LAYFIELD GEOSYNTHETICS

TECHNICAL SPECIFICATIONS

# RCR® (REINFORCED CONCRETE ROLL)

RCR® offers an innovative solution for quick, cost-effective, and versatile erosion control and structural reinforcement. This advanced concrete composite, encapsulated between two layers of non-woven geotextile, is designed to deliver superior protection in a fraction of the installation time required by conventional concrete solutions.

RCR® is ideal for applications like erosion control, irrigation canals, and containment ponds, or for temporary roads and drive-over swales. Its flexible, roll-out design allows for rapid installation without the need for concrete trucks, mixing, or rebar, making it perfect for remote sites or projects with time constraints.

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**RCR® (Reinforced Concrete Roll)**

| Properties | Imperial | Metric |
|---|---|---|
| Roll Width | ~16 ft 4 in | 5 m |
| Roll Length | ~65 ft 7 in | 20 m |
| Total Coverage | ~1,076 $ft^2$ | 100 $m^2$ |
| Roll Weight (**RCR® 7**) | ~1,750 lbs | ~790 kg |
| Roll Weight (**RCR® 12**) | ~2,900 lbs | ~1,300 kg |

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**RCR® – Before Hydration**

| Properties Before Hydration | Test Method | RCR® 7 | RCR® 12 |
|---|---|---|---|
| Thickness | ASTM D6525 | >0.3 in<br>>8.5 mm | >0.45 in<br>>12 mm |
| Mass / Unit Area | ASTM D5993 | >1.5 $lbs/ft^2$<br>>7.5 $kg/m^2$ | >2.6 $lbs/ft^2$<br>>12.5 $kg/m^2$ |
| Tensile Strength (Machine Direction) | ASTM D6768 | >90 lbs/in<br>>15 kN/m | >85 lbs/in<br>>15 kN/m |
| Tensile Strength (Transverse Direction) | | >145 lbs/in<br>>25 kN/m | >200 lbs/in<br>>35 kN/m |
| Density | Calculation | >50 $lbs/ft^3$<br>>850 $kg/m^3$ | >60 $lbs/ft^3$<br>>1,000 $kg/m^3$ |





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## RCR® – After Hydration

| Properties After Hydration | Test Method | RCR® 7 | RCR® 12 |
|---|---|---|---|
| Compressive Strength | ASTM D8329<br>*cured 28 days* | >3,100 psi<br>>20 MPa | >3,950 psi<br>>27.5 MPa |
| Thickness | ASTM D6525<br>*cured 24 hours* | >0.35 in<br>>9.5 mm | >0,55 in<br>>14.5 mm |
| Tensile Strength (MD Initial Flexural) | ASTM D8480<br>*cured 28 days* | >30 lbs/in<br>>5.5 kN/m | >55 lbs/in<br>>10 kN/m |
| Tensile Strength (MD Final Flexural) | | >150 lbs/in<br>>27 kN/m | >190 lbs/in<br>>33 kN/m |
| Tensile Strength (TD Initial Flexural) | | >30 lbs/in<br>>5 kN/m | >55 lbs/in<br>>9 kN/m |
| Tensile Strength (TD Final Flexural) | | >200 lbs/in<br>>35 kN/m | >255 lbs/in<br>>44 kN/m |
| Flexural Strength (MD Breaking Load) | ASTM D8058<br>*cured 24 hours* | >3 lbs/in<br>>600 N/m | >3.5 lbs/in<br>>680 N/m |
| Flexural Strength (MD Initial Flexural) | | >150 psi<br>>1.0 MPa | >95 psi<br>>0.6 MPa |
| Flexural Strength (MD Final Flexural) | | >215 psi<br>>1.4 MPa | >265 psi<br>>1.8 MPa |
| Flexural Strength (TD Breaking Load) | | >2 lbs/in<br>>360 N/m | >3.5 lbs/in<br>>645 N/m |
| Flexural Strength (TD Initial Flexural) | | >85 psi<br>>0.6 MPa | >100 psi<br>>0.6 MPa |
| Flexural Strength (TD Final Flexural) | | >250 psi<br>>1.7 MPa | >250 psi<br>>1.7 MPa |
| Freeze / Thaw Resistance (MD Breaking Load) | ASTM C1185 | >3 lbs/in<br>>550 N/m | >8.5 lbs/in<br>>1,450 N/m |
| Freeze / Thaw Resistance (MD Initial Flexural) | | >200 psi<br>>1.4 MPa | >250 psi<br>>1.7 MPa |
| Freeze / Thaw Resistance (MD Final Flexural) | | >450 psi<br>>3.4 MPa | >750 psi<br>>5.2 MPa |
| Freeze / Thaw Resistance (TD Breaking Load) | | >2.5 lbs/in<br>>450 N/m | >7.3 lbs/in<br>>1,280 N/m |
| Freeze / Thaw Resistance (TD Initial Flexural) | | >150 psi<br>>1.0 MPa | >220 psi<br>>1.5 MPa |
| Freeze / Thaw Resistance (TD Final Flexural) | | >300 psi<br>>2.3 MPa | >600 psi<br>>4.0 MPa |
| Permeability (Index Flux) | ASTM D5887 | 8.2 e-07 $m^3/m^2/sec$ | 5.3 e-08 $m^3/m^2/sec$ |
| Permeability (Hydraulic Conductivity) | | 2.5 e-07 cm/sec | 3.5 e-08 cm/sec |
| Puncture Resistance | ASTM D5494<br>*cured 28 days* | >1,000 lbs<br>>4.5 kN | >2,700 lbs<br>>12 kN |
| Manning's *n* | ASTM D6460 | 0.018 | |

Notes:
1. RCR® Certifications – MSHS IC#-375/01 (Mine Safety and Health Administration U.S. Department of Labor).
2. Information is provided based on current test data and may be subject to change as new information becomes available. Project specific testing may be required to determine the suitability of RCR® material used in a particular application.