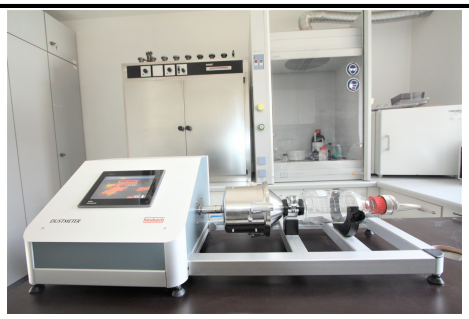
Product Specification

DIN 55992-1 Bestimmung einer Maßzahl für die Staubentwicklung von Pigmenten und Füllstoffen - Teil 1

TÜV NORD Systems
GmbH & Co. KG
Plant & Product Safety
Refrigeration & Air
Quality

Am TÜV 1
45307 Essen, Germany



1. General description:

For further informations and contact persons click the link below:

Particle and fiber analysis | DMT Group (DMT-Group.com)

Determination of the inhalable, thoracic, and respirable dust fractions according to DIN 481

DMT conducts investigations of dusting indicators using three variants with a rotating drum. The basic structure and processes are analogous in all three methods. A sample of the bulk material is set in motion within a drum of diameter d and at a rotational speed of n for a defined time t using entrainment plates. Airborne particles from the cascading bulk material are discharged from the drum by an axial imposed air flow V□. The discharged particles are quantified in the subsequent analysis, and optionally, the particle fractions are determined. The process parameters d, n, t, and V□ are specified in the respective standards and are specific to the standard, as is the particular analysis method.

d = 14 cm	n = 30 min^{-1}
t = 300 s	V□ = 20 l/min

The discharged laden air flow passes through a horizontally oriented glass section, which fundamentally serves as a coarse separator or sifter. Subsequently, the finer particles are collected on an absolute filter and quantified gravimetrically. This results in a dimensionless parameter that relates the collected dust quantity on the filter to the initially used 100 g sample quantity.

$$S_R = \frac{\Delta m_{\text{Filter}}}{100g \text{ eingesetzte Probe}}$$

Figure I: Test rig DIN 55992-1