


CCHYDRO™

Concrete on a Roll

PUNCTURE RESISTANCE

- 
RAIL
- 
ROAD
- 
MINING
- 
PETROCHEM
- 
AGRO
- 
UTILITIES
- 
PUBLIC WORKS
- 
DEFENCE
- 
DESIGN
- 
SHELTER

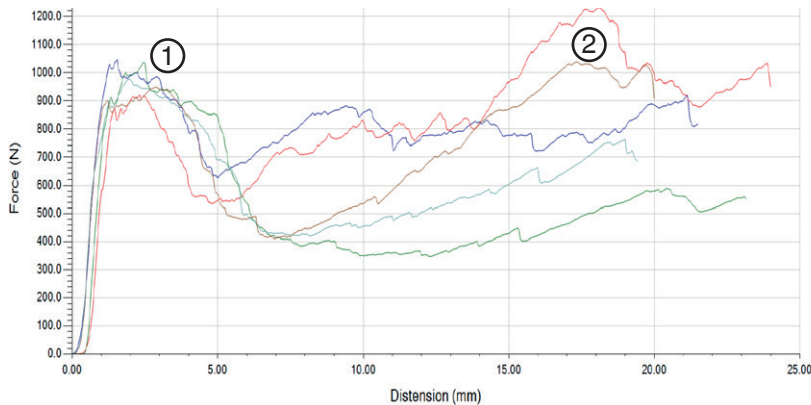


Puncture Resistance

CC Hydro™ GCCB (Geosynthetic Cementitious Composite Barrier) products have been tested for their puncture resistance according to ASTM F1306 Standard Method for Penetration of Flexible Barriers.

Testing was conducted on samples of 5 and 8mm CC Hydro™ (CCH5™, CCH8™). The material was fitted to the testing rig with the fibrous side facing upwards towards the plunger. A 'sharp' steel plunger (ASTM F1306) was pushed at a constant rate on the centre of the specimen which was clamped between two steel rings. Maximum push-through force and displacement at maximum force were measured.

Summary of Results



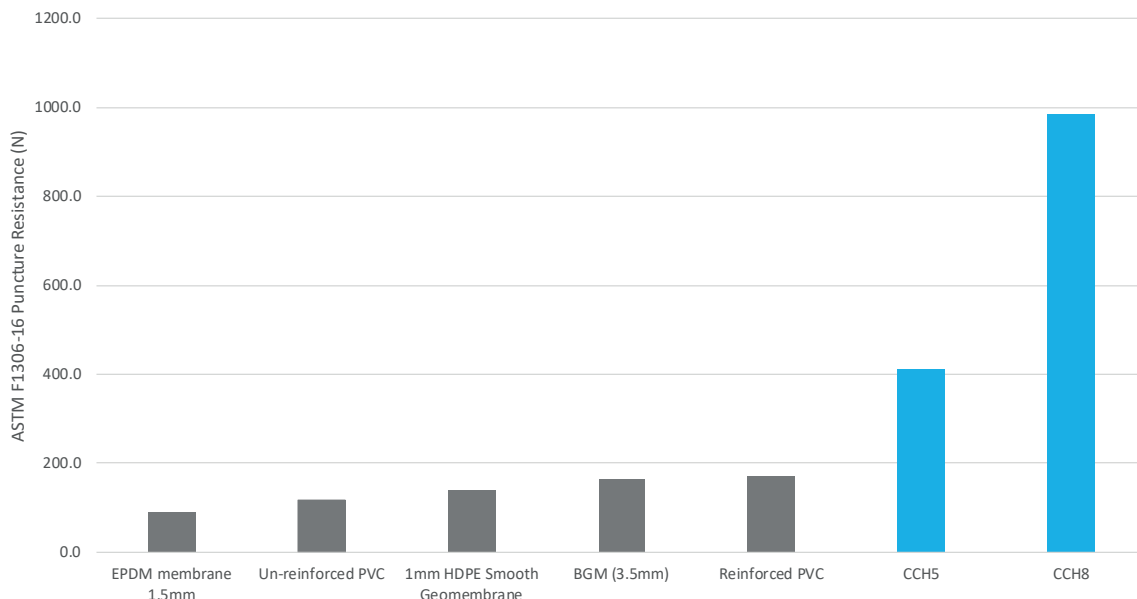
Force vs Deflection for CCH5™. This demonstrates the distinctive bimodal behaviour of the material, where the overlying concrete surface protects the integrated geosynthetic membrane.

1. Protective concrete layer
2. Integrated geosynthetic barrier



| | CCH5™ (Mean) | CCH8™ (Mean) |
|------------------------------------|--------------|--------------|
| 1st Peak Force (N) | 413 | 987 |
| Penetration (1st Peak) (mm) | 3.44 | 2.23 |

Puncture Resistance (ASTM F1306-16)



Comparison of published puncture resistance values for a variety of common geosynthetic membranes