

## TYPE OF CUT SELECTION

- By default, the mixed cut is supplied for all products and visible surfaces.
- For a specific cut guaranteed at 70% (regular, quarter or rift), only the following surfaces are considered:
  - > **Wood doors:** Slabs (stiles, rails and panels), jamb extensions.
  - > **Windows:** interior surface of sash, jamb extensions.

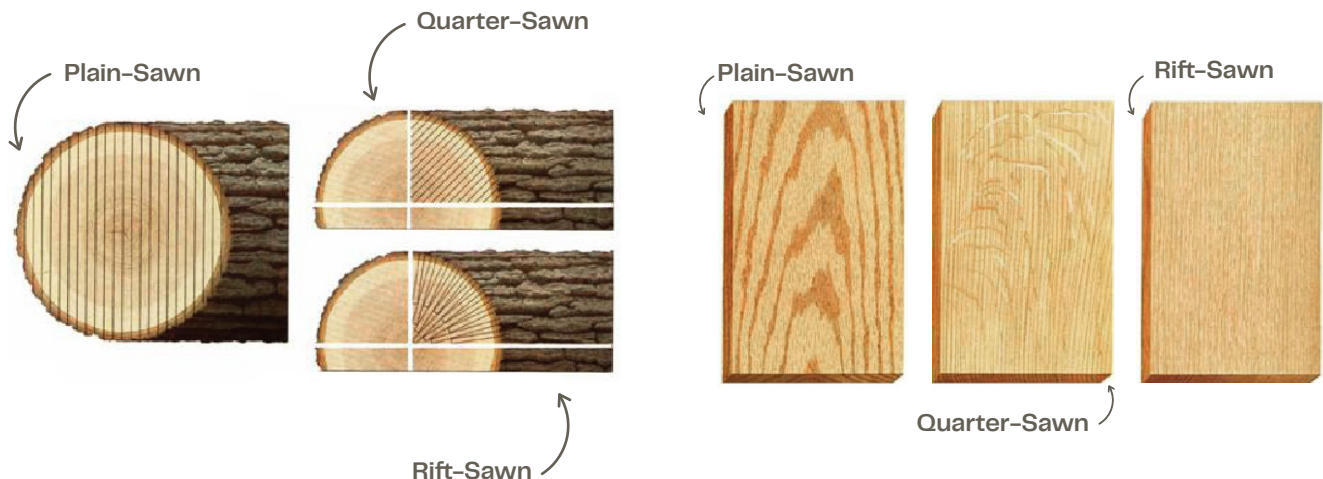
Here is an example for a door slab with a rift cut option:

- Each stile and rail component will have a minimum of 70% linear grain without flakes. The remaining 30% may show slight flakes or the beginning of a cathedral pattern. The panels, fabricated with a veneer will also have a minimum of 70% linear grain without flakes on all the surface. All visible surfaces of the frame will be mixed (without any guaranteed percentage of rift cut); jamb extensions will have a minimum of 70% of linear grain.
- A validation from the end-consumer of the effect of stain on the quarter-sawn cut is strongly recommended (because of the flakes).

## DIFFERENCE BETWEEN PLAIN-SAWN, QUARTER-SAWN AND RIFT-SAWN

### White oak property

White oak is a popular hardwood tree native to North America. White oak is a dense and hard wood, making it durable and resistant to wear and tear. It has a light to medium brown color. The grain features unique patterns that gives it a distinctive appearance for furniture, cabinetry, flooring and doors and windows.



## Plain sawn

Plain sawn is the most common and economical way to saw logs into lumber. It involves slicing the log lengthwise along the growth rings, resulting in a board with a varied grain pattern that is often characterized by a cathedral-like pattern in the center of the board. Plain sawn boards are typically wider, less expensive, and may be more prone to warping and cupping over time compared to quarter sawn boards.

