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Building Science

Covid....Carbon...

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COVID

CDC – Harvard School of Public Health

Indoor RH between 40 and 50 percent

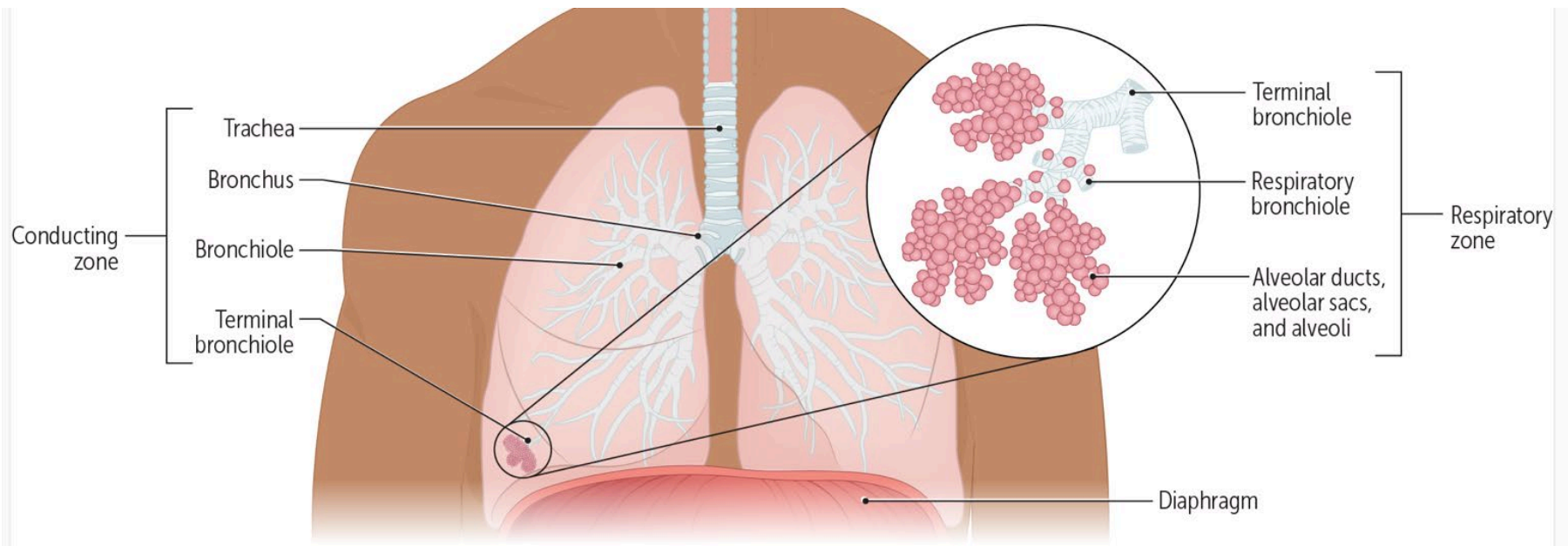
COVID

CDC – Harvard School of Public Health

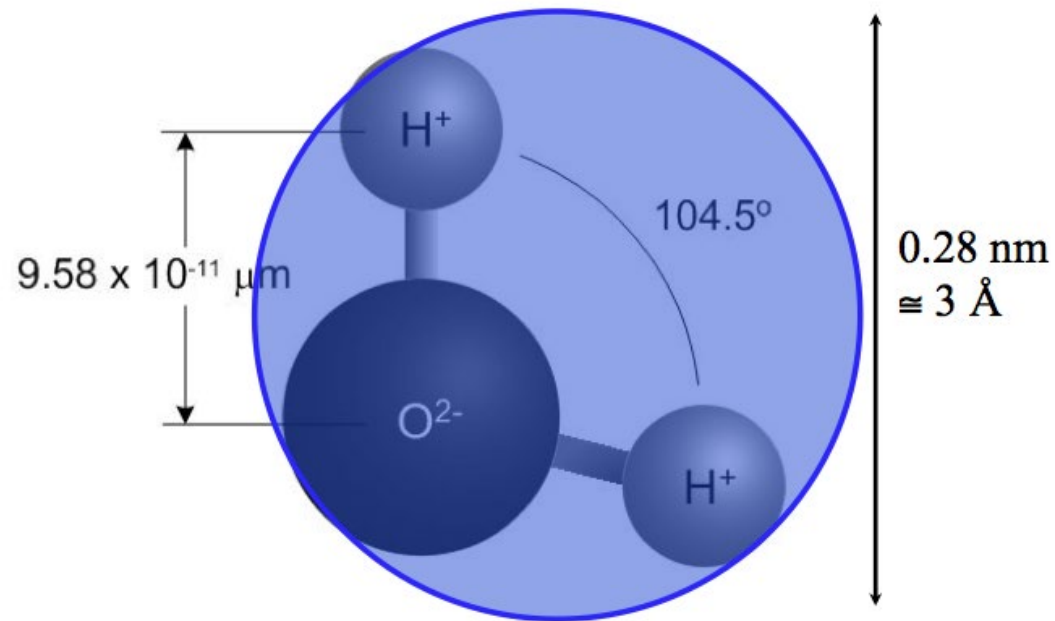
