensile Strength	ASTM D3574	70 psi	482.6 kPa
Elongation	ASTM D3574	130%	130%
Tear Strength	ASTM D624	14lb./in	2.45 kN/m
Resilience	ASTM D2632	55 %	55 %

Characteristics

- Breathable
- Superb Compression Fatigue Properties
- Excellent Stress Relaxation Resistance
- Low Compression Set
- Low Hysteresis Loss
- Dimensionally Stable

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ACOR'S FAMILY OF PERFORMANCE URETHANES

Typical Properties of EchoCel® Impact

Polymer	Polyurethane		
Physical Property	Test Method	Result (US Units)	Result (Metric Units)
Density	ASTM D3574	13 – 18 pcf	208.2- 288.3 kg/m ³
Compression Force Deflection 25%	ASTM D3574	4 – 9 psi	27.5 – 62 kPa
Compression Set 50%	ASTM D1056	3% Max	3% Max
Compression Set 50%	ASTM D3574	5% Max	5% Max
Tensile Strength	ASTM D3574	70 psi	482.6 kPa
Elongation	ASTM D3574	170%	170%
Tear Strength	ASTM D624	12 lb./in	2.1 kN/m
Resilience	ASTM D2632	8%	8%
Service Temperature	-40 to 250 F		

Characteristics

- Impact Resistant
- Breathable
- Low Compression Set
- High Stretch
- Dimensionally Stable
- Low Resiliency
- Exceptional Compression Fatigue

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ACOR'S FAMILY OF PERFORMANCE URETHANES

Typical Properties of EchoCel® Slow Rebound

Polymer	Polyurethane		
Physical Property	Test Method	Result (US Units)	Result (Metric Units)
Density	ASTM D3574	8 – 12 pcf	128.1- 192.2 kg/m ³
Compression Force Deflection 25%	ASTM D3574	1 – 4 psi	6.9 – 27.5 kPa
Compression Set 50%	ASTM D1056	3% Max	3% Max
Compression Set 50%	ASTM D3574	5% Max	5% Max
Tensile Strength	ASTM D3574	50 psi	344.7 kPa
Elongation	ASTM D3574	190%	190%
Tear Strength	ASTM D624	8 lb./in	1.4 kN/m
Resilience	ASTM D2632	6%	6%
Service Temperature	-40 to 250 F		

Characteristics

- Impact Resistant
- Breathable
- Low Compression Set
- High Stretch
- Dimensionally Stable
- Low Resiliency
- Exceptional Compression Fatigue

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