

## CONVERTING A PAINT SHOP TO WATERBORNE PAINT

# Rapid drying

A contract painting company needed a suitable drying system to allow it to change over to using a waterborne paint. The dehumidification unit and drying tunnel that it selected enable the paint to be dried very rapidly. The low-temperature process also means that no cooling zone is needed.

— A contract painting company based in southern Germany which specialises in painting plastic components in particular for the automotive industry recently converted one of its paintshops to the use of a new paint system. The specifications for a changeover to waterborne paint included five minutes of flash-off time at room temperature and a 30-minute drying period at 80 °C, which would have meant that a cooling zone was required. Therefore, the company began looking for a different and less complex solution.

### Shorter drying period and lower temperatures

In 2007, the painting company discovered the products developed by Harter, a company which manufactures drying systems. Following successful tests in Harter's technical centre, a further series of tests was carried out by the company itself, which convinced the management team of the value of the new technology.

Harter specialises in low-temperature solutions and proposed a system which exceeded by far the requirements of the new paint. An Airgenex dehumidification unit was installed, together with a drying tunnel. After being coated with a waterborne metallic base coat, the parts are dried immediately, without the need for a flash-off period. They can be dried in only 2.5 minutes at a temperature of 40 °C. As the parts reach a temperature



The low temperatures of the new paint drying system reduce the stresses on the plastic parts

of around 30 to 35 °C during drying, a three-minute flash-off period at room temperature is sufficient.

The painting company no longer needed the cooling zone that had originally been a requirement. Instead, the clear coat is applied immediately after the parts have dried. In addition to the huge reduction in the drying time from 35 minutes plus cooling time down to 5.5 minutes, the low temperature drying process offers other benefits. The parts are subjected to fewer stresses, less energy is used and the process is highly reliable. The new drying system with a connected load of only 6.4 kW was integrated into the existing paint shop,

despite the fact that very little space was available. Since starting work with the system, the paint company is highly satisfied with the new technology. Its paint supplier was also very surprised by the excellent results produced by the drying process.



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