



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 For further informations and contact persons click the link below:

description: [Particle and fiber analysis | DMT Group \(DMT-Group.com\)](https://www.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.

$d = 14 \text{ cm}$ $n = 30 \text{ min}^{-1}$

$t = 300 \text{ s}$ $V = 20 \text{ l/min}$

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