



Keystone Conference

**Dimensional Shingle and Low Slope,
Mod-Bit and EPDM Roofing**

**With
COA**

A Review of the Standards

5.1 The inspector shall inspect:

- **roofing materials.**
- **roof drainage systems.**
- **flashing.**
- **skylights, chimneys, and roof penetrations.**

A Review of the Standards

- **Describe type of roof covering**
- **Report methods used to observe the roofing**

A Review of the Standards

- **The inspector is NOT required to:**
- **Walk on any roof when it could damage the roof or is unsafe for the inspector**
- **Report on attached accessories**

SAFETY FIRST!!!



SAFETY FIRST!!!

- **The Bottom Line...**
 - Use your judgment
 - You are responsible for your own safety
 - They aren't paying you enough to get hurt!
- **Ladder safety is a must!**
 - Set on a firm, level surface
 - Top approximately 3' above the eave
 - Set at the proper angle

The Function of a Roof

- **A ROOF HAS ONLY TWO FUNCTIONAL PURPOSES:**
- **1. To shed water and...**
- **2. To protect the structure from wind and rain**

Types of Composition Roofing

- **Our focus today...**
- **Composition Dimensional Shingle**
- **Modified Bitumen Rolled Roofing**
- **Built Up Roofing**

So, What is Composition Roofing?

- **A base mat**
 - Organic (cardboard, think of a shirt cardboard)
 - Inorganic (Fiberglass) All Dimensional are Inorganic
- **Asphalt**
 - Creates the weather proof barrier
- **Granule element**
 - Protects from UV and adds color

So, What is Composition Roofing?

- **Organic or Inorganic**
 - How do you know?
- **Check the thickness**
 - Organic base mat is thicker than fiberglass base mat
- **Does it matter?**

What Effects Performance?

- **Installation**
- **Flashings & Drainage**
- **Maintenance**
- **Exposure to sun**
- **Exposure to wind, snow, hail**

Do Dimensionals Perform Better than 3-tab?

- **Yes**
- **They are thicker and stronger**
- **No tabs to blow off or keyways for crap to hang-up**
- **More nails. 4-5-6 patterns used**
- **Many insurance companies insist on them**

Dimensional (AKA Laminated) Shingles



Dimensional (AKA Laminated) Shingles

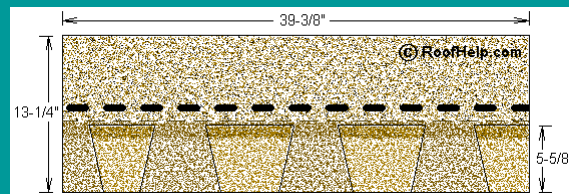
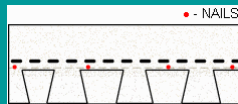
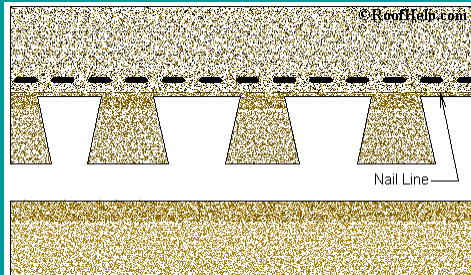


- 1-Ridge Cap
- 2-Ridge Vent
- 3-Field, Dimensional Shingles
- 4-Underlayment, min. type 15 felt or better, membrane to 3-ft. inside wall for cold climate ice dam shield

Soffit air inlet - 2 openings needed in attic for air flow

Dimensional (AKA Laminated) Shingles

Dimensionals are two pieces of material laminated together with about 3/4-inch of contact



Note standard 3-tab shingles are 36-inches by 12-inches with a 5-inch exposure

Installation Basics

- First, Does it look right? What's your first impression? Are the courses straight?
- How does the surface look? Is it smooth? Uneven? Missing granules?
- And, when in doubt, always refer to the Manufacturer's Specifications

