NGS
NASRA GEOSYN

50
YEAR DESIGN LIFE

PRODUCT TECHNICAL DATA SHEET

AquaCell EXO 150

AQUACELL EXO · 150 MM

>95%	850.6 kN/m²	1000 × 500 × 150 mm	Infil·Atten·Irrig
VOID RATIO	VERTICAL LOAD	CELL SIZE	FUNCTIONS

NGS AquaCell EXO is a premium, high-strength interlocking geo-cellular system for shallow sub-surface water management — infiltration, attenuation **and passive sub-irrigation**. In a lined configuration with a capillary wick layer, stored stormwater rises by capillary action to sub-irrigate planting with no pumps or energy. Its proprietary jointing forms a continuous structural raft with exceptional compressive, tensile and bending resistance for high-load and landscaped applications.

TECHNICAL DATA

SHORT-TERM COMPRESSIVE STRENGTH		
Vertical	kN/m²	**850.6**
Lateral (@ 23 °C)	kN/m²	**216.6**
SHORT-TERM DEFLECTION		
Vertical	kN/m² per mm	**97.8**
Lateral	kN/m² per mm	**7.2**
TENSILE STRENGTH		
Single joint	kN/m²	**42.5**
Single joint (1% secant)	kN/m²	**18.9**
BENDING RESISTANCE		
Of unit	kN/m²	**0.72**
Of single joint	kN/m²	**0.17**
PHYSICAL & MATERIAL		
Dimensions (L × W × H)	mm	**1000 × 500 × 150**
Volumetric void ratio		**>95%**
Effective perforated area		**>54%**
Unit weight		**6.5–6.8 kg**
Material		**Polypropylene (PP)**
Intrinsic permeability (k)		**≥ 1.0 × 10⁻⁵ m/s**
Service temperature		**−30 °C to +120 °C**

KEY BENEFITS

- **Three functions in one** — infiltration, attenuation **and passive sub-irrigation**
- Passive sub-irrigation: stored stormwater feeds planting by capillary action — no pumps, no energy
- Premium high-strength cells for high-load & structural applications
- 95%+ void ratio · precise shallow depths (85–250 mm)
- BS 7533-13 tested · 50-year design life · 100% recyclable

APPLICATIONS

Landscaped streetscapes, tree pits and medians, parks and podium gardens, green infrastructure — plus car parks, podiums, basements and rainwater harvesting.

STANDARDS & TESTING

Structural load-bearing capacity tested to BS 7533-13:2009; design-life expectancy based on creep-test data per CIRIA guidelines.

BS 7533-13 · ISO 9001 · ISO 14001 · ISO 45001 · Intertek / SGS tested

PERFORMANCE & INSTALLATION

50 years (lightly loaded areas); typically 25 years under prolonged HGV loading, depending on pavement design. All calculations are based on site-specific load cases, pavement construction, soil cover and ground conditions; suitability must be approved for each project.

Frost-, hydrophobe-, acid- and hydrocarbon-resistant; inert; impervious to bacterial and fungal growth. 100% recyclable.