

Best Practices Buyers Guide: Suitable Protection & Maintenance for Wood Doors

Wood doors need protection from environmental conditions to ensure a long service life. Following the best practices within this guide will keep your door looking its best for a long time to come and help ensure that warranty criteria is followed.

Factors Affecting Serviceability

Suitable protection for wood doors is an important aspect when determining maintenance requirements and serviceability. For the greatest level of protection and longest lifespan, there are several factors to consider including:

1. the product(s) used to finish (top-coat) the lumber and
2. environmental conditions such as:
 - a. UV exposure,
 - b. wind exposure, and
 - c. precipitation exposure (rain, sleet, snow, etc.).

Protection From Environmental Conditions Using a Top-Coat

Lumber is protected from environmental conditions using an exterior grade top-coat of polyurethane, varnish, or paint. A top-coat must be applied prior to a door being exposed to any environment that is not conditioned to average room temperature and average humidity. A top-coat is vulnerable to environmental conditions and will degrade over time; as a result it will need to be re-applied through a re-finishing process as necessary. The longevity of a top-coat is primarily a result of its physical/chemical properties as well as the environmental conditions it is exposed to.

Top-Coat Physical / Chemical Properties

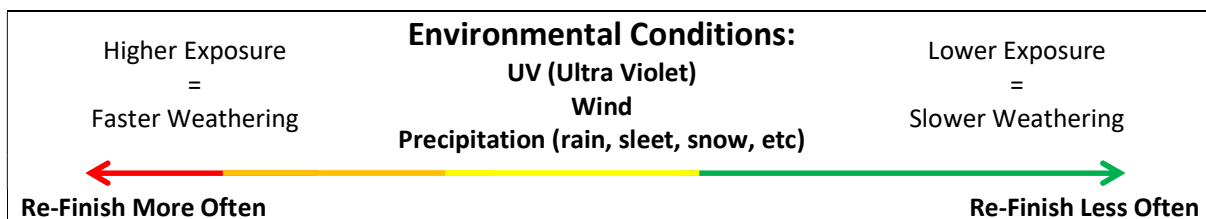
Top-coat properties can be viewed on a sliding scale when evaluating the level of protection it provides the lumber:



*It is not recommended to exceed paint manufacturers maximum specified coating thickness

Environmental Conditions

The environmental conditions a door is exposed to will determine how quickly the protective top-coat will weather and require re-finishing:



Additional Protection against Environmental Conditions

Overhangs

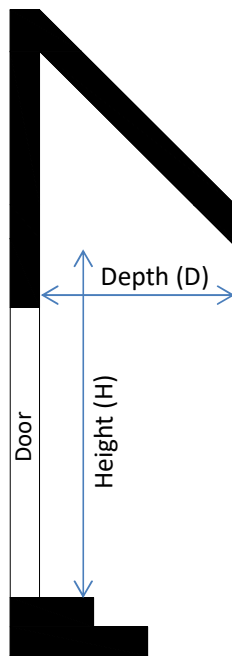
Environmental conditions are generally controlled by the use of an appropriately sized and well-designed overhang above the door unit. The purpose of the overhang is to minimize environmental exposure to the protective top-coat and the lumber it is protecting. As a rule of thumb:

- A smaller overhang = greater weathering and shorter re-finish intervals, while
- A larger overhang = less weathering and longer re-finish intervals.

Overhang recommendations for “depth” – considered the width and length an overhang extends horizontally from a door in each direction – will vary based on three main factors:

- Aspect (direction the door faces)
- Climate Conditions
- Overhang height from the ground (bottom of door to bottom of overhang)

The following graphic and table is a widely accepted guideline for appropriate overhang depths (D) relative to overhang heights (H) for most climates and most environmental conditions:

