

New coating for solar collectors

National Aerospace Laboratories, India, has developed new technology that enhances the efficiency of solar collectors. Nalsun is a room temperature black chromium bath that gives excellent coating very efficiently, at low current densities. Water temperatures in collectors coated with Nalsun can rise above 80°C after about 6 h of sunshine. The coating is corrosion and abrasion-resistant, and can withstand high temperatures and humidity. The process has been patented in India, the United States, Europe and Australia. The coating has high absorptance ($\alpha=0.98$) and very low emittance ($\epsilon=0.12$)

Nalsun's most popular application is for selective coating of flat plate collectors of solar water heaters. As it is a room temperature bath, Nalsun allows considerable savings in terms of refrigeration costs, apart from lower power costs. The absence of nickel undercoat further reduces the number of processing steps, thereby contributing to lower operational costs. A plant with a plating capacity of 5,000 m² requires only US\$20,000. This is 4-5 times lower than other similar processes. *Contact: National Aerospace Laboratories, P. B. 1779, Bangalore, Karnataka, India 560 017. Tel: +91 (080) 5270 584/5265 579; Fax: +91 (080) 5260 860/5270 670; E-mail: viman@css.cm macs.ernet.in.*

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