



Center for Green Roof Research

Test Procedure

Green Roof Membranes/Root Barriers tested for root resistance to *Pyracantha* and Quack grass in a 2 year greenhouse study based on procedures described in “Investigating resistance to root penetration at green-roof sites” (FLL, 2002) modified as stated in this report.

Manufacturer:

C.I.M. Industries Inc.
23 Elm St.
Peterborough, NH 03458

Materials Tested:

1. CIM 800 horizontal field membrane, CIM 1000 Trowel Grade with CIM Scrim reinforcing fabric for vertical flashings and details.
2. CIM 1000 horizontal field membrane, CIM 1000 Trowel Grade with CIM Scrim reinforcing fabric for vertical flashings and details.

Results summary:

1. The C.I.M. waterproofing systems tested in this evaluation appear to be resistant to root damage based on this 2 year test.
2. Plant growth was equivalent in test and control containers and was adequate for proper test evaluation. Dense root mats were evident at the bottoms of all test and control containers.
3. No roots penetrated the monolithic *CIM 800* or *CIM 1000* coatings on the bottoms of any of the test containers.
4. No roots penetrated the reinforced *CIM 1000 Trowel Grade* coating. Reinforcement should be *CIM Scrim Fabric*.
5. No roots penetrated any seams in any test container, including corner seams applied within the re-coat window, and repair patch seams applied outside the re-coat window. Seams created outside the recoat window were created following CIM instructions for coating beyond the recoat window.
6. Fine roots adhered to the surface and entered air pockets and surface imperfections at the surface of the *CIM 800* and *CIM 1000* but did not go through the waterproofing or appear to damage the material. Roots were able to grow under seam edges and drips where materials were not fully adhered.

Precautions when using liquid applied systems:

Root adhesion to surface imperfections and air bubbles suggest that care must be taken to maintain adequate thickness of these materials in green roof applications to ensure that none of these imperfections extends through the entire waterproofing layer.

Follow manufacture’s instructions for surface preparation in order to maximize adhesion to the substrate to be coated. *CIM 1000 Trowel Grade* must be reinforced with *CIM Scrim Fabric* when used for detailing and vertical flashings in green roof applications where “walls” may be exposed to plant roots or rhizomes.

See complete report for detailed information.

The Penn State Center for Green Roof Research in no way warrants (expressed or implied) the products tested, only that the test was conducted as reported and the results of the test were as stated in this final report. The Center for Green Roof