# PORON® XRD™ Extreme Impact Protection – Physical Properties

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>TEST METHOD</th>
<th>PRODUCT</th>
</tr>
</thead>
</table>
| *Density*, lb./ft³  
Specific Gravity  
Tolerance, % | ASTM D 3574-95 Test A | 9 12 15 20 25  
0.14 0.19 0.24 0.32 0.40  
± 10 |
| *Standard Thickness*  
Tolerance, % | See Product Availability | 65 - Vivid Yellow |
| Air Permeability | Internal using Gurley Densometer | Open Cell - Breathable |
| *Compression Set, % max.*  
ASTM D 3574 Test D @ 158°F (70°C) | < 10 |
| *Compression Force Deflection, psi, kPa*  
0.2”/min. Strain Rate Force Measured @ 25% Deflection | 1.1 - 3.4  
(8 - 23)  
1.5 – 5.5  
(10 - 38)  
4 – 9  
(28 – 62)  
5 – 12  
(34 – 83)  
10 – 20  
(69 – 138) |
| Hardness, Durometer | Shore “O” | 10 19 32  
** |
| Hydrolysis Resistance, Compression Set, % | ASTM D 3574 Test J / Test D after autoclaved 5 hrs @ 250°F (121°C) | ** |
| Resilience, Shore Instrument Resiliometer, avg (Ball Rebound Tester) | ASTM D 2632-96, Vertical Rebound | ** |
| Water Vapor Transfer, Typical  
gift/24hrs (g/m²/24hrs) | Sample Thickness, inches (mm) | 0.158 (4.0)  
0.118 (3.0)  
0.118 (3.0)  
** |
| | Based on ASTM E596-00  
Upright / 37°C / 0% RH | 4150  
3400  
3100  
** |
| | Leakage – Inverted | Yes  
Yes  
Yes  
** |
| Water Absorption, % Wt Gain | Based on ASTM D 570 – 2hr water immersion @ room temperature | Typical Value 10 |
| Tear Strength, pli, min. (kN/m) | ASTM D 624 Die C | 4.5 (0.8)  
5 (0.9)  
5 (0.9)  
10 (1.8)  
14 (2.5) |
| *Tensile Elongation, % min.* | ASTM D 3574 Test E | > 145 |
| *Tensile Strength, psi, min. (kPa)* | ASTM D 3574 Test E | 30 (207)  
45 (310)  
70 (483)  
100 (689)  
140 (865) |
| Restricted Substances Compliance | Based on Adidas-Salomon policy for control and monitoring of hazardous substances. | Pass |
| Chemical Resistance | PORON Cushioning Materials 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 Materials. In most cases, physical properties recover to a great extent as the solvents evaporate. | |

Notes:
1. All metric conversions are approximate.
2. Additional technical services are available.
3. Information listed based on typical physical properties.
4. * Standard testing property; Certificate of Compliance available per lot.
5. ** Indicates testing in progress to confirm reported results.

The information contained in this Data Sheet is intended to assist you in designing with Rogers’ PORON XRD Extreme Impact Protection and should not be used to create a specification. The data expressed is not intended to and does not create any warranties, express or implied, including any warranty of merchantability or fitness for a particular purpose or that the results described or shown on the Data Sheet will be achieved by a user for a particular purpose. Each user must develop its own design and should determine the suitability of Rogers’ products for that design.

WARNING: No impact absorbing material can prevent all injuries that may occur when the body is subjected to impact. Rogers makes no representation or warranty that PORON XRD Extreme Impact Protection will prevent such injuries. The user of protective gear containing Rogers’ materials should be aware of the limitations of the gear and should exercise reasonable care and caution in the undertaking of activities that may result in impact to the body.