BP

ROOFING
SHINGLE

Quick Reference

"The Basics"

EMCO
BUILDING PRODUCTS LTD.

The Shingle Manufacturing Process

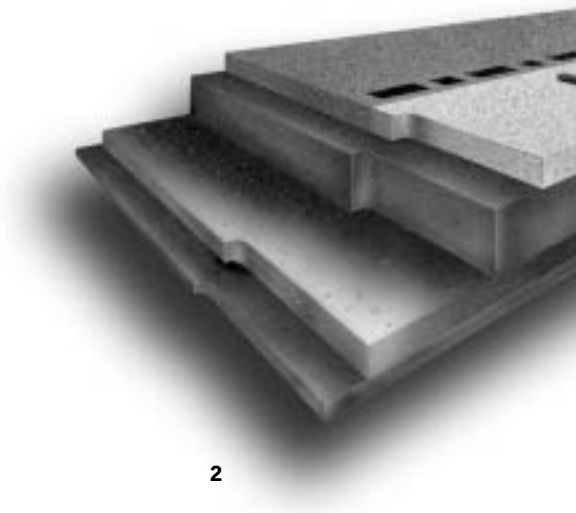
ASPHALT ROOFING PRODUCTS ARE MANUFACTURED IN A CONTINUOUS PROCESS STARTING WITH JUMBO ROLLS OF ORGANIC FELT OR FIBERGLASS MAT ROLLS. THESE ARE THE "CORE" MATERIALS ON WHICH OTHER COMPONENTS ARE LAYERED.

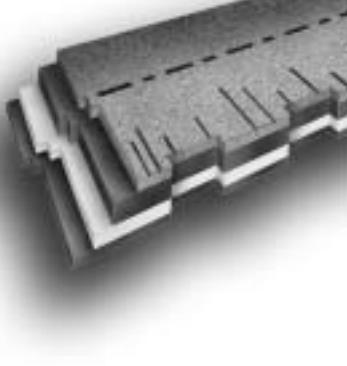
A QUICK OVERVIEW OF THE PROCESS IS AS FOLLOWS:

The dry felt jumbo roll is gradually unwound passing into an accumulator or looper. The height and length of the looper will allow continuous operation of the roofing machine, preventing frequent stops when the felt roll must be changed.

From the looper, the felt is passed through a saturator tank where the felt is impregnated with the hot asphalt (omitted when making fiberglass shingles).

The wet looper through which the saturated felt passes next allows the felt to cool slightly while drawing into its fibers the excess asphalt from the saturator.

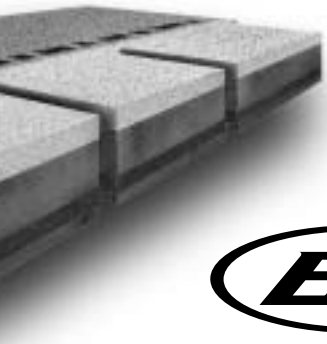




The coating section comes next where the asphalt combined with a stabilizer is added the top and bottom of the saturated felt sheet.

Coloured granules are then dropped onto the top surface, while a talc is spread across the back to prevent the shingles from sticking together when packaged. Cooling rollers then press the granules firmly into the hot asphalt while bringing the temperature of the material down.

Moving from the last cooling looper or accumulator, the material moves to the shingle cutter, the stacker and finally the packaging and wrapping stage of production. Once palletized, the shingle bundles are stored or shipped.



Organic vs Fiberglass

Organic shingles are made on a thick felt of wood and other cellulose fibers (i.e. recycled boxes). Glass shingles are made on a mat of non-woven glass fibers, which are held together with a water-insoluble binder. Both shingle types contain asphalt and are covered with mineral granules.

ORGANIC ASPHALT SHINGLES

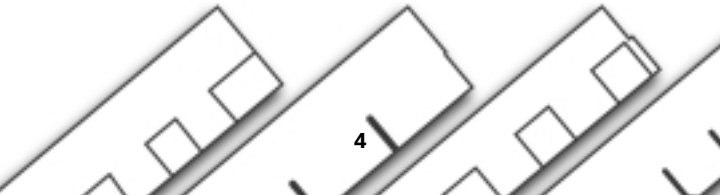
(Eclipse, Mirage, Europa, Roofmaster, Tradition, Rampart, Citadel, Tite-Lok)

- Are softer and easier to work with in cold weather applications.
- Contain more asphalt.
- Absorb roof deck stresses better and are more tear resistant.
- Are typically thicker than glass shingles and therefore hide minor imperfections in the roof deck or the old shingle layer.