Indoor RH between 40 and 50 percent

Lower lung function - Alveoli

Falling velocity – Stokes Law



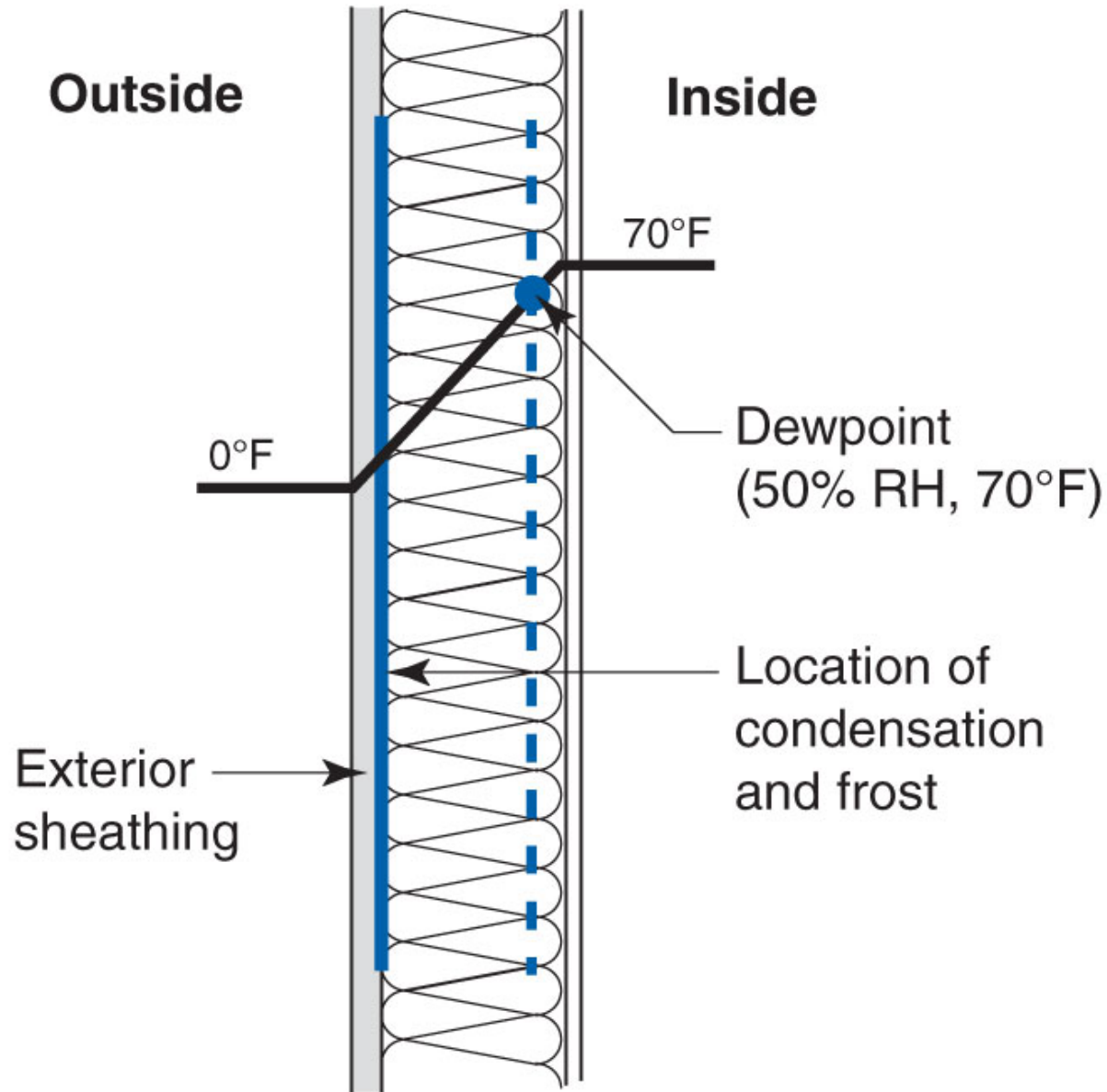
Polar Molecule





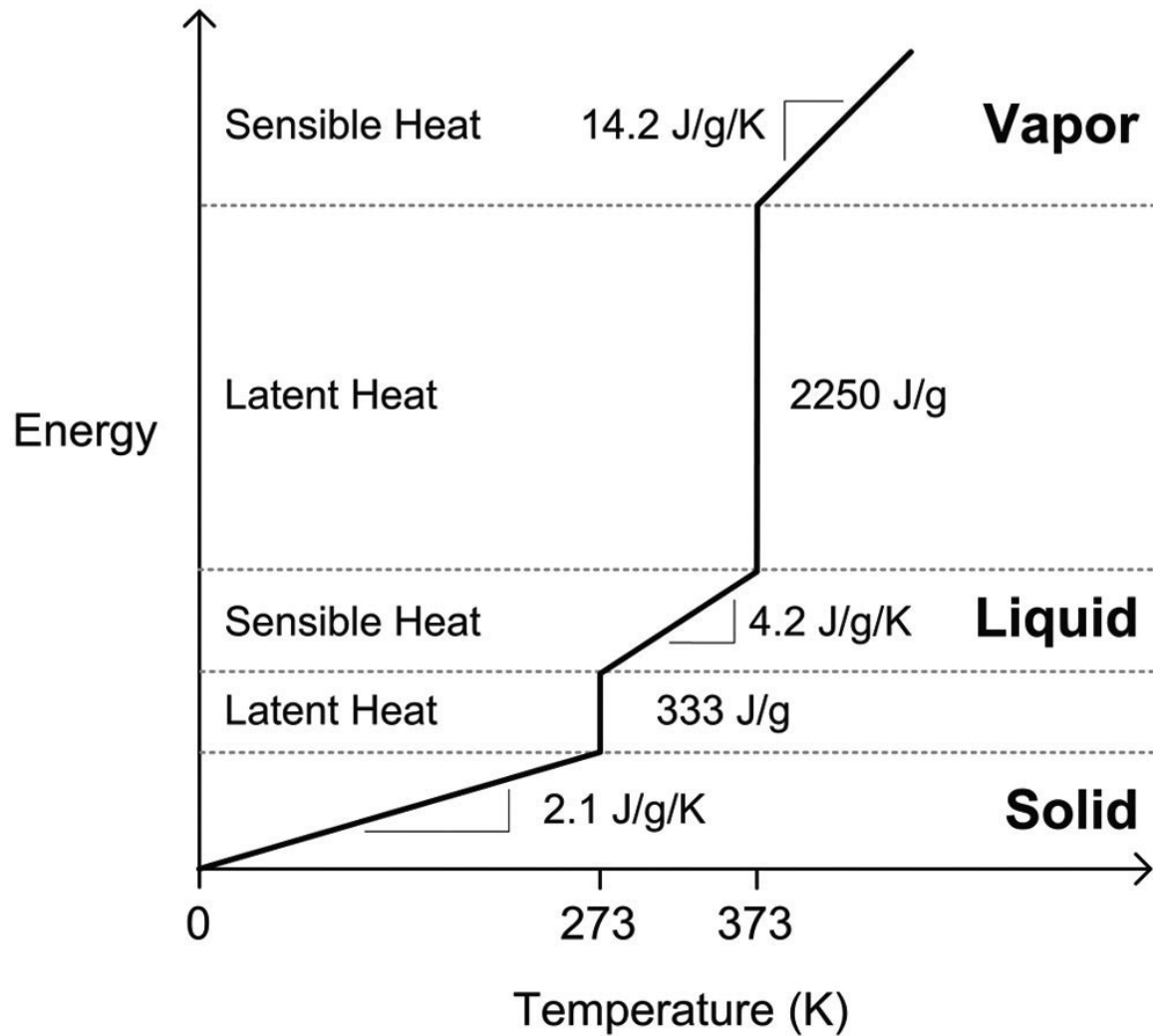


Condensation....Dew Points





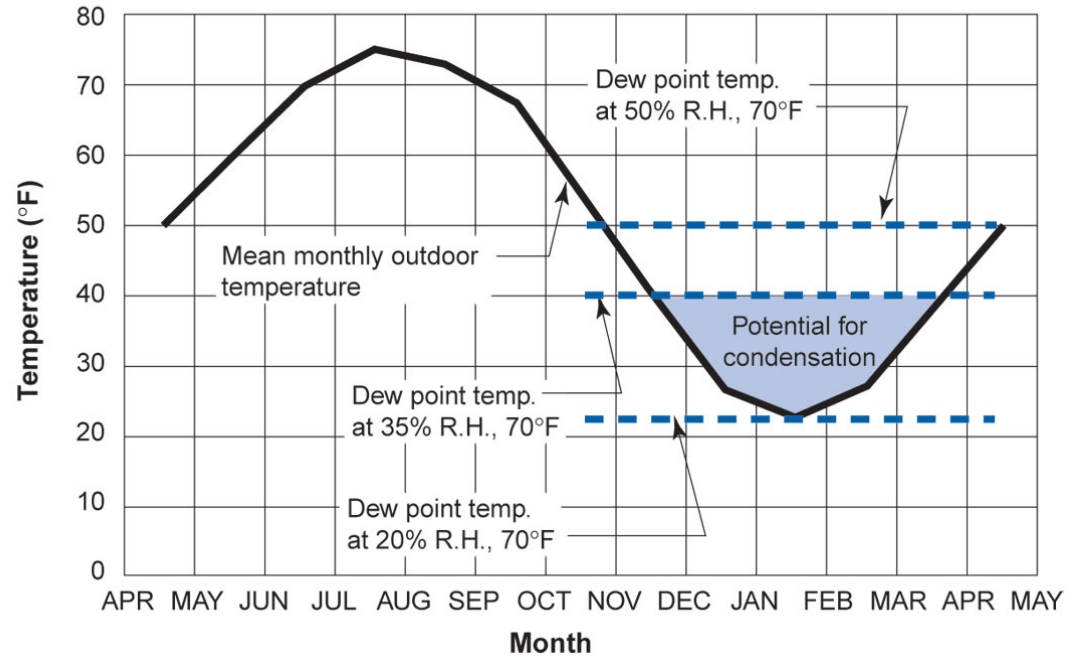
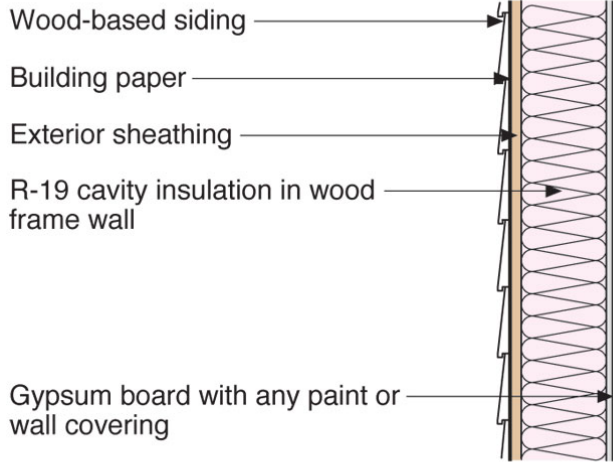




