

Test Debris Description and Quantification

Approximately ten pounds of typical roof debris was collected and hand mixed in a large wheelbarrow. A sample was removed from the mix and sieved to remove the fine debris. The material which did not pass a 1/2" sieve was sorted by type of material. The fractions were weighed and the weights recorded. The components of the debris were recombined and dried in an oven at 180°F to a constant weight to determine the moisture content.

Material	Description of size		Weight In grams	Percentage of mix
Leaves	Largest dimension between	1" and 9" inches	138.4 g	10%
Bark	Ranging in width between Ranging in length between	1/4 and 1 inch 1/4 and 4 inches	230.3 g	17%
Twigs	Ranging in diameter between Ranging in length between	1/16 and 1/2 inch 1-1/2 and 14 inches	232.7 g	17%
Pine Needles	Ranging in length between	1-1/2 and 10 inches	219.2 g	16%
Mix of leaves, bark, twigs, and pine needles.		Passing 1/2" sieve	540.2 g	40%
Debris mix moisture content		12%	Total weight 1360.8 g 3 lbs.	100%

Dry Debris Trapping Test (See video)

The objective of this test was to determine if the gutter cover product would retain any dry debris passing over it in a normal wind blow off environment.

Dry Debris was gently blown from roof as follows:

An electric leaf blower supplying 25 mph wind at 12 feet from nozzle was used as the simulated wind source. The blow off wind speed was determined by operating the leaf blower and measuring the resultant air velocity at a distance of 12 feet from the nozzle. A Dwyer No. 16D (Catalog No. 1223/16) U-tube equipped with a Dwyer pitot tube, Catalog No. 160-18, was used to measure air velocity pressure in inches of water and then converted to MPH. The pitot tube measurement indicated 0.3 inches of water column, which equates to 25 MPH.

Test conditions: Air temperature 71 °F Wind: still.

Three pounds of the debris mix, at 12% moisture, was uniformly applied to the test deck. Debris blow off was accomplished with the leaf blower held 12 feet from the ridge of the test deck and aimed down slope towards the gutter cover being tested. Sweep deck until debris is removed. After completing the blow off, the Gutter Topper unit was examined for debris.

Results: No debris was found in the Gutter Topper cover or in the gutter.

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PRI Accreditations: ICBO TL-189; Metro-Dade 01-0727.03

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Load bearing capability (See video and photographs)

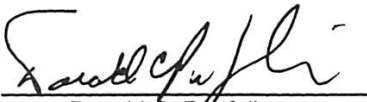
The load bearing capabilities of the installed system was determined by applying weight to a 3 inch by 4 inch block of wood placed with the 4 inch dimension at and parallel to the outside edge of the gutter cover and centered between the gutter brackets. Loading was applied to the block until either the gutter cover openings closed due to deflection or the supporting gutter deflected, deflection and return values were measured and recorded.

Results:

Gutter Topper	Load lbs	Load Pounds per lineal foot	Load Pounds per square foot psf	Deflection inches	Recovery from deflection
INITIAL LOADING	50	150	600	0.375	100%
MAXIMUM LOAD	100	300	1200	0.525	95%

(Could not completely close water entry opening, the supporting gutter deflected leaving a 1/8" opening.)

Signed: 
 Gary H Griswold
 Testing Services Manager

Approved: 
 Donald C. Portfolio
 Vice President

Date: 3/15/02

Date: 3/20/02

PHOTOGRAPHS

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Dry Debris Trapping Test



After Dry Debris Trapping Test

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