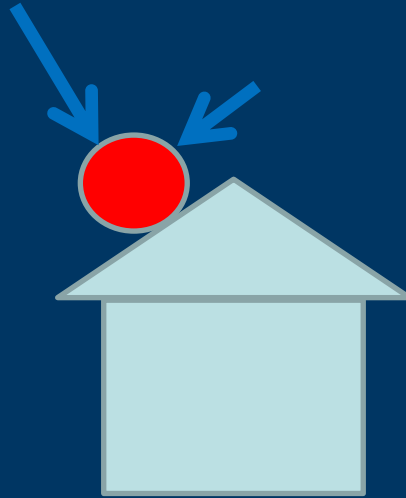


Lesson 2 - Resistance

Part 3 Load



Part 4 Effect

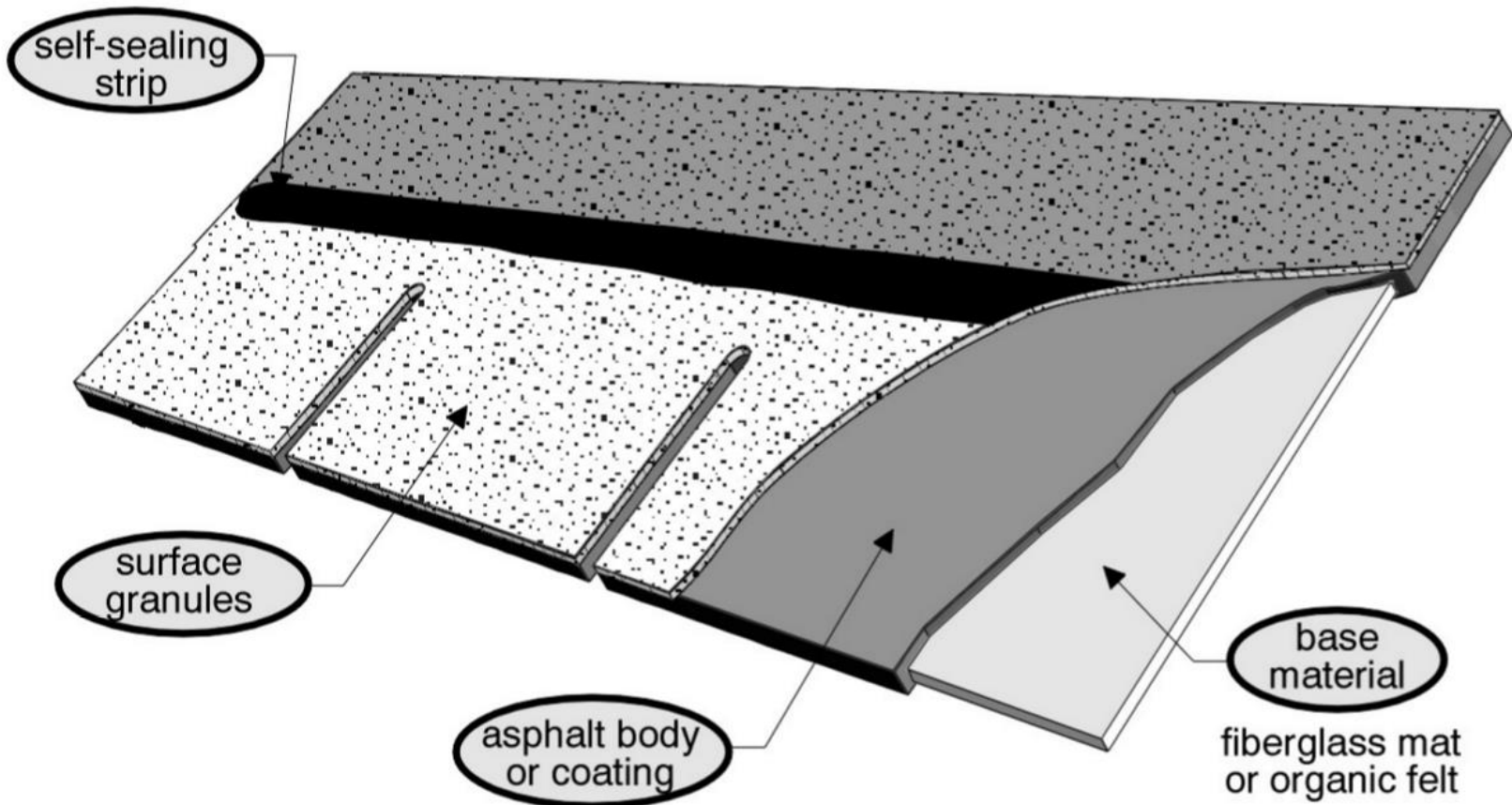
Part 2 Resistance

- What is the makeup of the roof
- Threshold Hail
- Condition of Roof
- Type of Roof
- Age of Roof
- Structure Behind
- Are there 2 layers?