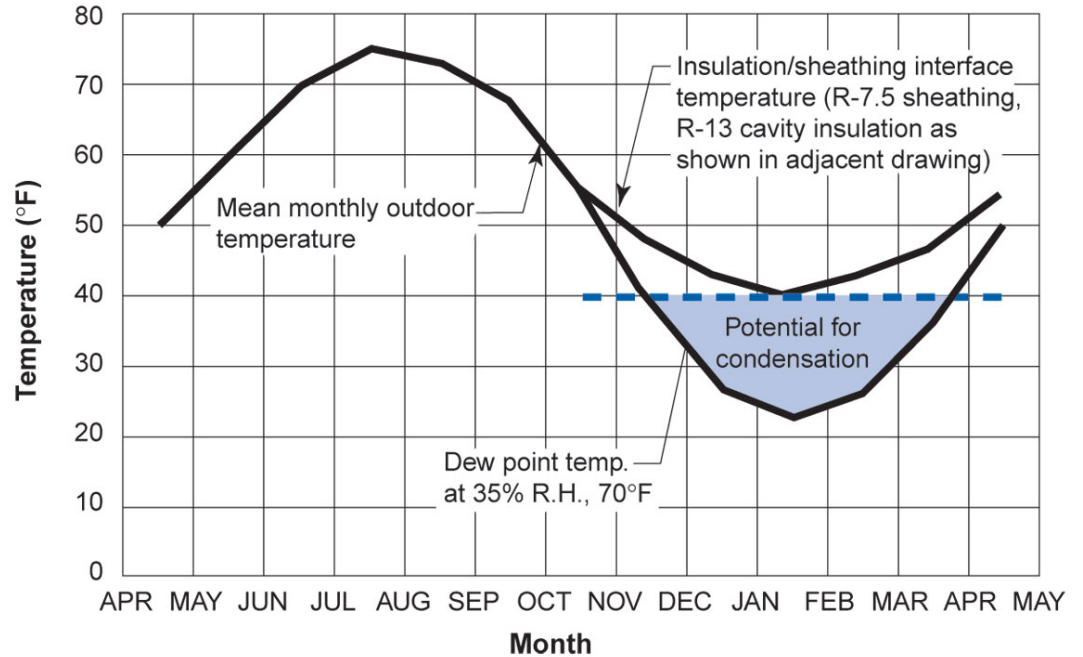
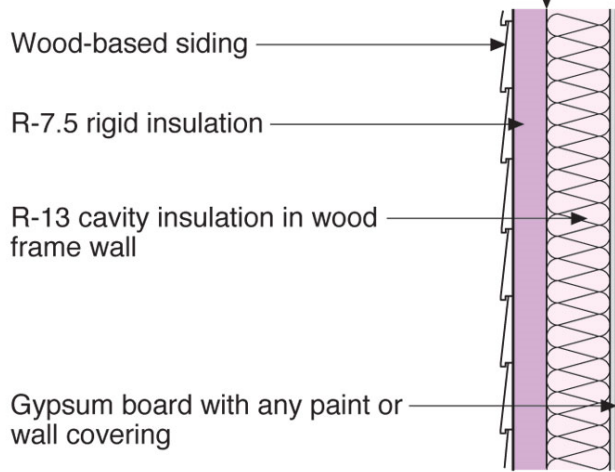
Simple linearized energy-temperature relation for water

From Straube & Burnett, 2005

The inside face of the exterior sheathing is the condensing surface of interest



The inside face of the insulating sheathing is the condensing surface of interest



