



**COMMUNITY AND ECONOMIC DEVELOPMENT DEPARTMENT
BUILDING DIVISION**

**PO Box 1609, Mammoth Lakes, CA 93546
www.townofmammothlakes.ca.gov/building
buildingtech@townofmammothlakes.ca.gov
(760) 965-3632**

2022 CEC Pipe Insulation Requirements

All domestic hot water piping shall be insulated as specified in Section 609.11 of the CPC. In addition, the following piping conditions shall have a minimum insulation wall thickness of 1 inch or a minimum insulation R-value of 7.7:

- i. The first 5 feet of cold water pipes from the storage tank.
- ii. All hot water piping with a nominal diameter equal to or greater than 3/4 inch and less than 1 inch.
- iii. All hot water piping with a nominal diameter less than 3/4 inch that is
 - a. Associated with a domestic hot water recirculation system,
 - b. From the heating source to the kitchen fixtures,
 - c. From the heating source to a storage tank or between storage tanks, or
 - d. Buried below grade.

Exception 4 to section 150.0(j)2: Piping surrounded with a minimum of 1 inch of wall insulation, 2 inches of crawlspace insulation, or 4 inches of attic insulation shall not be required to have pipe insulation. (2022 CEC 150.0(j))

TABLE 120.3-A PIPE INSULATION THICKNESS

FLUID OPERATING TEMPERATURE RANGE (°F)	INSULATION CONDUCTIVITY			NOMINAL PIPE DIAMETER (in inches)				
	CONDUCTIVITY (in Btu·in/h·ft ² · °F)	MEAN RATING TEMPERATURE (°F)		< 1	1 to < 1.5	1.5 to < 4	4 to < 8	8 and larger
Space heating and Service Water Heating Systems (Steam, Steam Condensate, Refrigerant, Space Heating, Service Hot Water)				Minimum Pipe Insulation Required (Thickness in inches or R-value)				
Above 350	0.32–0.34	250	Inches	4.5	5.0	5.0	5.0	5.0
			R-value	R-37	R-41	R-37	R-27	R-23
251–350	0.29–0.32	200	Inches	3.0	4.0	4.5	4.5	4.5
			R-value	R-24	R-34	R-35	R-26	R-22
201–250	0.27–0.30	150	Inches	2.5	2.5	2.5	3.0	3.0
			R-value	R-21	R-20	R-17.5	R-17	R-14.5
141–200	0.25–0.29	125	Inches	1.5	1.5	2.0	2.0	2.0
			R-value	R-11.5	R-11	R-14	R-11	R-10
105–140	0.22–0.28	100	Inches	1.0	1.5	1.5	1.5	1.5
			R-value	R-7.7	R-12.5	R-11	R-9	R-8