FIBERGLASS ASPHALT SHINGLES

(Harmony, Mosaic, Dakota in the west, Weather-Tite Interlocking in the west)

- Are more resistant to heat, which may cause blisters to form on softer organic shingles on extremely hot roofs.
- Requires the installation of an asphalt saturated felt underlayment.
- Roof assemblies with glass shingles have a higher fire resistance rating than roof assemblies with organic shingles.



STRIP SHINGLES

(Citadel, Rampart, Tradition, Mirage, Europa, Roofmaster in the west, Dakota in the west)

- Most Common Type is 3-Tab.
- The number of tabs will vary by type, e.g. Europa (5-Tab shingle).
- Some also known as Architectural, e.g. Mirage.

SLAB SHINGLES

(Mosaic, Roofmaster in the east)

A "slab shingle" is a single piece with no cuts or perforations (i.e. Mosaic* and Roofmaster in the east).

** Mosaic is also classified as an "overlay shingle" where a second layer of granules is randomly overlaid to create the look of a laminate.*

LAMINATED (MULTI-LAYER) SHINGLES

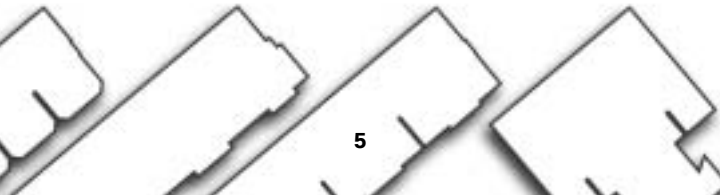
(Eclipse, Harmony)

- More than one layer of tabs giving a 3D look to the roof.
- Fastest growing shingle type in North America.

INTERLOCKING SHINGLES

(Tite-Lok, Weather-Tite in the west)

- Generally used in areas of high wind.
- Shingle is "T" shaped.



The Basic – Classifications

SHINGLES CARRY A RATING BASED ON RESISTANCE TO WIND AND FIRE

CLASS "C"

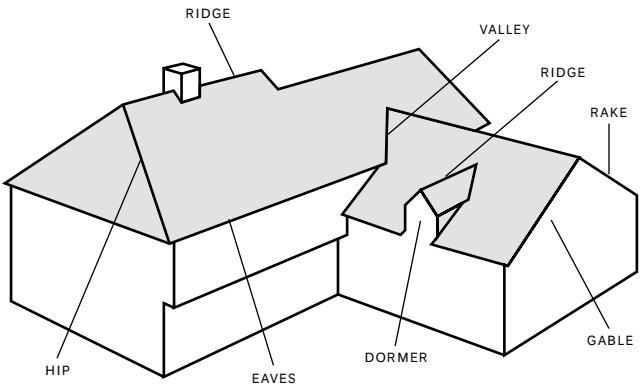
Material won't ignite in the presence of a small fire or burning embers.

CLASS "A"

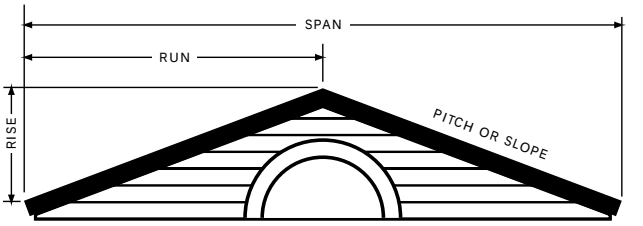
Roofing will not combust even in the presence of a large fire or help spread fire.

*** Note:** Shingles alone are not fire-rated. They are a component of a complete roofing assembly.

ROOFING TERMINOLOGY



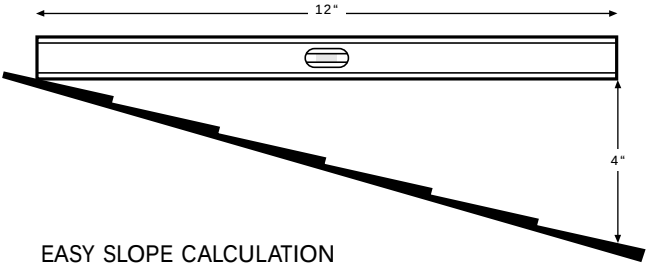
Features **of a Roof**



PITCH

Ratio of vertical rise to double the horizontal run. Shown as a fraction.

For example, a roof that has a 4" rise per foot of horizontal run would have a $^{4}/_{12}$ slope, but would have a $^{1}/_{6}$ pitch ($^{4}/_{24} = {}^{1}/_{6}$).



EASY SLOPE CALCULATION

Set one end of a 12" level on the roof surface – make it level.

