Electrostatic Coating

STATE AUTO Insurance Companies

Why Electrostatic Coating is Preferred

Electrostatic coating is a coating that is comprised of powder that has been charged with ions. It's used for many commonplace items such as automotive parts and household appliances and is thought to be a safer method than spray painting with an organic, solvent-borne paint.

The surface of the material is evenly coated with the powdered paint and then oven baked. The oven heat hardens and cures the coating, which further enhances the adhesion.

When the electrostatic coating is properly applied, it bonds tightly to the underlying metal or plastic base because the ions form an actual chemical bond to the base.

There Are Some Dangers

Although typically considered to be safer, electrostatic coating comes with its own dangers.

The Health and Safety Executive of the United Kingdom has reported that this particular coating contains ingredients which have been proven to cause a response in persons with asthma. Some ingredients in the coating have also shown a causal effect of cancer in laboratory animals.

Proper application of the product should result in minimal exposure to hazards. The electrostatic coating is applied while the base material is contained within a spray booth.

When properly installed and operated, the design of the spray booth results in a finished product. The operator should not be required to enter the booth to accomplish any touch up painting. The booth design also allows for scheduled maintenance to be accomplished without exposing employees to unnecessary danger.

Occasionally, however, electrostatic powder can build up to inappropriate levels under some conditions. Some causes of this plausible overexposure could be occasioned by:

- Cleaning procedures – if compressed air is improperly used, dust levels may become too high
- Material production – employees attempt to touch up finished objects

Cleaning Procedure

Be alert to how employees use compressed air to clean the equipment.

Always use a pressure regulator and comply with housekeeping procedures (follow worker safety, equipment, and machine procedures from the manufacturer, installation professional, and maintenance departments).

Workers should not have to enter the spray booth.

The design of the booth should render touch up unnecessary. Should the object be improperly finished, adjust the automatic sprayers or utilize a table that rotates.

Closely monitor the object so that any issues with quality can be remedied rapidly.

Modifications, if necessary, should be accomplished by trained, authorized workers who are experienced with the electrostatic coating process.

Excessive dust can build up due to the use of too much powder.

Excessive powder can cause more dust, more product waste, and can even persuade employees to remove personal safety equipment such as respiratory or eye protection so that they have better visual acuity.

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