Introduction

Once a tree has been milled, cut, and seasoned (dried), its **rough-cut lumber** is surfaced to exact dimensions. During this process, the lumber changes size significantly. This is why a 2x4 is not actually 2" by 4," but 1 ½" by 3 ½." When you say you're using a "2x4," you're referring to its **nominal dimension**, while you'll actually be using a piece of lumber that measures 1 ½" by 3 ½" (its **actual dimension**). An actual dimension is always a ½" smaller than a nominal dimension; keep this in mind when planning projects.

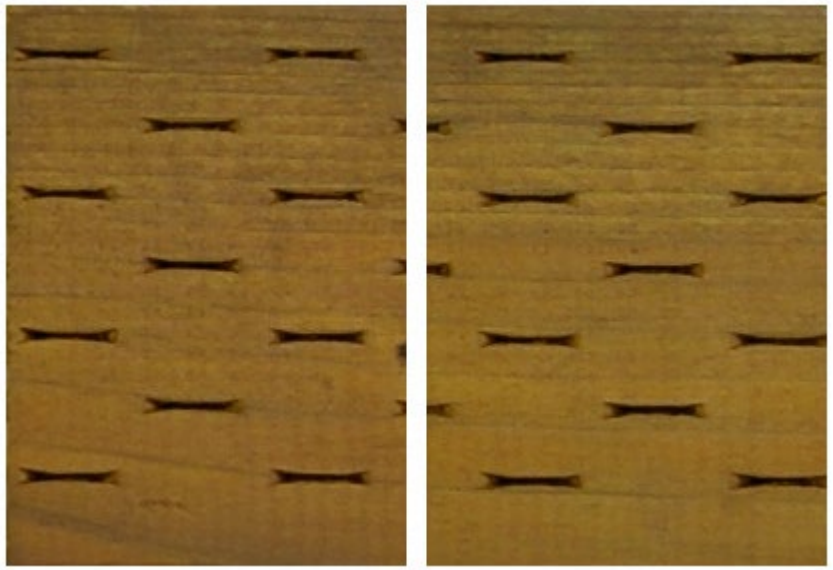
Nominal Dimension	Actual Dimension
1"	3/4"
2"	1 1/2"
3"	2 1/2"
4"	3 1/2"
5"	4 1/2"
6"	5 1/2"
8"	7 1/4"
10"	9 1/4"
12"	11 1/4"

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Pressure Treated Lumber

To protect wood from insects, microorganisms, and fungal decay, it can be chemically sealed by a process called **pressure treating**. This process uses high pressure to inject preservatives deep into the wood. Because of these added chemicals, it's important to use **gloves** and **safety glasses** when handling and cutting **pressure treated** (PT) **lumber** to protect volunteers from getting infected injuries. PT lumber is used for high-moisture areas and in places where lumber comes into close contact with the ground. It should never be used in places where human contact is common, like on top of decks or as handrails.



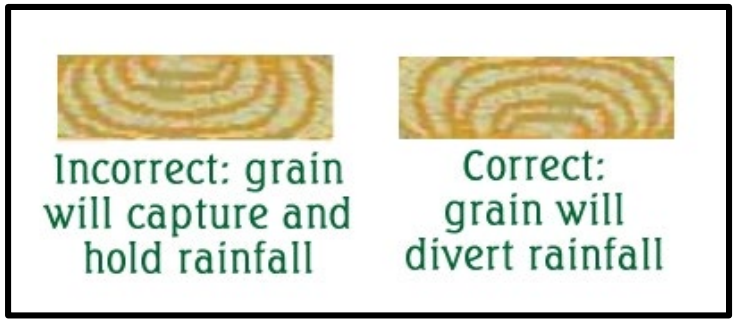


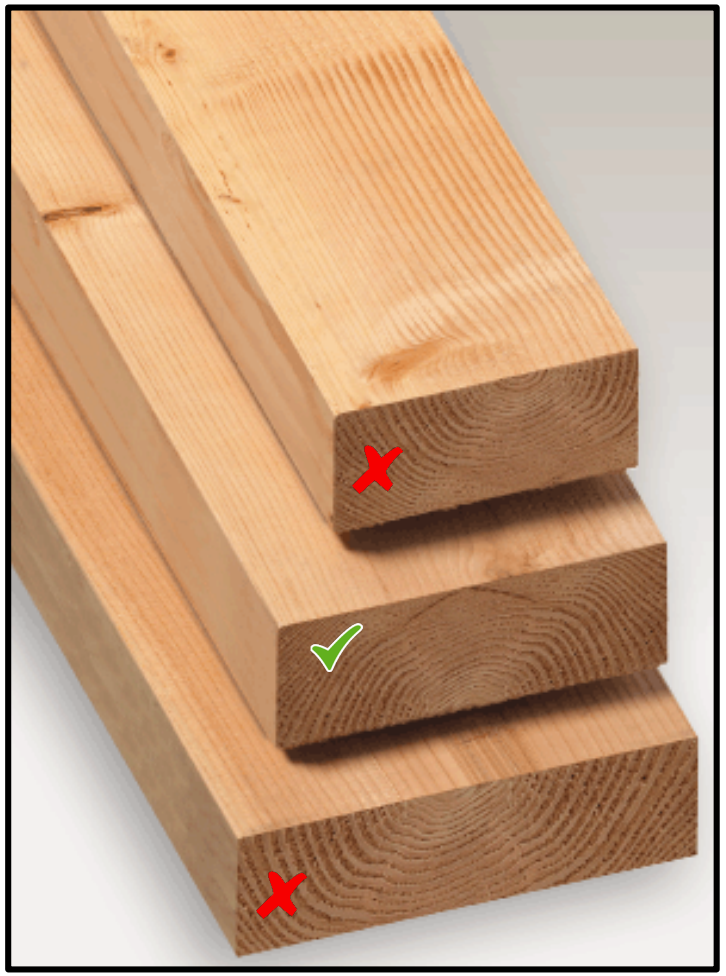
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Douglas Fir

For high-contact areas, SSP uses untreated **Douglas Fir** (DF) **lumber**. Because DF is not protected from natural decay, volunteers have to stain it to ensure long-lasting structures.

When installing DF lumber, its grain should always face downward, so as to drain rather than collect water.





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Plywood

Another form of wood that is used in flooring and wall projects are panels. **Plywood** is one type of a structural wood panel, made up of thin wood **veneers** that are bonded together.

Plywood is stronger in the long direction (8’) than its short direction (4’). This should be taken into consideration when using plywood on floors and walls; it is stronger for plywood to span across many supports with the long direction of the plywood running perpendicular to the supports, not parallel.

Chiloquin 2016



Top view



Side view

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OSB

Oriented Strand Board (**OSB**) is made of long strands of wood that are glued together under heat and pressure. If OSB gets wet, it loses all of its structural strength because it swells and remains thicker when it dries, unlike plywood which will return to its original thickness if it gets wet.

Factory edges are painted to seal the edges from moisture (notice the green edges in the picture). If it gets wet, it retains this larger thickness even after it dries, so make sure that it's stored away from moisture.



OSB being installed as sheathing to repair a roof
Tsaile 2015

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