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ASSIGNED BY: MEGACHIM JSC, ROUSSE

PROJECT: Establishing under lab conditions of the energy savings effect of the use of water-based paint "Thermilate", produced by Megachim JSC, Rousse

**PERSON IN CHARGE OF THE PROJECT:**

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*Sofia, July 2006*

# PROTOCOL

**Re:** Establishing under lab conditions of the energy savings effect of the use of water-based paint “Thermilate”, produced by Megachim JSC, Rouse

## I. BACKGROUND

The present test is aimed at establishing under lab conditions of the energy savings effect of the use of water-based paint “Thermilate” as is executed following a request by Megachim JSC, Rouse. The company has submitted the necessary quantity of water-based paint needed for the experiment.

## II. DESCRIPTION OF THE EXPERIMENT

Air temperature of  $20\pm 1^{\circ}\text{C}$  has been maintained in the course of 168 hours by the use of an electric heater equipped with a thermal relay and with installed capacity of 2 kW in a completely closed basement room (with no windows). The consumed energy during this period of time was recorded by electrometer with accuracy of the measurement of 0.1 kWh.

Then, a coat of water-based “THERMILATE” paint was applied on the walls using a roller at a consumption rate of  $0.330\text{ kg/m}^2$ . The dry film thickness was 0.285 – 0.300 mm.

Following the complete drying of the paint, the room temperature was again maintained at  $20\pm 1^{\circ}\text{C}$  by using the same electric heater equipped with a thermal relay.

### III. TEST RESULTS

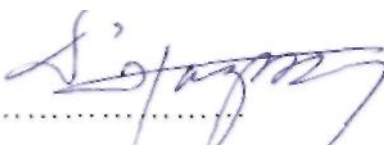
1. The consumed electric energy in the course of 168 hours without using the water-based paint “THERMILATE”, while maintaining room temperature of  $20\pm 1^{\circ}\text{C}$  was 26.9 kWh.
2. The consumed electric energy in the course of 168 hours when using the water-based paint “THERMILATE”, while maintaining room temperature of  $20\pm 1^{\circ}\text{C}$  was 20.55 kWh.
3. The electric energy savings as a result of the use of the water-based paint “THERMILATE” were estimated as being 23.7 %.

### IV. CONCLUSION


As a result of the conducted experiment, we can draw the conclusion that the use of the water-based paint “THERMILATE” has heat reflectance properties with regard to the heat flow spreading by way of radiance. As a result of these properties, a substantial amount of energy savings have been recorded in the vicinity of 23-24 %.

This gives us a reason to recommend the tested water-based paint “Thermilate” as an energy saving component for heat insulating systems for buildings and more specifically for façade walls.

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