

Test of ThermoShield Exterieur



Paint can with ThermoShield Exterieur

Termoskydd Exterieur is sold as an energy-saving facade paint in Sweden and in large parts of the world. It claims to lower heating costs by up to 24 percent and improve the thermal insulation capacity of the walls by up to 45 percent. But the new test performed by Villaägarna shows that ThermoShield insulates as a regular facade paint.

- In other words, it is not possible to paint your house to bring down the heating cost as in the case of adding insulation, says Johan Smeds, a building engineering expert at Villaägarna.

The secret to ThermoShield Exterieurs energy-saving capacity is said to be that the paint contains microscopic ceramic beads. They are said to make the house cooler in summer and warmer in winter.

In 2006, a German study found that ThermoShield Exterieur was about as good as regular paint in terms of thermal insulation. The paint manufacturer objected that the German study was a laboratory test and claimed that the result would have been much better if field tests had been done instead, i.e., painting the ThermoShield paint directly onto a house. Despite the results of the laboratory test, the paint has been kept on the market with arguments of its good thermal insulation capacity.

To find out whether it is true that ThermoShield Exterieur's thermal insulation capacity is so much better in the field, i.e., in "reality", Villaägarna has let Sweden's largest research institute, [RISE](#) (formerly SP), test the paint on a house.

In this field test by Villaägarna, the thermal resistance of ThermoShield Exterieur was compared to a standard facade paint, Caparol Amphisilan, which is not sold with the argument of being a thermal insulator. Both paints were painted on insulated facade elements of a house. Then RISE performed measurements every two minutes for slightly over a month.

RISE measured the thermal resistance of ThermoShield Exterieur to be $1.05 \text{ m}^2\text{K/W}$ and that of Caparol Amphisilan to be $1.04 \text{ m}^2\text{K/W}$. The difference in measured thermal resistance between ThermoShield Exterieur and Caparol Amphisilan should be considered as insignificant and was within the error margin of the measurement method. The thermal insulation capacities of the paints are thus equivalent. There was also no difference between values during day- and nighttime, i.e., that the paints would insulate better or worse during the day or the night. The conclusion is simply that ThermoShield Exterieur has the same thermal resistance as regular paint.

- If you were planning on painting your house to reduce energy consumption significantly, you should reconsider. It would have no effect on the heat resistance of the walls of the house. If you want to significantly raise the

thermal resistance of the walls of the house and thereby reduce energy consumption, completely different measures are required, such as additional insulation with mineral wool, says Johan Smeds.