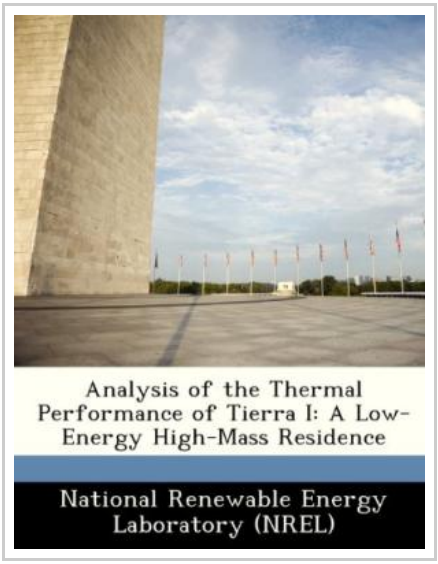

Analysis of the Thermal Performance of Tierra I: A Low-Energy High-Mass Residence

By -

Bibliogov, United States, 2012. Paperback. Book Condition: New. 246 x 189 mm. Language: English . Brand New Book ***** Print on Demand *****.A low-energy concrete house was designed using passive solar strategies to consume 70 less heating and cooling energy than a base case that conformed to the 1996 Home Energy Rating System (HERS) and the 1995 Model Energy Code (MEC). The performance of this house was then evaluated using computer simulations and measured data. The house, Tierra I, was monitored from July 22, 1996, through October 14, 1997. A Short Term Energy Monitoring (STEM) test was done November 19 to December 10, 1996. Computer simulations of the house were done using SUNREL, an updated version of the hourly data simulation package SERI-RES. The SUNREL model of the house was calibrated using both short- and long-term data. The house achieved energy savings of 56 , below the goal of 70 . The lower than expected savings resulted from problems with the window modeling. As a result, during the design phase the solar gains were overestimated causing an underestimate in the level of insulation necessary to achieve the savings goal. For very low-energy passive solar buildings, it is apparent that very...

Reviews

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