Installation Basics

- **Low slope shingle roofing is less than 4 in 12 down to 2 in 12 and requires special installation requirements**
- **One method is install a membrane beneath. The other is double the underlayment (increase overlap to 50%)**

Defect Recognition

- **There are two types of defects common to roofing-**
 - **Installation deficiencies**
 - **Deterioration deficiencies**

Ridge Vent Issues Short Fasteners

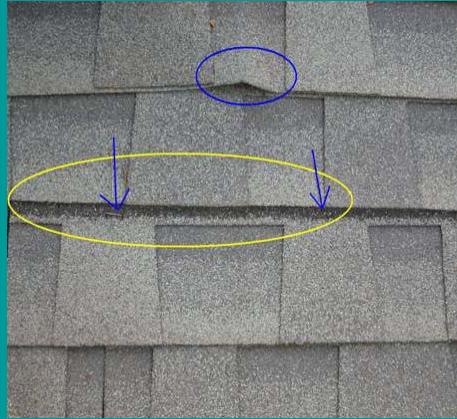


Exposed!



- Dimensional shingle exposure maximum 5 5/8 inches

Wrong Again



- Over - exposed/improper setting of fastener

Flashing



- Watch roof to wall conditions

Layers



- How many roofs were installed?

Ridge



- “Dura Ridge” not so durable

Architectural Valley



Roofing Mastic as Flashing??



Poor Counterflashing



Counter Flashing??



Excessive Exposure



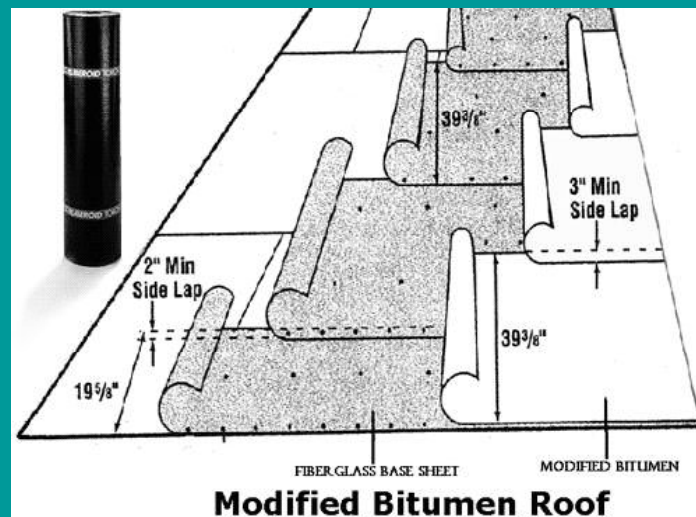
Low Slope Roofing

- Membrane (usually single ply) or
- Built Up (two or more plies)
- Modified Bitumen
- EPDM (rubber)
- Slope minimum 1/4in per foot max 3/12 (most of the time)
- Single ply or hybrid becoming most popular

Low Slope Roofing

- Mod-Bit is cold-adhered or torch down or self-adhering
- Hybrid is hot-mopped or torched as a cap sheet to multiple plies
- APP – Atactic Polypropylene
- SBS – Styrene Butadiene Styrene
- All are polymer modified asphalt
- Specific type does not really matter

