

Design Modification for the Performance Optimization of Evaporative Desert Cooler

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Abstract: *In an evaporative cooling system, hot air from outside is forced through wet cooling pads by means of a motor-driven fan. The cooling pads are moistened continuously by a water pump that delivers water to it. The cooled down air is then blown into the building. Evaporative coolers lower the temperature of air using the principle of evaporative cooling. Evaporative cooling is the addition of water vapour into air, which causes a lowering of temperature of the air. The energy needed to evaporate the water is taken from the surrounding air in the form of sensible heat, which affects the temperature of the air, and convert it into latent heat. In Evaporative cooler, pads consist of excelsior (wood wool) inside containment net. Padding media plays a large part in cooling efficiency and water consumption. The purpose of this paper is to make an evaporative desert cooler more efficient and maintenance free, by making wood wool pad slide. They are assembled in such a manner that it can slide through u-channel and the top portion is duct which can also be placed or removed easily.*

Keywords: Evaporative Cooler, Human comforter, Modified Desert Cooler

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