

# Case studies

## Automotive

### Process: Bumper Paint Preparation

## Humidification in bumper masking process reducing static charge on bumper surfaces and preventing particle adhesion.

Bumpers with static charged non-conforming to standards; immediate corrective actions required.

An automotive bumper manufacturer found that their bumpers located in the masking process, preparatory for painting, were charged with static electricity deviating from their internal standard.

This was because of dryness that made humidity decrease and static electricity arise in the process.

Immediate corrective actions were required before the electrically charged bumpers attracted dust particles resulting in paint defects.

Measures against static charge were also needed at the pre-masking storage area. The customer called for an urgent shipment of Dry Fog Humidifiers.

Humidity increased and non-conformance avoided; yet improvement continued.

Dry Fog Humidifiers AKIMist®"E" were installed in such a manner to surround the masking process and the storage area. After start spraying, the following values were displayed on the monitor placed in the process:

1. Static charge on bumpers
  - Control criterion: +/- 0.2 kV
  - Before spray: 6.0 kV / After spray: 0.02 to 0.1 kV
2. Humidity
  - Control criterion: 60%
  - Before spray: 40% / After spray: 60%
3. A number of dust particles of 25 μm or larger
  - Control criterion: 0
  - Before spray: 0 / After spray: 0

Successfully conforming to the internal control criteria without wetting the products and the surroundings reassured the customer. For further improvements, additional Dry Fog Humidifiers were installed in the preparatory storage areas for painting.



### Dry Fog Humidifier AKIMist®"E"

AKIMist®"E", an energy-saving humidifier spraying "Dry Fog" that does not wet products, equipment and people, prevents problems caused by dryness or static electricity, and improves product quality and work efficiency.



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