

**POWDER ROOFING
TECHNICAL SERVICE REPORT
SYNTHETIC POLYMER**

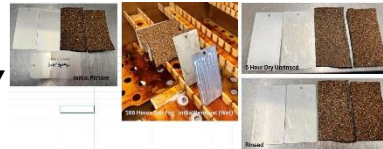
GRANULE ADHESION

6" x 12" panels run on 12" path
1,000 scrub cycles

Granules in path of brush = (Mass of Panel) x (% granules on shingle) x (% of panel scrubbed)
Granule content on shingles: 30% granules on shingle
Path is 1" x 12": 16.7% of panel scrubbed
Shingle area: 6" x 12"

| Adhesion/Scrubs | Initial Weight | Final Weight | Difference | Granules in Path | % of Loss |
|------------------|----------------|--------------|------------|------------------|-----------|
| Uncoated Shingle | 129.494 | 129.149 | -0.345 | 6.475 | 5.3% |
| Sealed Shingle | 139.295 | 139.283 | -0.012 | 6.965 | 0.2% |

SALT SPRAY



| Salt Spray | Initial Gloss | 168 Hour Gloss Unrinsed | 169 Hour Gloss Rinsed |
|--------------------------|---------------|-------------------------|-----------------------|
| Uncoated 3" x 6" Q Panel | 165 | 15 | 71.4 |
| Coated 3" x 6" Q Panel | 101 | 95.9 | 103 |
| Uncoated Shingle | 0.2 | 0.2 | 0.2 |
| Sealed Shingle | 0.5 | 0.5 | 0.4 |

QUV – APPEARANCE and GLOSS RETENTION



After 500 hours exposure, the sealed shingles show significantly less change than the uncoated shingle. Initial gloss readings on the shingles were very low due to the rough surface.

| QUV | Initial 60° Gloss | Initial L*a*b | 500 Hour L*a*b | 500 Hour delta |
|----------------------|-------------------|-------------------|------------------|----------------|
| Coated 3" x 6" Panel | 127 | 83.44/-0.63/1.15 | 82.17/-0.67/0.83 | 1.32 |
| Sealed Shingle #1 | 0.5 | 33.71/7.70//13.72 | 36.05/8.84/15.68 | 3.26 |
| Sealed Shingle #2 | 0.4 | 32.88/7.92/14.24 | 35.01/8.14/14.29 | 2.14 |
| Uncoated Shingle | 0.1 | 30.21/7.84/13.89 | 37.42/9.52/15.51 | 7.59 |

PERMEABILITY

24 U.S. Perms at 1.5 mils Dry Film Thickness

FREEZE THAW STABILITY

Product was freeze thaw stable at 32° Fahrenheit

What Each Test Means for Your Roof

Granule Adhesion Test

This test simulates wear from rain, wind, and debris. Untreated shingles lost about 5.3% of their granules, while treated shingles only lost 0.2%.

This means your roof holds onto its protective layer significantly better, helping prevent early breakdown and extending its life.

Salt Spray Test

This test simulates harsh weather exposure like moisture and contaminants. The untreated surface dropped from a gloss level of 165 down to 15, while the treated surface stayed around 95–103.

This shows the treatment holds up much better against long-term weathering and environmental damage.

UV (Sun Exposure) Test

This test simulates long-term sun exposure. Untreated shingles showed a change of 7.59, while treated shingles were only around 2–3.

This means significantly less damage from UV rays, helping your roof stay flexible instead of drying out and cracking.

Permeability Test

The product measured 24 perms at 1.5 mil thickness, meaning it remains breathable.

This allows moisture to escape instead of getting trapped, which helps prevent rot and underlying damage.

Freeze-Thaw Stability Test

The product remained stable through freeze-thaw conditions at 32°F.

This means it can handle winter conditions without cracking or failing over time.

Bottom line:

These tests show the treatment dramatically improves granule retention, resists weather and sun damage, and keeps your roof performing the way it should—helping it last longer and avoid premature replacement.