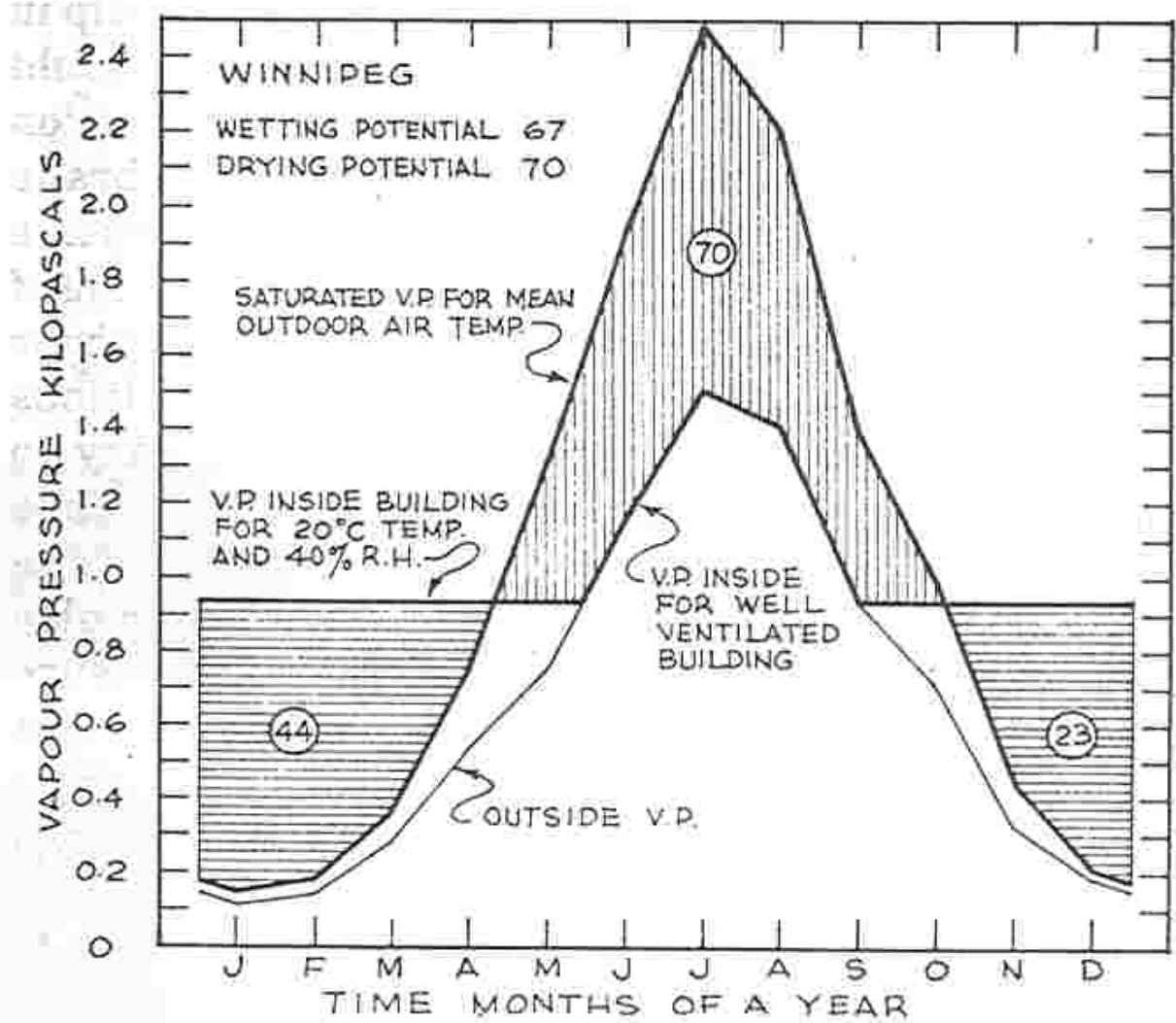
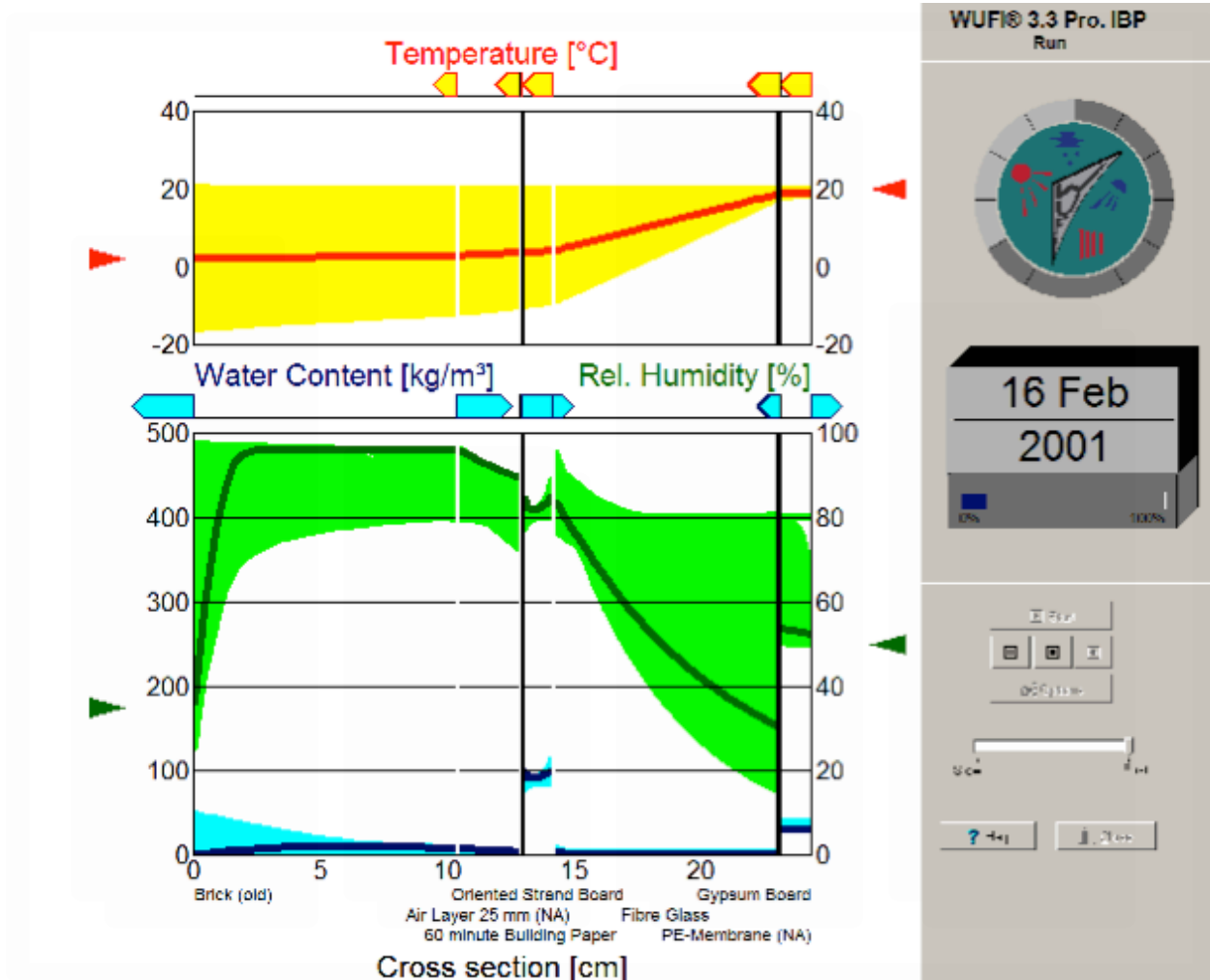
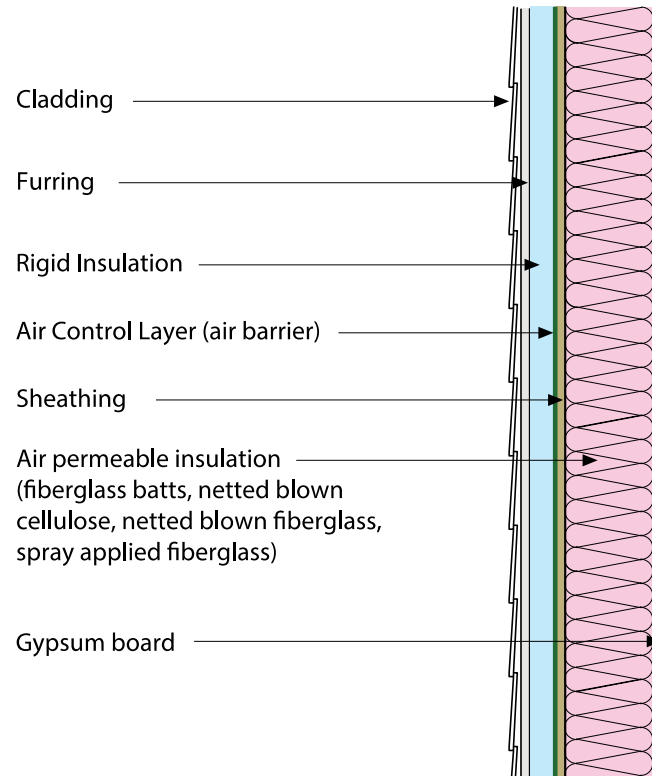
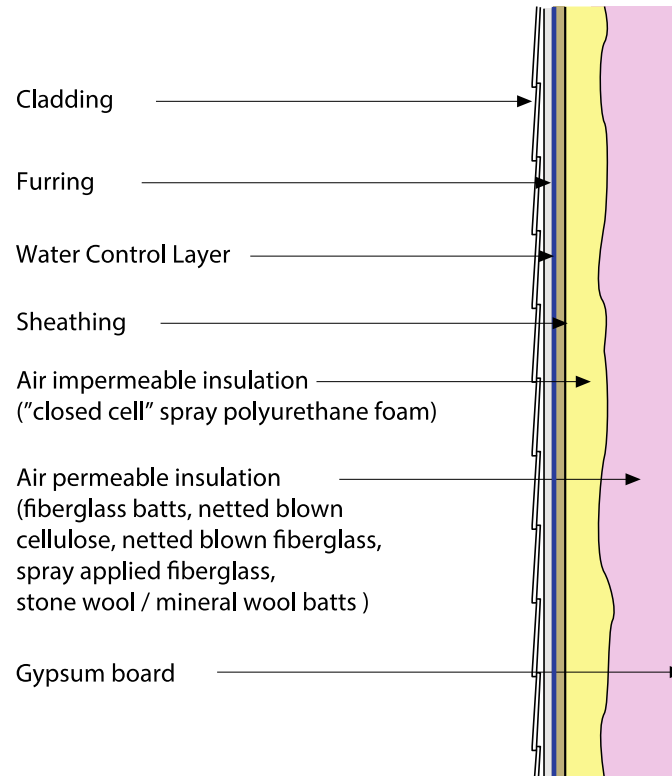


Figure 8-7. Outside vapour pressure, saturated vapour pressure and inside vapour pressure for Winnipeg.







Carbon...

Transition From A Hydrocarbon Based Economy to a Carbohydrate Based Economy

Wood is good.... it grows on trees...



