

Chinese Government Cold Climate Test

TEST REPORT OF CHINA NATIONAL CENTER FOR QUALITY SUPERVISION AND TEST OF CONSTRUCTION ENGINEERING

February 9, 2008

Subject: Result of Thermilate Demo Project in Beijing

Purpose: To determine the energy saving characteristics of THERMILATE-added paint during winter months when applied on interior walls and ceilings of a structure

Test Agency: China National Center for Quality Supervision and Test of Building Engineering, Chinese Academy of Building Research

Test Dates: Dec. 26, 2007 - January 4, 2008

Test Site: Huai Rou District, Beijing, CHINA

Test Structure: Two identical-sized rooms on the upper floor of a two-story brick apartment building.

Method of Evaluation: Painted the interior walls and ceiling of one room with ordinary paint (Libong Paint, the most popular brand in China) and the other room with THERMILATE added to the same ordinary paint. Both rooms were instrumented with an array of automated recording instruments to monitor the inside and outside temperatures during the test. Each room was heated up by its own electric heater with their temperatures set and maintained at 20oC (68oF), while the usage of electricity from both heating units was recorded throughout the test. The difference of the usage in electricity thus gives a direct measure of the amount of energy saved from the use of THERMILATE.

Inside Room Temperature: 20oC (68oF)

Outside Air Temperature (Average): 0oC (32oF)

Test Result: After carefully established the balance and stability of the test environment, as mentioned above, within a 52.5hrs time span, the electric heater for the room without THERMILATE registered a reading of 61.8KWh, whereas the one with THERMILATE of 53.1KWh. The difference was 8.7KWh and the energy saving is calculated to be 14.1% $((61.8 - 53.1)/61.8)$. With some adjustments related to the recording systems, it is concluded to a minimum energy saving of 12% and higher.

Conclusions:

- The use of THERMILATE-added paint showed significant energy saving effect during winter months when compared with application using ordinary paint.
- Under the same exterior temperature (0oC (32oF)) and the same room temperature controlled at 20oC (68oF), the use of THERMILATE-added paint resulted in an energy saving rate of 12% and higher.