

Dish concentrator performance based on various materials for hot humid weather

ABSTRACT

In this paper, three solar dish systems with different reflector materials were experimentally studied for five months. The size each of the solar dish is 32 cm in diameter and 5 cm in depth. The focal length of the dish concentrator was 12.8 cm. The solar dishes were made from aluminum, aluminum covered with chrome and ABS canister covered with 3M aluminum foil on its surface. Experimental measurement for total heat flux showed that 3M aluminum foil is higher than aluminum and chrome. The experimental results indicate that the total efficiency of the system is up to 49.7%.

Keyword: Solar dish; Reflector; Solar energy; Focal point