Wood Is A Battery For Energy From The Sun

Carbon + Water + Sunlight = Wood
(photosynthesis)

Wood Is a Pretty Good Building Material

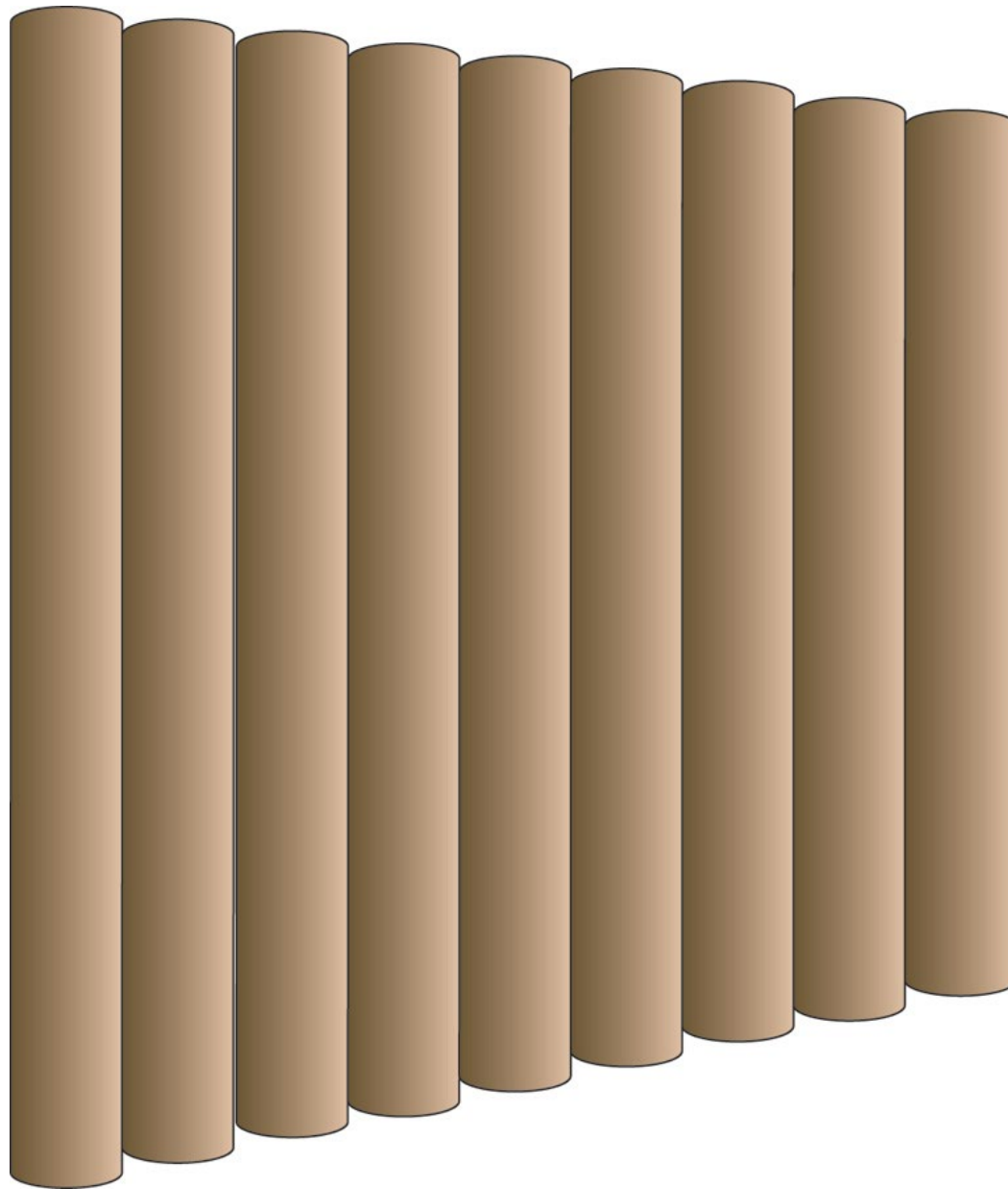
When We Are Done It Turns Back To Carbon
and Water and Releases The Energy

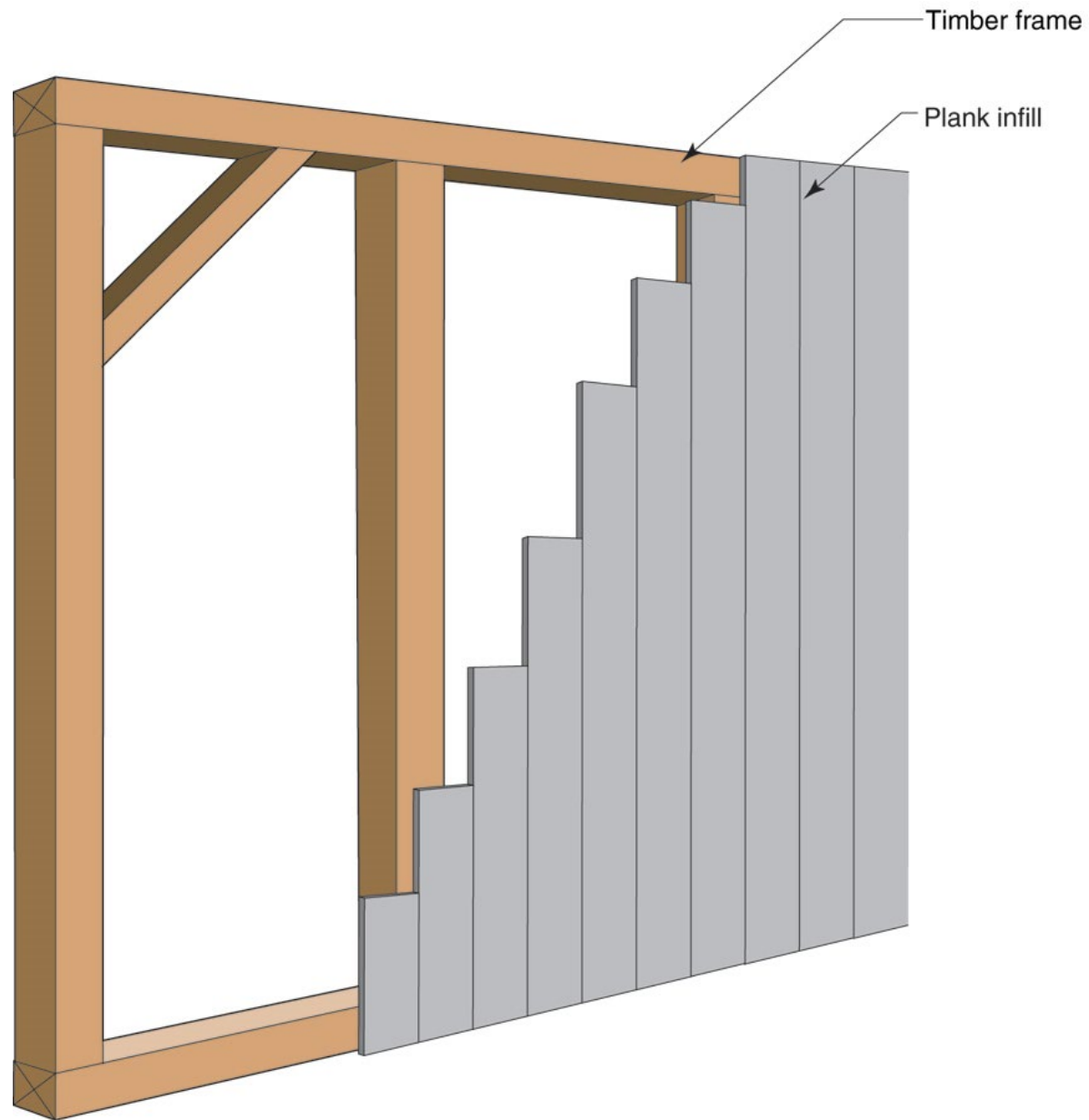
Plants Do A Better Job Of Converting Solar Energy Than Rocks