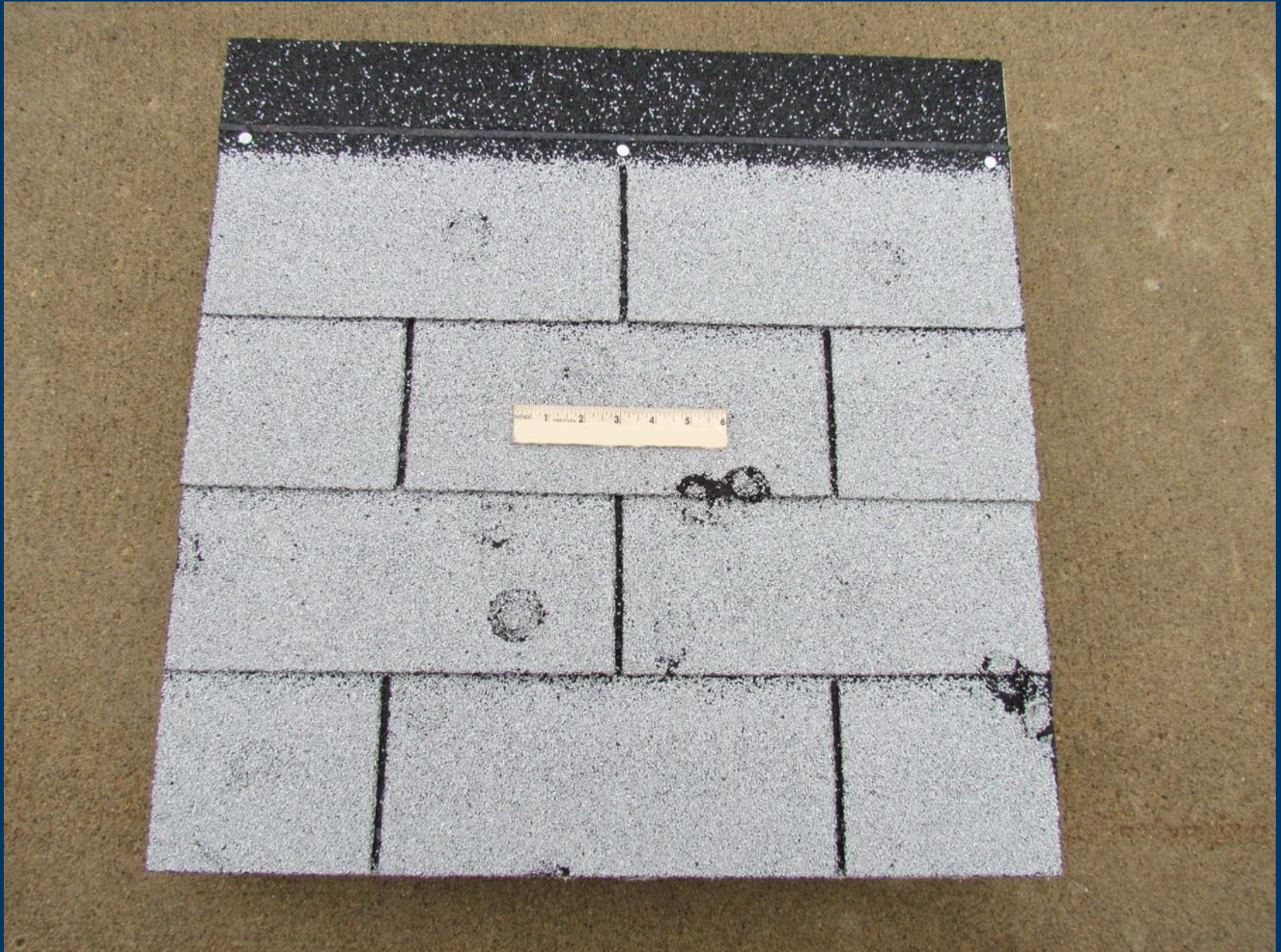


What makes up a shingle?