### Benefits

- › **Cost-effective:** Plain sawn lumber is the most common and least expensive type of sawn wood. This is because it can be easily and quickly produced with simple cutting techniques.
- › **Wide availability:** Since plain sawn lumber is the most common type of sawn wood, it is widely available in a variety of species and sizes.
- › **Grain pattern:** The wide, flat grain pattern of plain sawn lumber can give a distinctive, traditional look to wood products, making it a popular choice in many domains.
- › **Ease of staining and finishing:** The wide grain pattern of plain sawn lumber can make it easy to stain and finish, as the stain can penetrate more easily into the wood, resulting in a more even color and finish..
- › **Eco-friendly:** Because plain sawn lumber is cut straight through the log, it results in less waste than other types of sawing techniques, making it a more sustainable and eco-friendly option.

### Disadvantages

- › **Warping:** The growth rings in plain sawn wood are not uniform, which can cause the wood to warp or twist as it dries. Lepage Millwork ensures to choose high quality wood and inspects each plank that are used in our doors and windows fabrication.



## Quarter sawn

Quarter sawn, on the other hand, involves cutting the log into quarters and then sawing each quarter perpendicular to the growth rings. This produces a board with a straight, consistent grain pattern that is less likely to warp or cup. The rays, or medullary rays, that run perpendicular to the growth rings are also more visible in quarter sawn boards, giving them a distinctive look. Quarter sawn lumber is generally more expensive than plain sawn lumber, as it requires more time and effort to produce, and yields fewer boards per log, but they are also more stable and durable.

### Benefits

The primary advantage of quarter sawn lumber is that it is more stable and less prone to warping or cupping than plain sawn lumber, which can expand and contract more dramatically with changes in humidity. Additionally, quarter sawn lumber is often considered to have a more refined appearance and can be used to create more ornate or decorative woodworking projects.

- › **Stability:** Quarter sawn lumber is more stable than plain sawn lumber because the growth rings run perpendicular to the face of the board. This means that the lumber is less likely to shrink, warp or twist, making it ideal for applications where stability is important, such as flooring, paneling, and furniture.
- › **Durability:** The unique grain pattern of quarter sawn lumber makes it more resistant to wear and tear than plain sawn lumber. The tight, straight grain of the lumber makes it less likely to splinter, crack, or check, making it a good choice for applications that require durability, such as boat building, exterior trim, and decking.
- › **Aesthetics:** Quarter sawn lumber has a distinctive grain pattern that can add visual interest to a project. The straight grain and rays of the wood create a unique pattern that can be showcased in furniture, cabinetry, and architectural millwork.
- › **Strength:** Quarter sawn wood is stronger than other types of wood due to its grain orientation. The wood's structural integrity is enhanced, making it ideal for use in furniture, flooring, and other high-traffic areas.

### Disadvantages

- › **Cost:** Quarter sawn lumber is typically more expensive than plain sawn lumber because it requires more time and effort to produce.
- › **Waste:** The quarter sawn process produces a lot of waste, as the boards must be cut at specific angles to achieve the desired grain pattern. This can result in a lower yield of usable lumber and increased costs.
- › **Limited availability:** Not all types of wood are suitable for quarter sawing, and the process is more commonly used for certain species such as oak and maple. This can make it difficult to find quarter sawn lumber in some areas or for certain projects.



### Rift Sawn

A rift sawn cut implies that the growth rings are at an angle that is inferior to 45 degrees to the face of the board. This results in fewer saw cuts that are parallel to the medullary rays, which are responsible for the flake effect. Rift-sawn lumber thus produces an almost straight grain with practically no flake figure.



### Benefits

The main advantage of rift sawn cutting is that the wood is even more stable and less prone to warping than regular or quarter sawn cuts. The appearance is also the most refined because the medullary rays present in quarter sawn cuts are almost absent, giving it a significant advantage in terms of stain finishing, which exhibits beautiful uniformity.

### Disadvantages

Rift sawn cutting essentially entails the same constraints as quarter sawn cutting, but to a greater extent. It is the most expensive of the three options because its yield level is the lowest, resulting in even more waste during cutting, and its availability is the most limited among the cutting options available.

Do not hesitate to contact one of our distributors for more information on the subject.

**Your Lepage Millwork team**