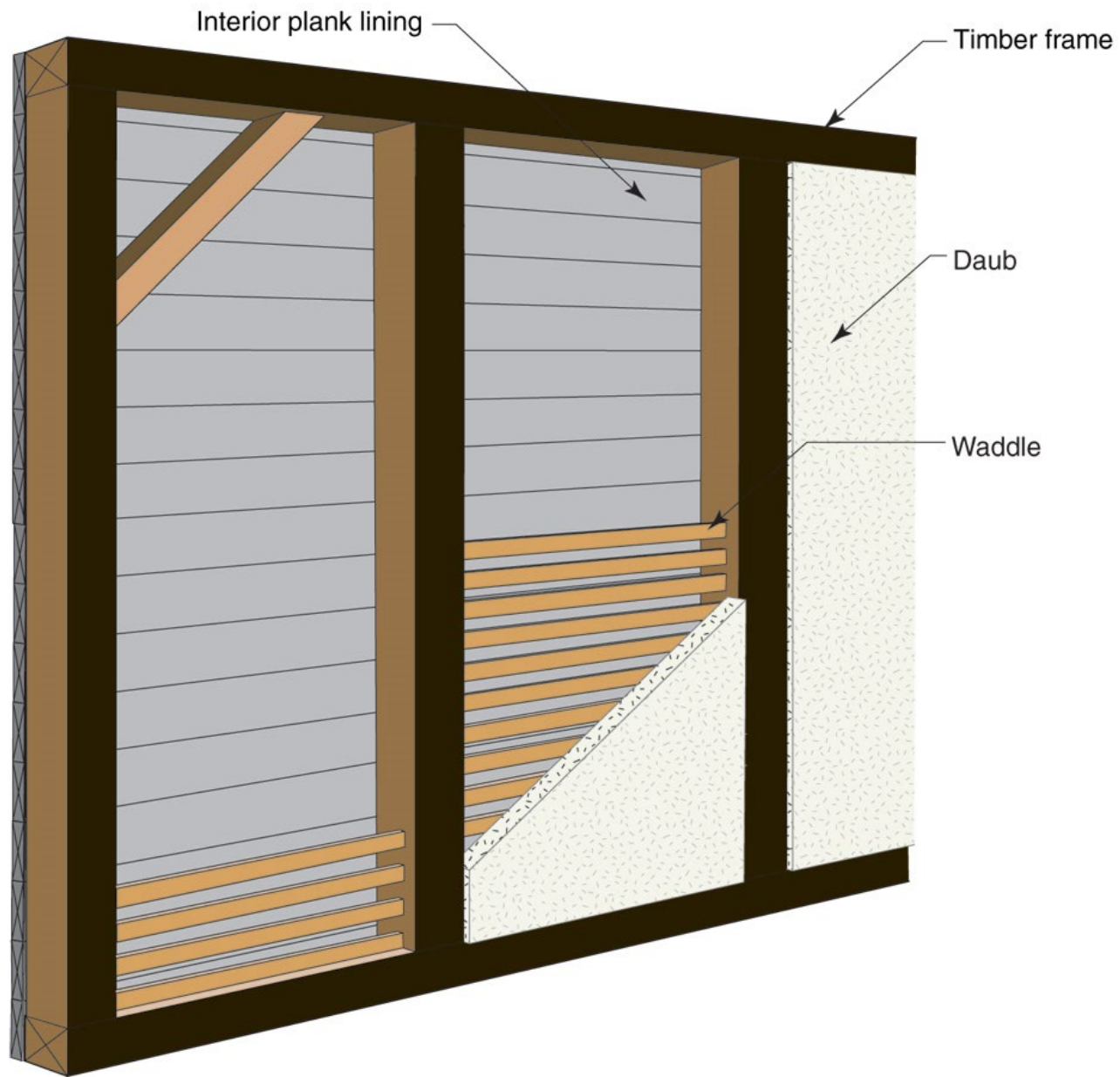
Let The Plants Do It

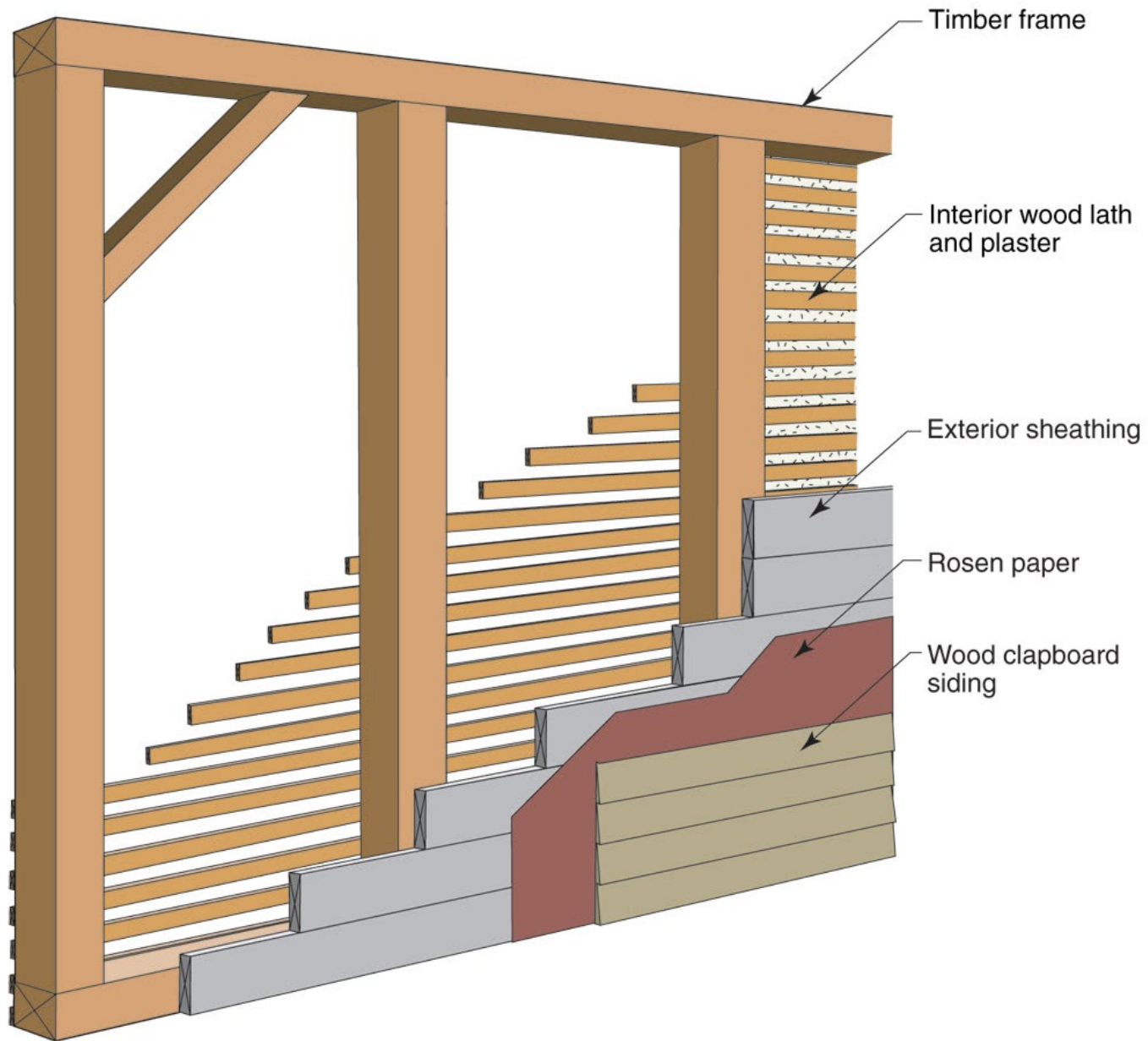


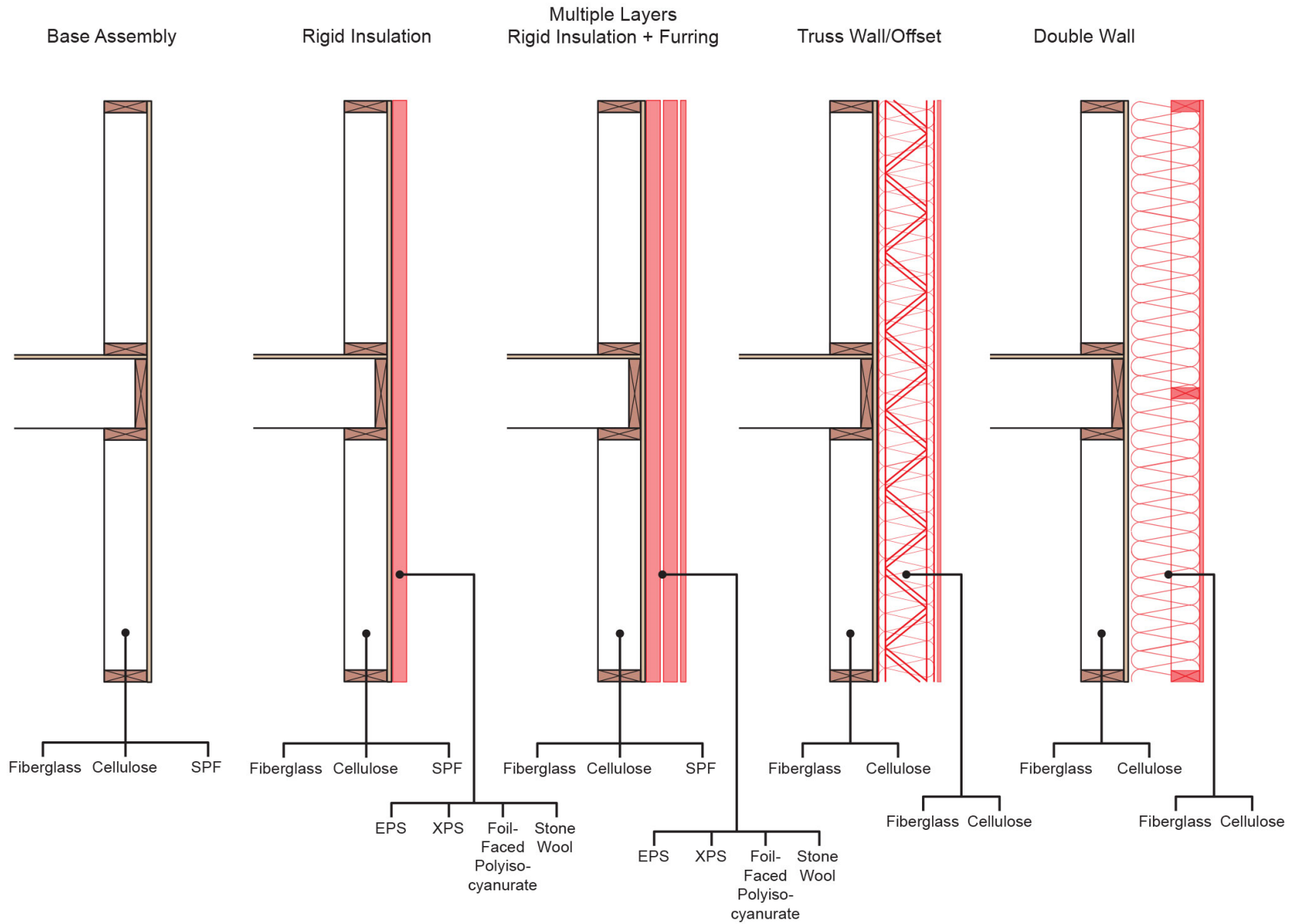