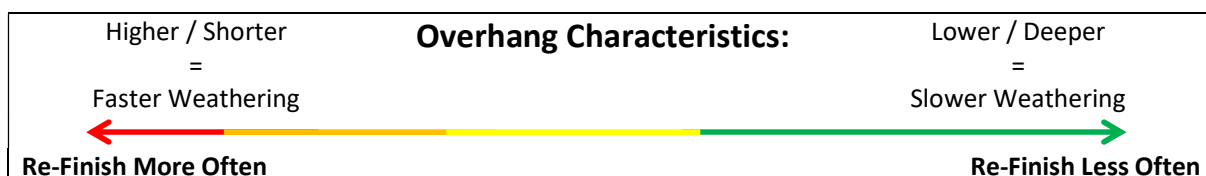


Climate	Aspect (Direction the Door Faces)			
	North	South	East	West
Desert	$D = 1/2H$	$D = 2H$	$D = 1/2H$	$D = 2H$
Ocean	$D = 1/2H$	$D = H$	$D = 1/2H$	$D = H$
Wet	$D = H$	$D = H$	$D = H$	$D = H$
Mild	$D = 1/2H$	$D = H$	$D = 1/2H$	$D = H$

Based on the table, for the typical “wet” climate of Western Canada, an appropriately sized overhang depth (D) for a South facing door would equal its height (H) off the ground. This means, if an overhang is 96” high (H) from the bottom of the door to the bottom of the overhang, it should extend by a horizontal depth (D) of 96” to protect a door.

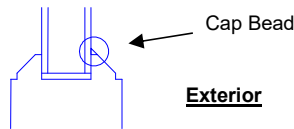
While the table recommendations are not a requirement for wood doors, it is considered to be a good guideline for most environmental conditions. Many clients have smaller overhangs and experience no issues as long as there are minimal environmental conditions impacting the door.

We have seen clients with re-finish intervals of 15+ years when doors are installed with protected exposures (minimal sunlight, no wind, no rain), however, we have also seen clients with unprotected exposures and high weather exposure (maximum sunlight, high wind exposure, high rain exposure) need to re-finish within a year. Note that failure to maintain an adequate exterior finish will result in a door excluded from the BC Door Limited Warranty for Wood Doors.



Cap-Beads

A cap-bead is applied after a door has been finished with a top-coat. It is applied using silicone or mono-caulking on the exterior face of the door, along the perimeter of the glass where it meets the lumber:



A cap-bead will further minimize the chance of water infiltration and weathering caused by exposure to precipitation.

Like a top-coat, cap-beads will degrade over time with exposure to environmental conditions and will need to be re-applied as necessary.

When to Re-finish

Even the highest quality lumber with the best top-coat will eventually need to be re-finished. The best indicators of when it's time to re-finish a wood door are when you begin to see:

- Dullness or chalkiness that isn't revived with polishing
- Discolouration, fading, or decay of the paint or varnish
- Cracked paint or varnish
- Flaking or scaling of the paint or varnish
- Visible scratches, nicks, or physical damage
- Hairline cracks

Key Take-Aways

A well finished and well protected door unit will have the least amount of homeowner maintenance.

A minimally finished and minimally protected unit will have above normal maintenance to ensure the door is not subject to excessive weathering.

A top-coat is vulnerable to environmental conditions and will degrade over time; as a result it will need to be re-applied through a re-finishing process as necessary.

The longevity of a top-coat is primarily a result of its physical/chemical properties as well as the environmental conditions it is exposed to.

Re-finish when you begin to see visible scratches / nicks, a dull or chalky finish that isn't revived with polishing, discolouration or decay in the top-coat, and/or visible scratches / nicks / physical damage.

BC Door Extreme Weather Installations

It is not uncommon to see doors manufactured by BC Door Co. Ltd. in extreme climates when following these best practices. The Glacier Creek Lodge at the Whistler-Blackcomb Ski Resort is a good example of an extreme climate where our doors have been installed.



Glacier Lodge Entrance on Blackcomb Mountain at Whistler-Blackcomb Ski Resort in British Columbia, Canada

BC Door Limited Warranty for Wood Doors

This article provides general information on how to better protect exterior doors, but no warranties are provided by this article. Wood door manufacturers - including BC Door - specify a minimum level of protection to ensure warranty coverage. Full product warranties can be found at www.bcdoor.com.

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