



Dust Analysis for FLSmith Electrostatic Precipitators

At FLSmith R&D Centre, Dania, we have various installations for pilot testing and a modern chemical & physical laboratory capable of performing a wide range of materials testing. Some of these are important especially for prediction performance of electrostatic precipitator (ESP) when analyzing dust samples.

Electrocardiography and blood samples are important for diagnostic of human health. The equivalent for electrostatic precipitators are the current/voltage diagram (CVC's) and dust samples. With such information at hand, diagnostic of ESP's can be executed professionally.

Benefits of analyzing your dust samples.

- An accurate prediction of the electrostatic precipitator performance to meet future emission restrictions.
- Improve operating procedures with the prediction of eventual problems and correction of process parameters.
- Troubleshooting to reduce unexpected downtime

Let the experts analyse your dust.

Helping you on your way to a more sustainable future.

Resistivity test

With the resistivity test we measure in $\text{Ohm}\cdot\text{cm}$ the specific electrical resistance of the dust.

At our laboratory we have an apparatus capable of testing six samples simultaneously. The samples are placed in each of the measuring cells in a controlled atmosphere where moisture content and temperature can be adjusted. Air is circulated and moisture controlled to the desired level. The temperature is regulated from ambient temperature to 450°C and cooled down. During this process the resistivity is recorded.

The shape of the heating and cooling curves are analyzed afterwards to explain or predict electrostatic precipitator performance.

Particle Size Distribution

The dust collection efficiency of the precipitator increases from $1\ \mu\text{m}$ up and depends on the particle size. Our laboratory provides valuable data for a complete picture of the particle size distribution and with this tool we can understand and foreseen how the dust emission is affected, after the ESP.

We also execute other relevant tests like XRF analysis for ash, chloride – potassium-alkali contents and determination of pH-value.



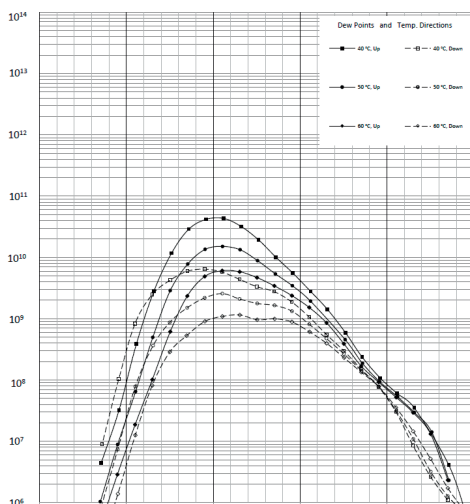
Sampling and shipping information

Sample material: at least 100 grams or 0,25 l of dust sample from each ESP hopper .

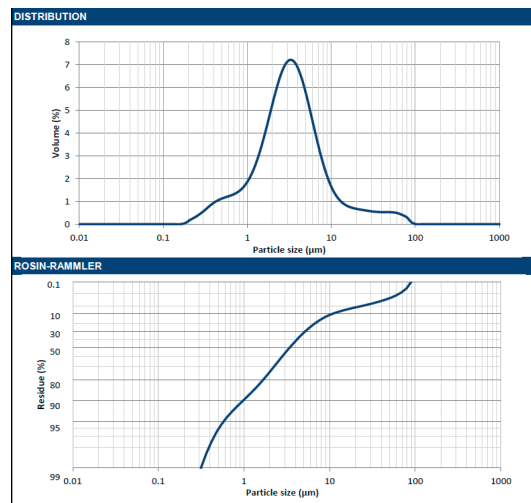
Packaging: please use a container or plastic bag, safely sealed for each sample.

Marking: please label each sample as F1, F2, F3, etc.

Delivery : by courier to our R&D Centre Data.



Example of Resistivity test



Example of Particle Size Distribution test

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