Wood Wall Evolution

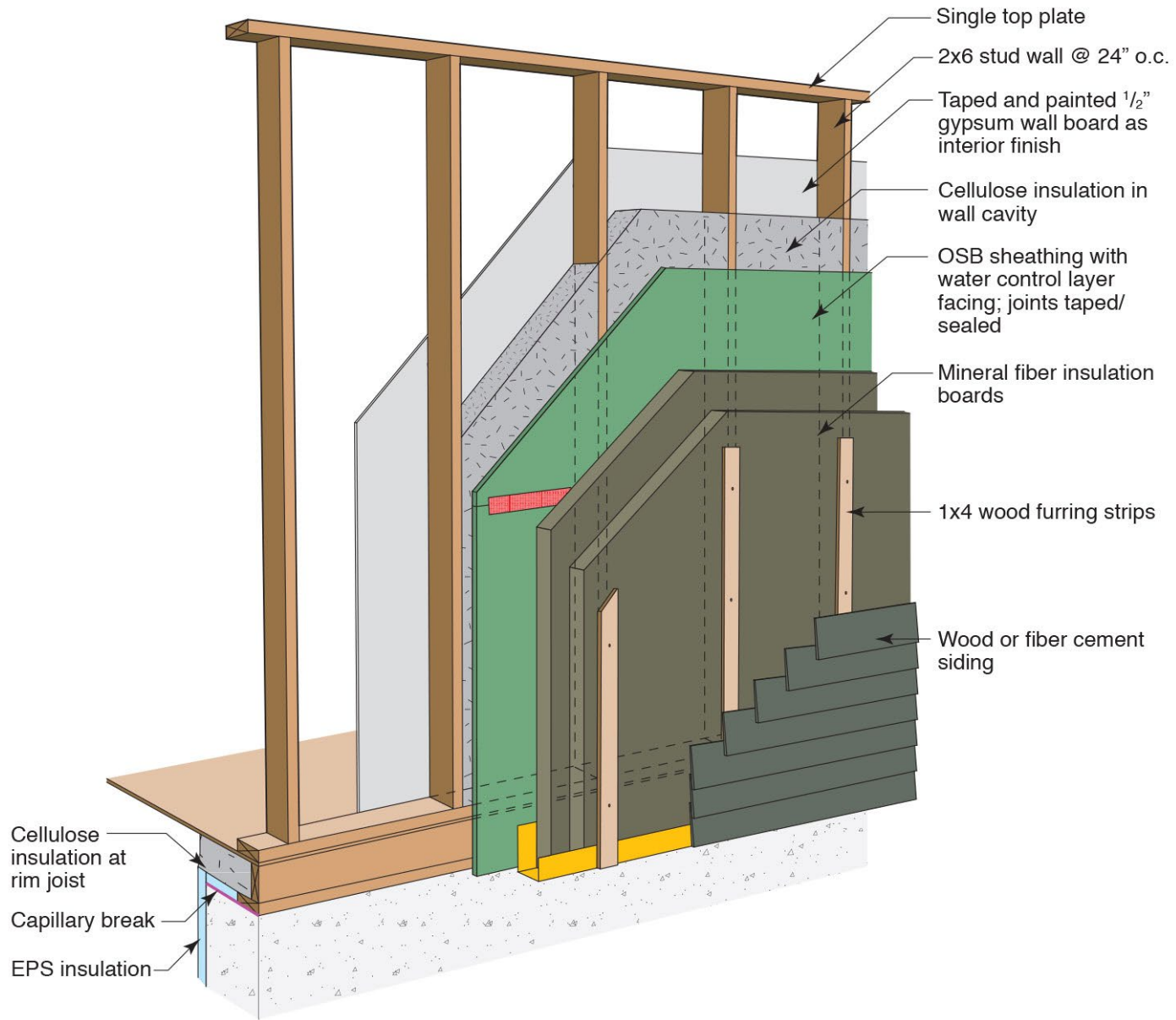


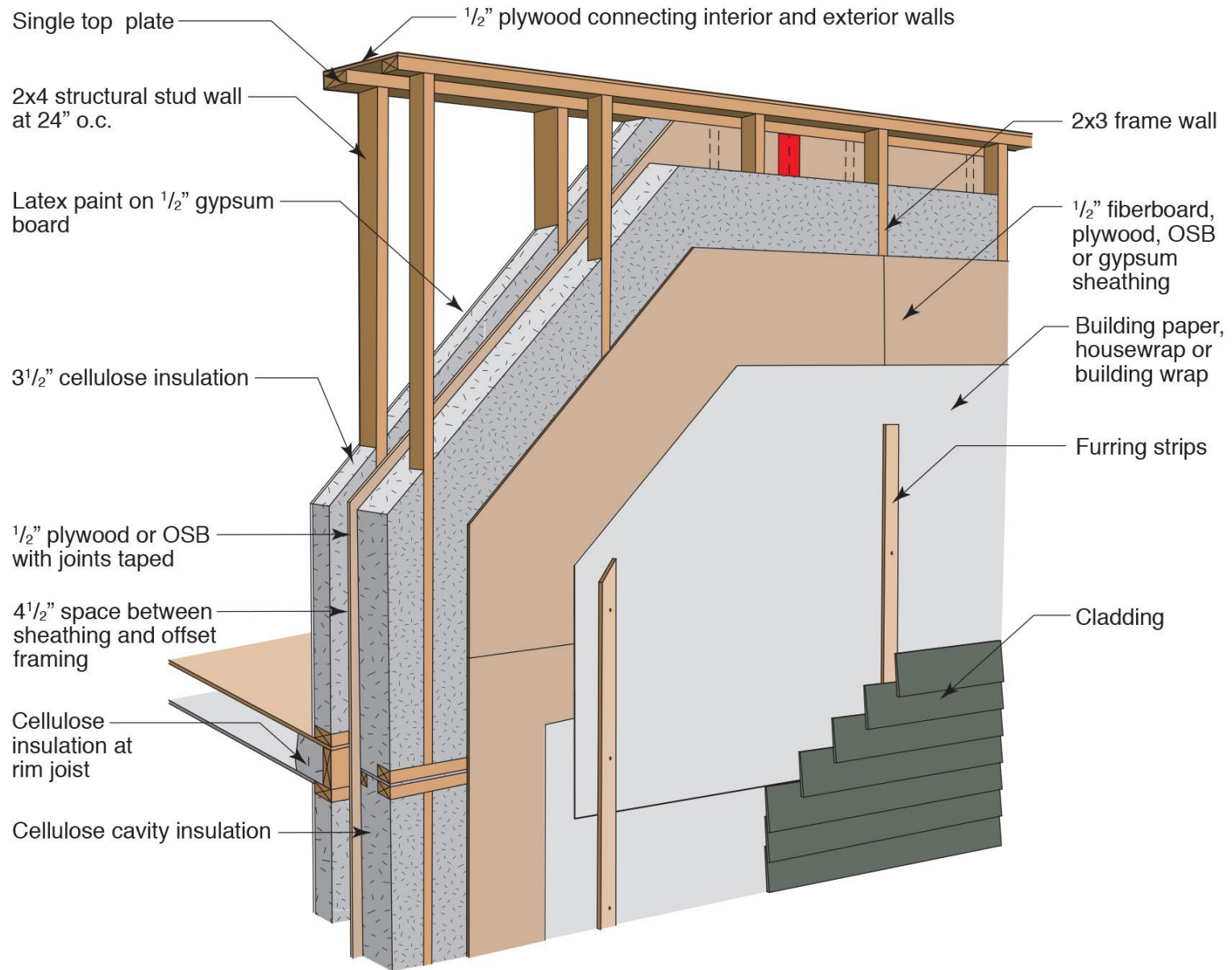