Asphalt shingle composition



Testing / Observations



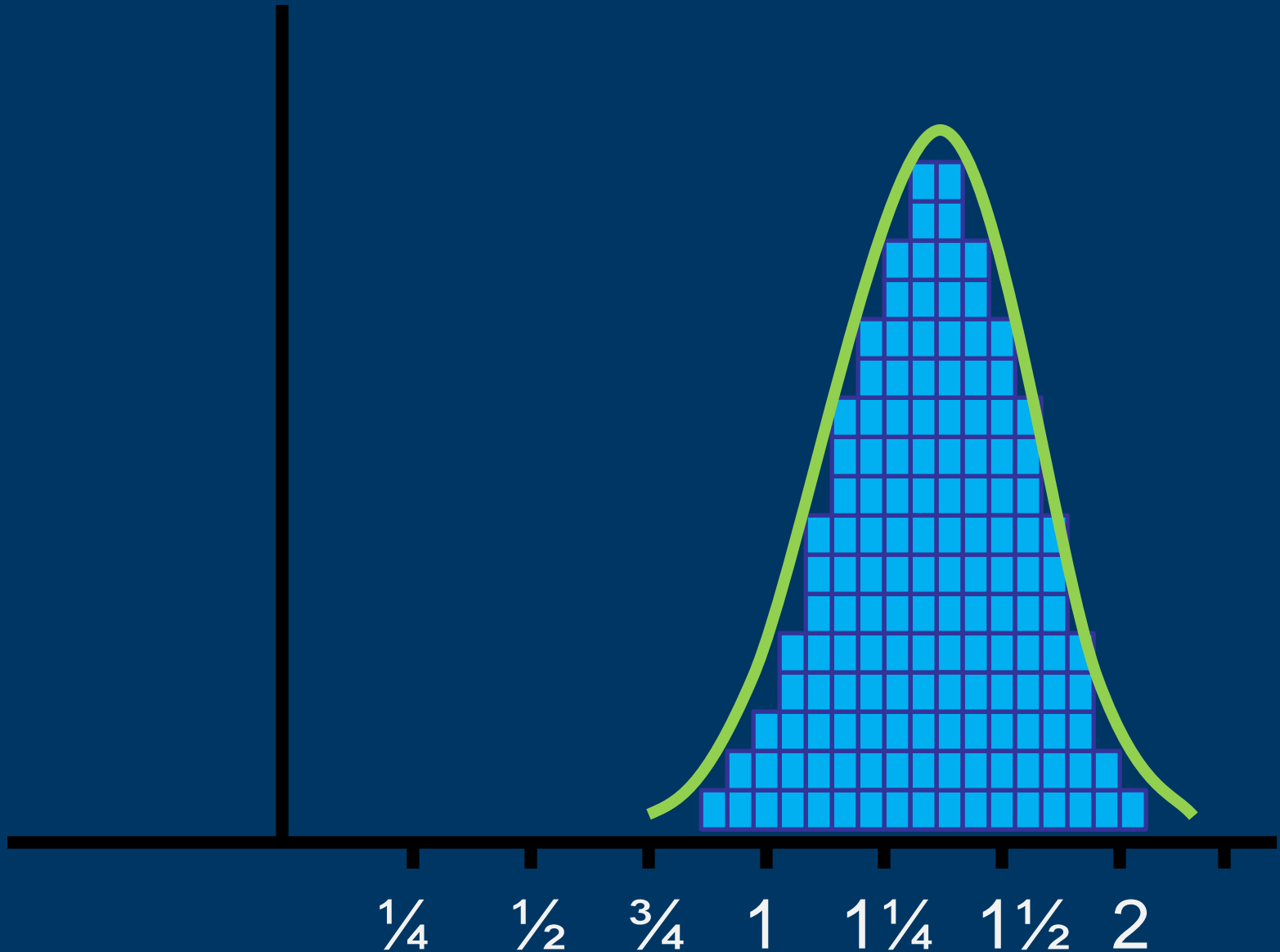
New Asphalt Shingles



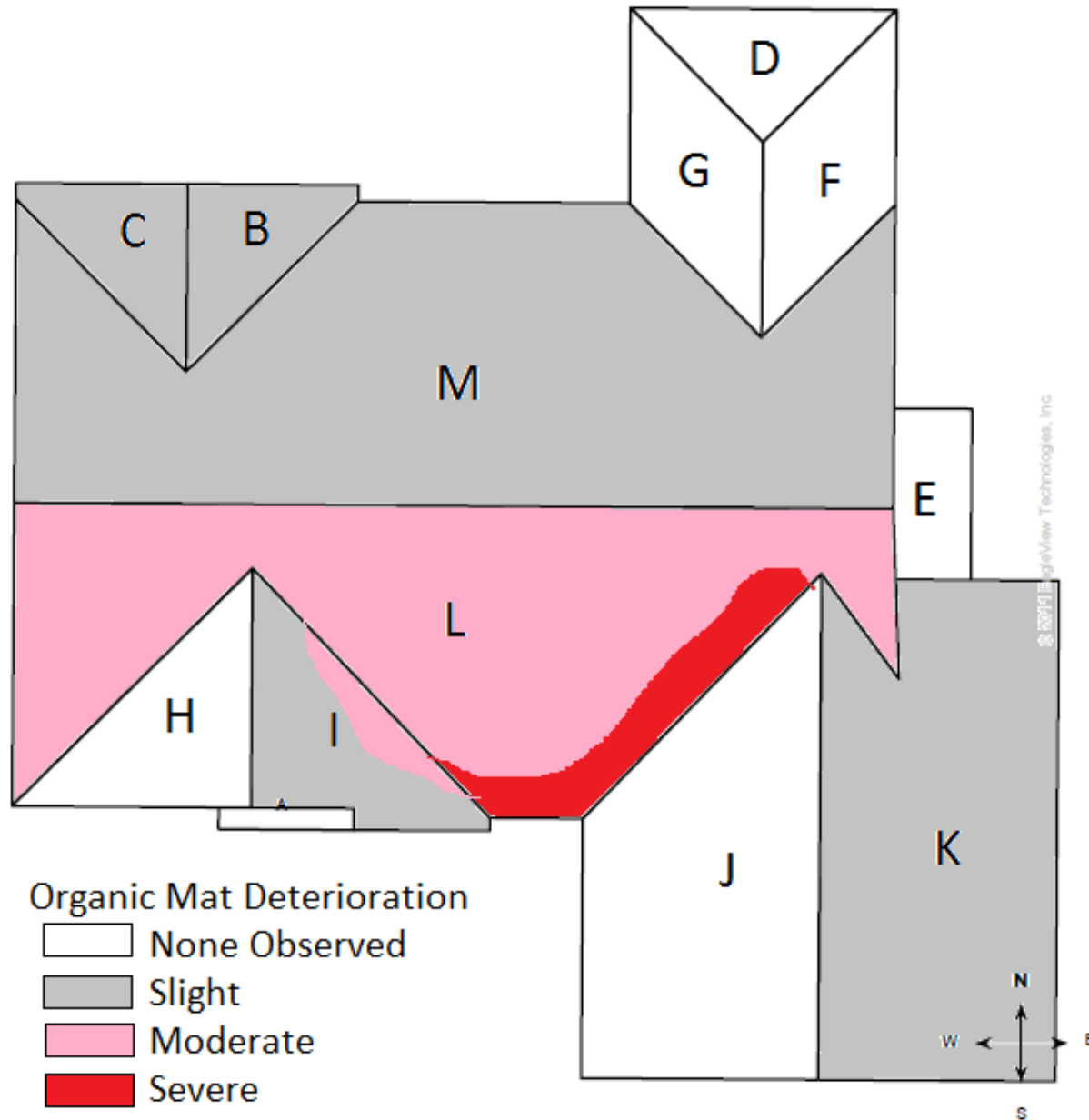
1 1/4 to 1 3/4
Ice Balls



Threshold Size of Hail that Causes Damage (Observed Adverse Effect of Hail)



Hail Damage Study on a Deteriorated Roof



Function & Form (It is working?)

Early Stage <i>(Slight Deterioration)</i>	Middle Stage <i>(Moderate Deterioration)</i>	Advanced Stage <i>(Severe Deterioration)</i>
<p>Shingle tab edges are curled. The surface of the shingle tabs are not flat, but have slight bump or ridges.</p>	<p>Granules have come off, leaving the mat exposed in localized areas. Granules easily flake off the shingle.</p>	<p>The mat is disintegrated. Tabs are missing or holes are present. The roof should not be walked on.</p>
<p>Able to shed water</p>	<p>Able to shed water</p>	<p>Leaks are very likely. The service life of the roof shingle has expired.</p>

