Electric Machinery and Equipment

Solar Hot Water Heater

A basic solar water heating system works on very simple principles, can cost little to install and usually requires minimal maintenance. From a technical point of view, ferritic stainless steels have various advantages in this application, not least of which is their corrosion resistance. The initial cost of these units is also low.

Location/environment: Switzerland/Outdoor
Product: Stainless Steel Sheet
Grade/surface: Type 444/Inner Cylinder in 2B, Envelope in BA
Material thickness/diameter: Absorption Panel: 0.6 mm. Tank: 1.5 and 2.0 mm.
Weight: 125 kg
Competing material: 316L Enamelled Steel
Date of completion: November 2008
Material supplier: ArcelorMittal Stainless Europe
Source of information: ISSF Ferritic Stainless Steel Project

Remarks: Ferritic grades of stainless have already proven themselves in hot water tanks and are well accepted. Assembling two ferritic stainless sheets together makes a super-effective absorber panel with 98% of the surface area used for heat exchange. This compares very well with traditional black-painted copper tubes which can only utilise 30% of their surface area for heat exchange.