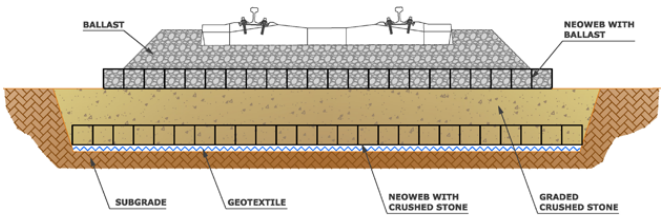
NEOWEB® Cellular Confinement System (Geocells) with NEOLOYã Design-life Polymeric Alloy

LOAD SUPPORT – RAILWAY TRACK STRUCTURE

PRS - 330 - Neoweb - Rail - 75 / 100 / 125 / 150 - 76(1) - P(2) - GR

- 330: Weld Spacing Distance (mm)
- Neoweb: Neoloyã-based
- Rail: Applications: Railway Track Structure
- 75 / 100 / 125 / 150: Cell Height (mm)
- 76(1): No. of Strips / Section
- P(2): Perforated
- GR: Color-Gray



(1) Customization – different no. of strips (and heights) available upon special order; customized widths for large scale projects may be ordered according to the railbed width.
(2) Standard Perforations – holes up to 6-10% of cell wall area of variable dimensions and shapes; Surface Texture – slightly coarse indentations over the entire area of the strip.

CELL & SECTION NOMINAL DIMENSIONS

CELL PROPERTIES	DESCRIPTION	SECTION PROPERTIES	DESCRIPTION
Cell Distance between Weld Seams	330 mm (±2.5%)	No. of Cells/m^2	40
Cell Wall Heights	75, 100, 125, 150 mm	Section Size (Expanded)	2.50 x 8.00 m (±3%)
Cell Dimension (Expanded)	250 x 210 mm (±3%)	Section Area (Expanded)	20 m^2

SHIPPING DATA(3) (for standard size section only with 76 strips per section)

Product	Section Weight (~kg)	Pallet Gross Weight (kg) (pallet ~13 kg)	Sections per Pallet	Area per Pallet (m^2)	Quantity - m^2 per 20' Container (5) (max. 20 pallets)	Quantity - m^2 per 40' Container (5) (max. 44 pallets)
PRS-330-075-76P	18.0	480/516	26/28	520/560	11,200	24,560
PRS-330-100-76P	23.6	484	20	400	8,000	17,600
PRS-330-125-76P	29.7	488	16	320	6,400	14,080
PRS-330-150-76P	35.9	444/516	12/14	240/280	5,600	12,440

(3) All data are given as indication only and not binding on PRS.
Pallet data varies due to container stacking limitations. 3) Typical pallet dimensions are ~106 x 108 cm (l x w) x 108-115 cm (ht)
(4) Additional sections are packed in bulk (not palletized) inside containers in order to maximize shipping capacity
* Note - Does not include Bostitch P50-10B Stapling Plier and Bostitch SB103020-1/2- 2M Galvanized Staples, 1/2 "(13 mm) 2100/box

CERTIFICATIONS and ACCREDITATIONS

DESCRIPTION	ISSUED BY	CERTIFICATE NUMBER
Quality Management System Certification - ISO9001:2008	IQC Group (RvA)	12763
CE Marking per EU Directive 89/106/EEC	ITB, Building Research Institute, EU	1488-CPD-0099
Accreditation of New Materials and Techniques	Indian Roads Congress	IRC-24(12)2009(ACC-30)
GOST R – Mark of Conformity - Russian Standards Institute	Federal Agency for Technical Regulation, Russia	POCC IL AE83.HO7573
Certificate of 3D Cellular Confinement System Compliance	Gazpromsert Certification Dept., Gazprom, Russia	ГО00.IL.1101.H00019

Specifications - NEOWEB® with NEOLOYã
LOAD SUPPORT – RAILWAY TRACK STRUCTURE

SYSTEM PHYSICAL PROPERTIES

PROPERTIES	DESCRIPTION
Material	Neoloyã polymeric nano-composite alloy (based on dimensionally stable polymer nano-fibers (polyester or nylon) in a polyolefin matrix)
Friction Efficiency Angle	Angle of internal friction efficiency factor >0.80
Traceability	Each section marked for full detailed traceability

MECHANICAL PROPERTIES - STIFFNESS AND STRENGTH

	DESCRIPTION	UNITS	TEST METHOD
SHORT TERM • Strength at Yield	> 21.5	kN/m	PRS method (1)
LONG TERM RESISTANCE TO PLASTIC (Permanent) DEFORMATIONS (Creep Included) • Allowed Strength for Design (50 years) • Creep (Deformation) Reductoin Factor (50 years)	> 8.0 < 2.7	kN/m	ASTM D-6992 (SIM) (2) ASTM D-6992 (SIM) (3)

(1) Test sample cut from cell seam to seam measured at strain rate 20%/min, 23°C;
(2) Allowed strength to reach 10% creep strain max for 50 years at 23°C;
(3) Creep (deformation) reduction factor for 50 years at 23°C

DIMENSIONAL STABILITY

PROPERTIES	DESCRIPTION	UNITS	TEST METHOD
Coefficient of Thermal Expansion (CTE)	< 80	ppm/°C	ISO 11359-2 (TMA) ASTM E831 (4)

(4) CTE measurement range from -30°C to +30°C

PERFORMANCE AT ELEVATED TEMPERATURES

PROPERTIES	DESCRIPTION	UNITS	TEST METHOD
Flexural Storage Modulus at sample temp: • 30°C • 45°C • 60°C • 75°C	> 750 > 650 > 550 > 300	MPa	ISO 6721-1 ASTM E2254 (DMA)

OXIDATION RESISTANCE

PROPERTIES	DESCRIPTION	UNITS	TEST METHOD
Oxidative induction Time (OIT) (virgin material prior to any aging)	≥ 125	minutes	ISO 11357-6, ASTM D3895 (OIT @ 200°C)

PHOTOCHEMICAL RESISTANCE

PROPERTIES	DESCRIPTION	UNITS	TEST METHOD
Durability to UV Degradation (UV Resistance)	≥ 1250	minutes	ASTM D5885 (HPOIT @ 200°C)