

Copper pipe

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Advantages of using 0.5 inches copper instead of using 1 inch Advantages of using 0.5 inches copper instead of using 1 inch

Using 0.5 inches in a solar collector is more advantageous than using 1 inch copper because it increases solar radiation absorption and decreases emissions. The tubes are charged by Schrader valve 58, which has Freon refrigerant. The system easily embodies the outer heat conductance efficiency of heat collectors. In addition, using 0.5 inch copper has the advantage of passive collector system hence there is no need of electric power controls and pumps (Fred, 2010). In addition, it is easy to maintain and operate the system. Unlike solar collector that uses 1 inch copper, the one that uses 0.5 inch copper has freeze resistance. The fluid that can evaporate is chosen from many available fluids that do not freeze at normal temperatures.

Solar collectors that have 0.5 inches have the advantage of eliminating the use of water in the collector system. In addition, the tank has an insulator that can be fitted with a backup pre-heater 32. This is used to establish a minimum system thermal output when there is no enough sunshine (Fred, 2010). Moreover, it greatly reduces freeze susceptibility compared to solar systems that has 1 inch copper.

Due to the solar collector system being vented to the atmosphere, those with 0.5 copper inch are easy to assemble and maintain thus allowing excellent heat transfer characteristics (Modular passive solar heating system US 4505261 A, 2010). It also helps in heat exchanger that penetrates the diameter of the tank instead of contracting the periphery of the tank hence providing a lower system profile. Finally, they are able to use less energy and they are efficient.

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References

Fred, S. (2010). Solar Thermal 101: Flat Plate Solar Collectors. Retrieved on February 21,

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