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Hundertwasser's Waldspirale in Darmstadt

CASE STUDY OF PAINT
A facade which follows no pattern

The "Waldspirale" in Darmstadt, designed by Friedensreich Hundertwasser caused a stir. There has been much response to the building which sweeps up in a spiral. There is quite a lot to impress visitors: a facade, which follows no pattern, is styled with a glaze coating and supported by columns clad in ceramic - furthermore 1048 wooden windows of German pine which step out of line and feature different sizes - all an expression of Hundertwasser's conviction that the joy of living returns through the rejection of straight-line shapes. Trees which grow out of the facade, so-called tree tenants, and the planted roof are intended to enable people to have the shared experience of the town and nature. This is because the Waldspirale is, according to Hundertwasser, "a house for Nature and the dreams of people, an example of the augmentation of Nature in the town."

Shimmering colour bands around the house

The facade is based on the concept of transferring the strata of earth or sediment lines to the structure. Consequently, shimmering colour bands from white through ochre to red can be found which extend around the house, strictly separated from one another by ceramic decoration. The task was to transfer Hundertwasser's ideas and to realise the desired plasticity and colour design on the thermally insulated facade. In this respect Caparol technologist Dr. Jürgen Jager says: "First of all a render/plaster had to be found with which the desired structural image could be realised and the strata of the Earth's crust modelled. Then the job was to give it the appropriate play on colour." To ensure that it conformed to Hundertwasser's ideas, four sample facades were produced, photographed and the images sent via e-mail to New Zealand. There Hundertwasser examined and revised the facade design and finally approved the implementation of the concept.

During the preliminary work a model with the dimensions was build, then a non-flammable

thermally insulating composite system had to be found which also conformed to the design specifications. Suitable materials proved to be a thick-film reinforcement, a modelling and surfacing render/plaster as well as Sylitol Antique Glaze.

The facade was insulated with the Capatect LS System. When fitting the thermal insulation composite system to the concrete surface it had to be ensured that the insulation itself had already been matched to the required structure. To realise curves, plates of insulating material were glued under the lintel areas, rounded off with a knife, ground down and then reworked with the render/plaster system. "An enormous effort," says construction manager, Wolfgang Fischer, "thousands of metres of edges were rounded off in this way." To conform to the shapes of the earth strata, irregularities had to be incorporated into the facade surface. To achieve this, facade insulation plates were used in different thicknesses from 20 to 200 millimetres.

Improvisation - always in demand

First of all, the reinforced render/plaster was evenly applied to the mineral wool insulating plates and the mesh positioned in it. Then the modelling render/plaster was applied, roughened with the brush and given the desired texture. Then followed a coating with Sylitol Minera as the first coat of paint, tinted in the brightest base shade. To obtain the iridescent effect of the Earth's crust and to generate different effects according to the angle of viewing, mica and iron chippings were sprayed into the still fresh render/plaster base with a funnel-type gun. Then antique glaze was applied to style the respective sediment layers in colour.

Caparol materials were not only in demand for the facade. Those responsible for the apartments also chose products from Germany's largest manufacture of building paints.