

Insulation and ventilation

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Insulation and Ventilation Insulations are necessary for heat regulation by resisting the flow of heat. There are different types of insulation based on the resistance to heat flow denoted as ' R'. Department of Energy states that insulators should be purchased based on their resistance, and some require professional installation while others are easy to install. Batt insulation is made from fiberglass or mineral wool and available in different widths and a resistance rate of 3. 15 to 3. 85 (Department of Energy, 2008). Loose fill insulations are loose fibers and pellets made from fiberglass, cellulose or mineral wool. Their resistances range from 2. 13 to 3. 31 and mostly require installation by professionals (Department of Energy, 2008). The other type of insulation is rigid insulation that is made from plastic foams or fibrous materials. They provide a greater resistance where space is limited.

Professionals apply foam insulation produced in two forms open-cell and closed-cell with the help of special equipment.

Blue Flame states that ventilators are those openings in the attic that allow moisture to escape. Ventilation ensures that attic heat does not penetrate into living rooms during the summer. Natural ventilation installation should be for every 300 square feet of an attic, one square foot of ventilation is required (Blue Flame). Some of the natural ventilation types include gable vents, ridge vents, soffit vents, and roof line vents. Power ventilation utilizes attic ventilators that may hinder efficient fireplace and furnace ventilation (Blue Flame).

Properly ventilated and insulated attics offer several benefits. Proper insulation and ventilation prevent ice dams by keeping the roof cooler during winter. An efficient ventilation and insulation reduce cooling costs during warm seasons. Proper insulation extends shingle life span that also prevents

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rot in the roof's framing by reducing moisture build up. Improper ventilation and insulation consequences include increased costs in cooling and heating the house during hot and cold weather. Improper installation consumes energy and produces unreliable outcomes inhibiting energy efficiency. Both open cell and closed cell foam insulation are suitable for insulating. These foam installations all come in different colors and often look alike. Easley states that in open cell foam insulation, bubbles are linked and connected by air pockets with Resistance values of around 3.5 per inch. The closed cell foam spray uses tiny bubbles filled with gasses less conductive than air, forming a resistance of 6.5 per inch (40). A closed cell spray is hard to crush while open cell spray foam compresses easily. The closed cell spray insulation's high resistance makes it favorable to contractors and family owners. This insulation is also great for making a home more storm-resistant, and it does not store water (Easley 40).

Safety tips while installing insulations emphasis on the need to follow the specified directions and terms of use by the manufacturer. Electrical safety should be ensured by keeping a safe distance from electrical wirings and ensuring electrical connections are in proper conditions before plugging and unplugging equipment. Personal protection equipment such as masks and gloves should be used at all times. Easley suggests that cellulose should be maintained three inches away from chimneys, and all insulation kept at a safe distance away from heat sources (40). All insulation and ventilation should meet the federal and all laid out specifications. Other personal protection equipment includes eye protection and wearing loose fitting long sleeved and legged clothing.

Works Cited

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