

STANDARD TEST METHOD FOR NON-DISPERSIBLE MATTER BY MECHANICAL FLUSHING (NDM)

FUNCTIONAL PRINCIPLE

The process provides information of the content of coarse impurities or constituents which are insoluble in water, such as ceramic constituents, metals or heavily compacted pigments. A sample is mechanically flushed with water through a wire-mesh screen of a specific size until all that remains is a non-dispersible matter of the sampling. This non-dispersible matter is dried, weighed and the amount of residues is expressed as mg/kg (ppm) of the original sample.

This method delivers rapid results, which can be compared with the stipulated limit values in quality control. In some cases, the impurities need to be categorised under an optical microscope on the basis of their colour, form and surface quality. Magnetic constituents can be detected with bar magnets. Further qualitative analysis can be conducted to establish the origin of impurities (e.g. X-ray microanalysis (XMA) or energy dispersive X-ray microanalysis (EDX)).

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KEY FEATURES

Determination of non-dispersible matter after mechanical water flushing of for example regular untreated carbon blacks (may not be applicable to oil-treated carbon blacks because the oil would prevent proper wetting of the black by water)

General procedure for testing pigments and fillers

Functional principle according to ASTM D 7724

- High-quality, reliable and durable technology
- Easy handling, servicing and evaluation
- Fully-automatic operating program
- Collecting tank 50liter with integrated water pump (fully automatic)
- Handy screens (diameter 105 mm)
- Easy sieve entry and removal
- Absolute reproducibility of screening results
- No dust forming due to sealed construction
- Glass vessel for observation of process
- Automatic lifting system for vessel lid
- Low noise level

PERFORMANCE FEATURES

Range of application:	Wet screening, classification, elutriation, screen section
Input materials:	Powder, suspension and mud
Number of fractions:	Standard 1 (max. 3)
Charge / solid matter amount:	From 100g to 800g in one input step

DEVICE SPECIFICATIONS*

Case / Analysis sample vessel / lid:	Stainless steel	Water filter:	60 micron
Engine:	24 V DC 10 rpm	Pressure reducing valve:	Ms, adjustable 2-5 bar
Power supply:	110 V or 230 V	Water pressure (set):	3bar / 4bar
	50/60 Hz	Flow meter:	0-1200L/h
Height:	1.800 mm	Total flow:	820 l/h at 3bar / 1020 l/h at 4bar
Width:	950 mm	Noise parameters:	DIN 45635-01
Depth:	900 mm	Emission value at work place:	L pA eq = 68dB (A)
Weight approx.:	150 kg		

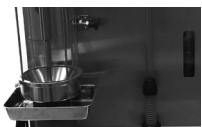
CONNECTIONS

Water supply:	Clean water at least DN ½" at 3 or 4 bar, recommended 17°C
Drainage connection:	At least DN ¾" (maximum 6m long, maximum height 2 m)
Power supply:	230 V ~ 50 Hz

TEST SIEVE SPECIFICATIONS*

Screen ring:	Plastic or stainless steel
Diameter:	105mm
Sieve material:	Stainless steel, Test sieve according ISO 565/DIN ISO 3310-1/DIN 9044 ISO 4783
Standard mesh sizes:	0,040mm-0,200mm (other mesh sizes on request)

*Subject to modification



For more information contact your HITEC Luxembourg representative:
Tel +352 498478 - 1 **Fax** +352 401303 **Email** sales@hitec.lu **Web** www.hitec.lu
 49, rue du Baerendall - L-8212 Mamer