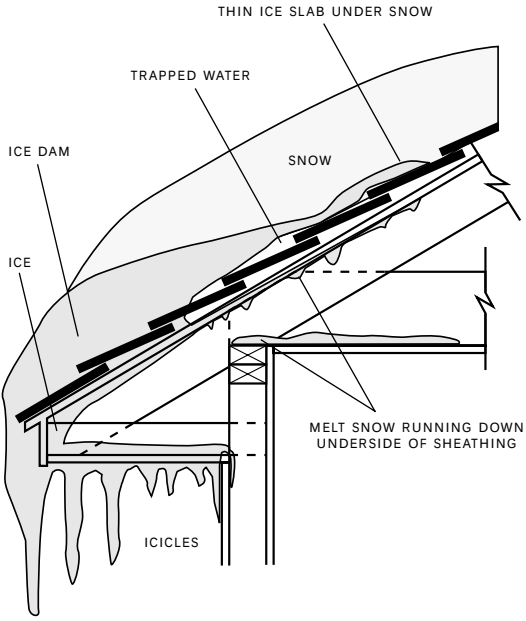
Take a tape measure from the other end down to the surface of the roof surface.

This will give you the slope of the roof.

The greater the slope, the more material will be required to complete the installation of the roof, hence the slope factor.

The slope factor multiplied by the area of the roof will give you the number or sq. ft. to be covered.

Ice Damming



"...CONTINUALLY THAWING AND REFREEZING OF MELTING SNOW FORM ICE DAMS."

- Ice develops as snow on the surface of the roof melts.
- Water runs under the snow and refreezes at the edge of the roof creating a dam.
- Additional snow melts forming a pool against the dam causing the water to back up, often getting under the shingles.

TO PREVENT PROBLEMS WITH ICE DAMS

Install Progard Plus or Gripgard Membrane on eaves and in valleys to prevent water from penetrating the roof.

(For more details visit dreamroofs.com)

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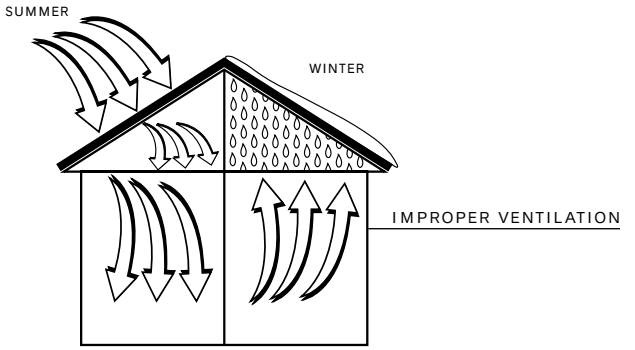
Ventilation

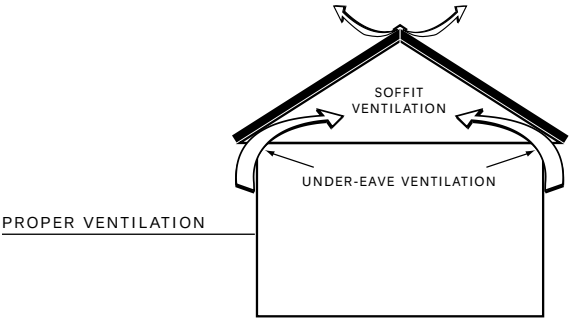
"...National Building Code requires... not less than 1 sq. ft./300 sq. ft. of insulated ceiling area. For "Low Slope" roofs or those with cathedral ceilings, the ratio is 1 sq. ft./150 sq. ft. ... uniformly distributed on opposite sides of the building... 55% inflow and 45% outflow..."

INADEQUATE VENTILATION

.....what to look for in the attic

- Still, stagnant air.
- Unbroken darkness indicating blocked or non-existent openings.
- Hot, stuffy... compared to house.
- Water stains &/or mold on the underside of the decking.





Underlayment

WHY USE UNDERLAYMENT?

Underlayment is:

- An integral part of a roofing "system".
- Mandatory under all shingles to achieve fire resistant ratings (Class "A" or "C").
- A secondary protection against wind driven rain.
- Mandatory under Eclipse and all glass based shingles.
- A protection from moisture prior to shingle installation.
- Apply BP N°15 Plain Felt or BP Standard Asphalt Sheathing.

Eave Protectors

PROGARD PLUS

Progard Plus is a self-adhering waterproofing membrane designed to protect your roof – specifically on ridges, valleys, around chimneys, windows, skylights because of its superior sealing and installation characteristics and overlay application. It can also be used as an eave's protector.

It is installed directly on approved surfaces by removing the detachable silicone film.

