

## 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

**Fabrication process** | ABSORPTION PANEL: STAMPED AND SPOT WELDED. TANK: MIG WELDING.

**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

**Manufacturer** | ABSORPTION PANEL AND STAND: ENERGIE SOLAIRE. TANK: DEPOSITOS COBALLES.

**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.

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