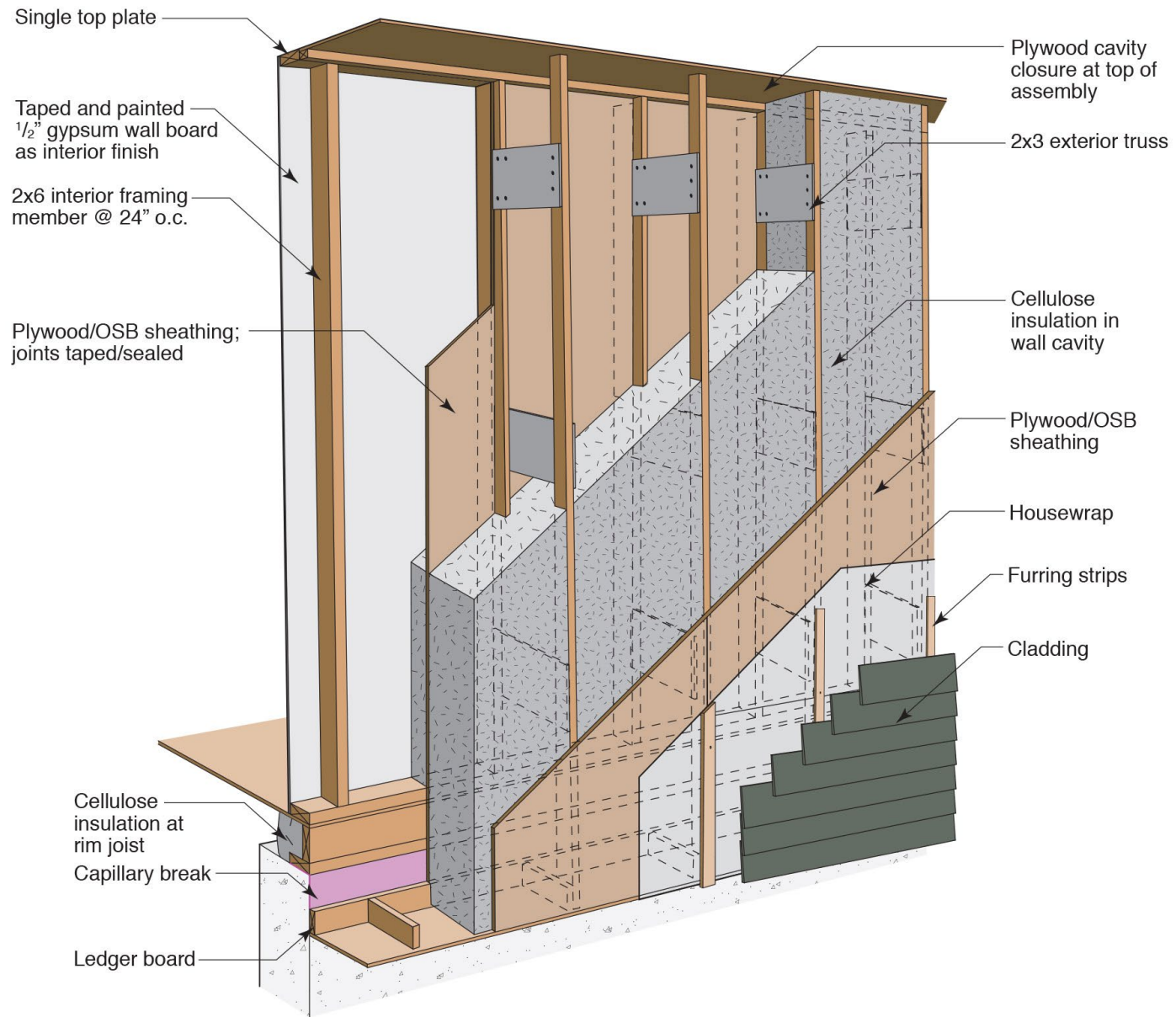












Wood Building Evolution



















Production Housing









Mass Timber

