Table 1 *Conventional Roof Assembly Guidance for Climate Zones in the US and Canada*

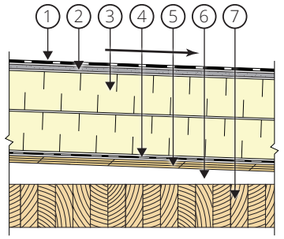
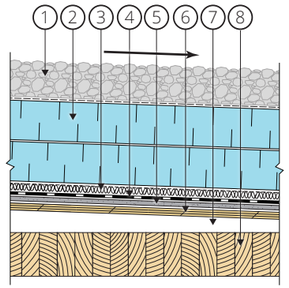
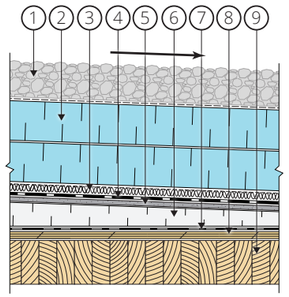
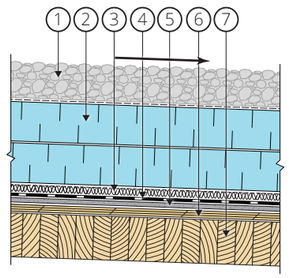
Conventional Roof Assembly *(section view)*	Assembly Layers *(listed exterior to interior)*	Assembly and Climate Zone Considerations
SLOPED OVER-FRAMING ROOF ASSEMBLY		
	**Legend** **1.** Roof membrane **2.** Coverboard **3.** Rigid insulation **4.** Air and vapor barrier membrane **5.** Structural sheathing **6.** Sloped over-framing, air cavity, vented to interior **7.** Mass timber panel	**General Discussion** The air and vapor barrier membrane in these assemblies when located over the top of the mass timber panel may also serve as protection to temporarily control moisture during the construction phase. When this membrane is flat (i.e., unsloped), plans are needed for draining water from this membrane during construction. **Climate Zones 1–3** A fully adhered roof membrane will typically serve as the air and vapor control layer. In this case, placing the air and vapor barrier membrane over the top of the mass timber panel (with sheathing where required) is often not necessary; however, a protective membrane may still be needed to temporarily manage construction phase moisture. **Climate Zones 4–8** Air control of these conventional roof assemblies is provided by the air barrier membrane. Primary vapor control of these conventional roof assemblies is typically provided by the mass timber panel. The air barrier membrane may also be vapor impermeable to serve as a vapor barrier membrane where needed for temporary roof membrane purposes or to provide additional vapor control where an air cavity (vented to the interior) occurs above the mass timber panel. The use of a vapor-permeable air barrier membrane may be suitable in some climates when there is a need to dry the roof assembly layers above the panel to the building interior; this approach requires analysis to ensure that outward vapor drive and inward drying are appropriately balanced.
TAPERED INSULATION ROOF ASSEMBLY		
	Legend **1.** Roof membrane **2.** Coverboard **3.** Rigid insulation **4.** Air and vapor barrier membrane **5.** Structural sheathing (where required) **6.** Mass timber panel	
SLOPED STRUCTURE ROOF ASSEMBLY		
	Legend **1.** Roof membrane **2.** Coverboard **3.** Rigid insulation **4.** Air and vapor barrier membrane **5.** Structural sheathing (where required) **6.** Mass timber panel	

Table 2 *Protected-Membrane Roof Assembly Guidance for Climate Zones in the US and Canada*

Protected-Membrane Assembly *(section view)*	Assembly Layers *(listed exterior to interior)*	Assembly and Climate Zone Considerations
SLOPED OVER-FRAMING ROOF ASSEMBLY		
	**Legend** **1.** Ballast **2.** Extruded polystyrene insulation **3.** Drainage composite **4.** Roof membrane **5.** Coverboard **6.** Structural sheathing **7.** Sloped over-framing, air cavity **8.** Mass timber panel	**General Discussion** In a protected-membrane roof assembly, the roof membrane will provide air control for the assembly, unless a separate air barrier membrane is placed on the mass timber panel (such as in the tapered insulation roof assembly). The roof membrane or air barrier membrane, whichever membrane is installed directly over the structural sheathing or mass timber panel, may serve to protect the mass timber during construction if the membrane is suitable for the anticipate level of moisture that the project may experience during this phase. **Climate Zones 1–3** A fully adhered roof membrane will typically serve as the air and vapor control layer and an additional membrane is not required. **Climate Zones 4–8** Primary vapor control of the protected-membrane roof assembly is typically provided by the mass timber panel. The air barrier membrane (such as in the tapered insulation roof assembly) may serve as a vapor barrier membrane where needed for temporary roof membrane purposes or to provide additional vapor control where an air cavity (vented to the interior) occurs above the mass timber panels.
TAPERED INSULATION ROOF ASSEMBLY		
	**Legend** **1.** Ballast **2.** Extruded polystyrene insulation **3.** Drainage composite **4.** Roof membrane **5.** Coverboard **6.** Tapered rigid insulation **7.** Air and vapor barrier membrane **8.** Structural sheathing (where required) **9.** Mass timber panel	
SLOPED STRUCTURE ROOF ASSEMBLY		
	**Legend** **1.** Ballast **2.** Extruded polystyrene insulation **3.** Drainage composite **4.** Roof membrane **5.** Coverboard **6.** Structural sheathing (where required) **7.** Mass timber panel	