



Stabilizing an unstable world!

# PRS NEOLOY® GEOCELLS – CATEGORY **A**

## (Cellular Confinement System)

### SPECIFICATIONS

SYSTEM PHYSICAL PROPERTIES			
PROPERTIES	DESCRIPTION		
Material	Neoloy® polymeric nano-composite alloy Composite alloy of polyester/polyamide nano-fibers dispersed in polyethylene matrix		
Coefficient of Soil-Cell Friction Efficiency (±5%)	0.95	ASTM D5321	
Cell Wall Surface Texture	Textured and perforated for internal friction efficiency		
Cell Wall Height (±5%)	50, 75, 100, 120, 150, 200 mm (2, 3, 4, 4.7, 6, 8 in)		
Distance between Weld Seams (±2.5%)	330, 356, 445, 660, 712 mm (13, 14, 17.5, 26, 28 in)		
Traceability	Each section marked for full detailed traceability		
DIMENSIONAL STABILITY (±5%)			
DESCRIPTION	VALUE	UNITS	TEST METHOD
Cell Dimensional Stability by Coefficient of Thermal Expansion (CTE)	≤ 135	ppm/1°C	ISO 11359-2 (TMA) ASTM E831
SEAM WELD PROPERTIES (±7%)			
Seam Weld Strength – Weld Splitting	> 13	kN/m	ISO-13426-1 Part 1 Method C (1)
<i>(1) Adjusted to simulate optimum open cell size</i>			
TENSILE PROPERTIES (±7%)			
Strength at Yield – non-perforated (Wide-width)	> 20	kN/m	ISO 10319 (2)
Strength at Yield – perforated (Wide-width)	> 13	kN/m	ISO 10319 (2)
<i>(2) Standard ISO 10319 test modified to achieve more accurate results by using more representative test sample size; strip is cut adjacent to 2 seams and clamped so distance between clamps is 1/2 of cell height; test direction is perpendicular to seams. Test sample measured at strain rate 100 mm (4 in) /min at 23°C. Test of perforated tensile strength is conducted on the sample area with the densest perforations.</i>			
PHOTOCHEMICAL & OXIDATION DURABILITY			
Resistance to UV Degradation (UV and Oxidation Resistance) (3) <i>(3) Effective design life at least 75 years</i>	≥ 1600	Minutes	ASTM D5885 (HPOIT @ 150°C) Testing per GRI GM13
LONG-TERM PLASTIC DEFORMATION (±10%)			
Cumulative Permanent Deformation (Creep Resistance) Stepped Isothermal Method (SIM): Step 1 at 44°C Step 2 at 51°C Step 3 at 58°C Step 4 at 65°C (up to 75 years)	≤ 3.0	% Cumulative Deformation	ASTM D-6992 (SIM) (4)
<i>(4) Sample size – wide-width strip with perforation pattern at fixed load of 4.4 kN/m</i>			
DYNAMIC (ELASTIC STIFFNESS) MODULUS			
Dynamic Mechanical Analysis (DMA) at sample elevated temperatures: +30° C +45° C +60° C	> 725 > 625 > 425	MPa	ISO 6721-1 ASTM E2254 (DMA)
Brittle Temperature:	≤ Minus 70	°C	



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### DATA SHEET

PRODUCT PART NO.						
Example: <b>PRS- Neoloy-445- 120-76-P-S-A</b>						
<b>PRS-</b>	<b>Neoloy-</b>	<b>330-</b> (13)	<b>50-</b> (2)			
		<b>356-</b> (14)	<b>75-</b> (3)	(1)	(2)	(3)
	<b>445-</b> (17.5)	<b>100-</b> (4)	<b>up to</b>	<b>P-</b>		
	<b>660-</b> (26)	<b>120-</b> (4.7)	<b>120-</b>	<b>X-</b>	<b>S-</b>	<b>A</b>
	<b>712-</b> (28)	<b>150-</b> (6)				
		<b>200-</b> (8)				
	Weld Spacing Distance Mm (in)	Cell Height mm (in)	No. of Strips / Section	P-Perforated X-Non-perforated	Color S-Sand	Category

- (1) **No. of Strips** – customized by project from 4 to 120 strips; different heights available upon special order
- (2) **Perforations** – from ~6-22% of cell wall area of variable dimensions and shapes
- (3) **Colors** – additional colors available upon request

CELL & SECTION NOMINAL DIMENSIONS						
PROPERTIES	NOMINAL	DESCRIPTION	DESCRIPTION	DESCRIPTION	DESCRIPTION	DESCRIPTION
Distance between Weld Seams	±2.5%	330 mm (13 in)	356 mm (14 in)	445 mm (17.5 in)	660 mm (26 in)	712 mm (28 in)
Cell Wall Heights	±5%	50, 75, 100, 120, 150, 200 mm (2, 3, 4, 4.7, 6, 8 in)				
Cell Dimension (Optimal opening)	±3%	245 x 210 mm (9.65 x 8.27 in)	260 x 224 mm (10.24 x 8.82 in)	340 x 290 mm (13.39 x 11.42 in)	490 x 421 mm (19.29 x 16.53 in)	520 x 448 mm (20.40 x 17.64 in)
No. of Cells/m <sup>2</sup>	±3%	40 (32)	35 (27)	22 (18)	10 (8)	8 (6)
Standard Section Size <sup>(4)</sup> (Expanded)	±3%	2.5 x 8.0 m (8.20 x 26.25 ft)	2.7 x 7.4 m (8.86 x 24.28 ft)	2.8 x 10.7 m (9.19 x 35.10 ft)	2.5 x 16.0 m (8.20 x 52.49 ft)	2.7 x 14.8 m (8.86 x 48.56 ft)
Standard Section Area (Expanded)	±3%	20 m <sup>2</sup> (215.28 ft <sup>2</sup> )	20 m <sup>2</sup> ( 215.28 ft <sup>2</sup> )	30 m <sup>2</sup> (322.92 ft <sup>2</sup> )	40 m <sup>2</sup> (430.56 ft <sup>2</sup> )	40 m <sup>2</sup> ( 430.56 ft <sup>2</sup> )

(4) **Section Sizes** – customized size sections available upon request

SHIPPING DATA			
<i>The following data will be made available per order:</i>			
<b>Neoloy Series + Configuration:</b> <ul style="list-style-type: none"> <li>• Height (mm/in)</li> <li>• No. of strips per section</li> </ul>	<b>Section – Weight</b> <ul style="list-style-type: none"> <li>• Weight per section (kg/lb)</li> </ul>	<b>Pallet :</b> <ul style="list-style-type: none"> <li>• No. of Sections</li> <li>• Area per pallet (m<sup>2</sup>/ft<sup>2</sup>)</li> <li>• Gross Weight (kg/lb)</li> </ul>	<b>Quantity (m<sup>2</sup>/ft<sup>2</sup>):</b> <ul style="list-style-type: none"> <li>• Per 20' Container</li> <li>• Per 40' Container</li> </ul>

CERTIFICATIONS and ACCREDITATIONS		
DESCRIPTION	ISSUED BY	CERTIFICATE NUMBER
Quality Management System Certification – ISO-9001:2008 for R&D, Manufacturing and Marketing	Ronet (ANAB accredited)	Q3600
Environmental Management System Certification – ISO-14001:2004	Ronet (ANAB accredited)	E3600
Occupational Health & Safety Management Certification – ISO-18000	Ronet (ANAB accredited)	O3600
EC Certificate for Factory Product Control	ITB, Building Research Institute, EU	1488-CPR-0099/Z