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GET A GRIP ON SURFACE CLEANLINESS BY MEASURING DEPOSITION

ISO 14644-3

Sizing of particles

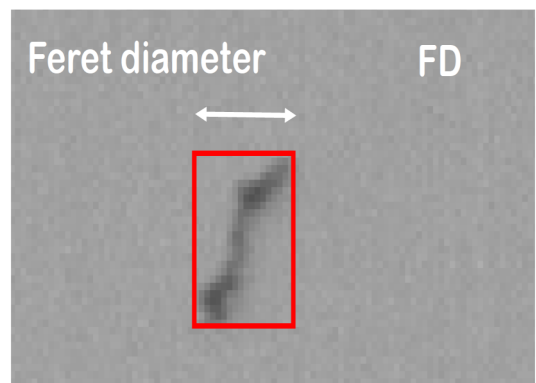
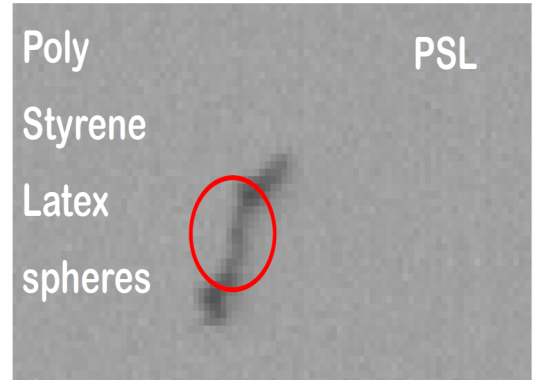
Several different ways can be defined to measure a particle. According to the ISO 14644-3 the manufacturer is allowed to define his own system of measuring. The PDM system uses a method of measuring widely used in machine vision. Airborne particle counters have a way of measuring the size equivalent to the polystyrene latex sphere (PSL) particle. Airborne particle counters use this method as the PSL's are used as well in their calibration method and because it fits better the sensor type used.

The PDM system uses an optical standard on a glass plate for calibration purposes. The measuring system therefore uses the flat projected particle in order to extract the dimensional information. Particles falling onto a surface will rest in their mechanical stable state. Consequently the particle will show its largest area to the detection system and therefore also their longest dimension. This attribute was used.

In the vision industry the "fitting box" length and width are used. For this the smallest rectangular fitting box is determined. The orientation of the box is not restricted to the axes of the Cartesian system used to measure.

In the drawing below a circle is shown. This circle represents the equivalent PSL particle diameter. The Feret's diameter is used in microscopy but depends on the positioning of the particle in the viewer.

In the ISO 14644-3 the fitting box is mentioned to measure the particle size.



The PDM uses the fitting box method and provides the longest dimension.

The measurement method is called:

FSLS Flat Surface Longest Side

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