Mod-Bit



Mod-Bit



Hybrid – Mod-Bit BUR

Mod-Bit

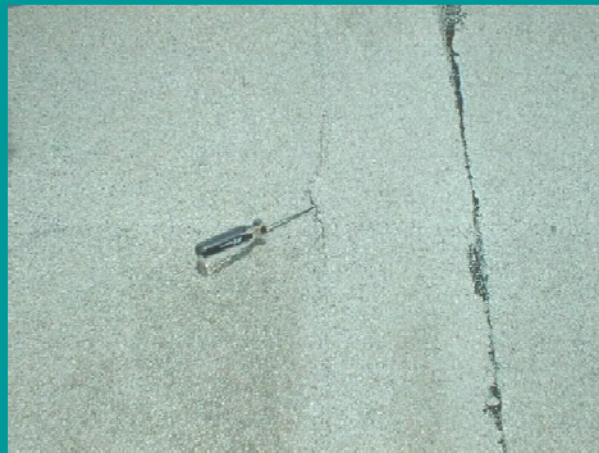


Torch Down
BUR 2-ply

Modified Bitumen Roofing



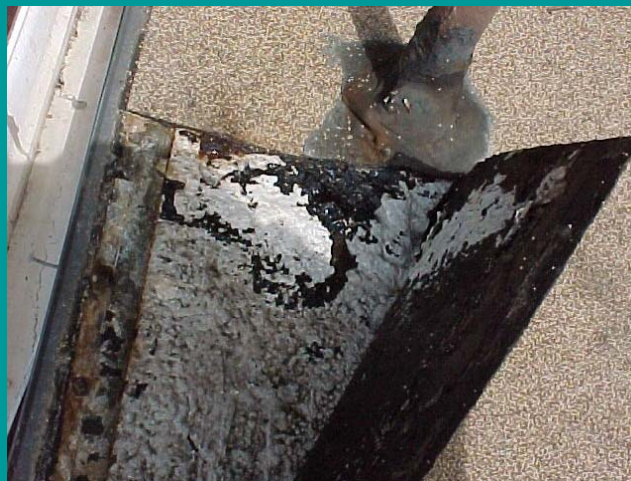
Defect Recognition



Defect Recognition



Nice Job



Wrinkled Roofing



Mod-Bit



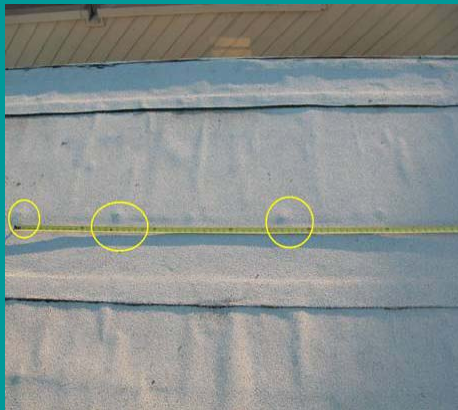
- A.P.P. torch down burn – bucking water

Mod-Bit



- Torch burn

Mod-Bit



- Telegraphing base nailing

Mod-Bit



- Ridging or buckling

Mod-Bit



- Ponding

Mod-Bit



- Surface wear

Mod-Bit



- Forgot something?

Mod-Bit Details



- A/C unit over old breezeway (Ponding water)

EPDM Roofing

- Ethylene Propylene Diene Monomer
- Most just call it a rubber roof
- Sections adhered together and to substrate
- EPDM caulk at penetrations
- Large rolls covers fast
- Usually single ply membrane over insulation board

EPDM Roofing

- Easily damaged
- Hole or gap means a leak
- Seams can separate
- Minor ponding not a big deal as long as weight not a problem
- Check edges – wind grab

Three-Tab Shingle and EPDM Roofing



EPDM Roofing



Right



Wrong

EPDM Roofing



Careful



Roof Deck Opportunity

EPDM Roofing



Defect Recognition

EPDM Roofing



Defect Recognition

EPDM Roofing



Defect Recognition

EPDM Roofing



In Summary

- **Always think SAFETY FIRST**
- **Use your experience and judgment**
- **Look for installation deficiencies –**
 - They happen more often than most realize
- **Look for defective materials**
 - Again, very common
- **Look for abnormal wear and mechanical damage**
- **And ALWAYS report your findings in writing!**

Consensus Information Resources

- **Asphalt Roofing Manufacturer's Association**
- **National Roofing Contractor's Association**
- **EPDM Roofing Association**



**Casey, O'Malley
Associates**

Thank you for attending!