This membrane can be installed under roofing shingles, metal roofs or used as air-barrier/vapour-barrier under thermal insulation.

It is made of SBS modified asphalt carried by a specifically treated poly (non-slip) sheet.

GRIPGARD

Gripgard, like Progard Plus, is a self-adhering waterproofing membrane created to protect the roof.

It is installed directly on approved surfaces by removing the detachable silicone film.

Its "core" is made of fiberglass and SBS modified asphalt and is surfaced with a fine granule.

Frequently **Asked Questions**

How many square feet are in a bundle?
There is approximately 32 sq. ft. per bundle depending on the type of shingle.

What is a square?
A square is equal to 100 sq. ft..

How many bundles in a square?
There are 3 to 4 bundles per square depending on the type of shingle.

What is the difference between 20, 25 and 30-year limited warranty shingles?
The most significant difference is the amount of asphalt used in the manufacture of the shingle. The more asphalt, the greater the weight and durability, the longer the limited warranty coverage.

Should you remove the plastic strip on the back of the shingle?
No, it is not necessary.

Can a new roof be installed over an old one?
In some cases yes but the existing roof must be completely flat with minimal curling. It is not recommended as it may create a problem with the warranty.

Is underlayment required under all shingles?

No, however it is normally used as an element of a premium roofing system offering backup protection against leaks.

It is required when Eclipse or fiberglass shingles are being installed and as part of a fire rating requirement.

What is Ice Damming?

See the section on Ice Damming in this pamphlet (Pg. 8).

Why is ventilation important?

See the section on Ventilation in this pamphlet (Pg. 9).

Tell **your customers about it…**

DREAMROOFS.COM

- *Design a roof.*
- *Complete roofing information center.*
- *Installation instructions.*
- *And much, much more.*

Warranty

IT IS IMPERATIVE THAT THE CONSUMER BE INFORMED OF THE DETAILS OF THE EMCO 5-STAR AND EMCO FIBERGLASS WARRANTIES. THERE ARE SIGNIFICANT DIFFERENCES BETWEEN THE VARIOUS MANUFACTURERS AND EMCO BP'S 5-STAR IS THE BEST IN THE INDUSTRY. NOT POINTING OUT THE FEATURES OF OUR WARRANTY WILL BE A MAJOR CUSTOMER SERVICE FAILURE.

EMCO 5-STAR WARRANTY

First 5 years – Repair or replacement. If the roof needs to be replaced it is covered 100 %. All material and labour, including tearing off of the old shingle and hauling it away. Eclipse has an 8 year 100 % coverage.

Remaining Coverage Period – All material (shingles flashings, vents, etc.), labour, tear off and haul away based on a proration of the remaining warranty period.

EMCO FIBERGLASS WARRANTY

First 5 years – Repair or replacement.

If the roof needs to be replaced the shingles and labour are covered 100 %.

Remaining Coverage Period – The cost of the shingles is covered on a prorated basis for the remaining warranty period.

This fiberglass warranty is equal to the best offered in the marketplace at this date.

See the applicable (5-Star, Fiberglass, Eclipse) Emco Warranty Document for details.

Glossary

Blisters – Caused mainly by the expansion of trapped air and water – vapour or moisture or other gases. Deformations are not confined to exposed surfaces are spongy to the touch and may occur between any of the layers of a roofing system.

Buckling – Warping or wrinkling of the roof membrane.

Clawing – The downward curving of the butt portion of the shingle. This creates a hump along the leading edge and a widening of the cut out. The bulge thus created is susceptible to substantial damage by wind action, hail and ice. Clawing is part of the normal aging process of shingles and is a sign of long service.

Crackling – After long exposure, a fissure pattern appearing on the shingle or roofing due to weathering of the asphalt.

Crazing – Surface deterioration of a shingle by the formation of a pattern of fine hairline cracks.

Fishmouthing – The raising of a portion of the butt edge (lower edge) of a shingle. This curved short section tapers back into the shingle. Usually, only the front part of the shingle is affected. At the end of the exposure, the shingle will be perfectly flat. Fishmouthing is often the result of moisture absorption followed by moisture evacuation in the shingle. Poor nailing such as raised nails can result in fishmouthing also.

For a complete list of roofing definitions go to dreamroofs.com

About Emco BP...

"OVER 75 YEARS
OF COMMITMENT"

Incorporated in LaSalle,
Quebec as Building Products Limited
December 5, 1925.

Canadian origins can be traced back to 1905.

Expanded to Edmonton in 1951.

Became a subsidiary of Imperial Oil in 1964.

Purchased by Emco Limited in 1987.

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