



MDTA 4

**Automatic Fibre-Length-, Impurity-
and Spinnability Tester**



MDTA 4

Impurity Testing

One of the most important quality concerns of a spinning mill is the purity grade of the raw material. Textechno's latest version of the Micro-Dust and Trash Analyser, the **MDTA 4**, cleans the raw cotton from any impurity and precisely analyses the dust content, fibre fragments, short fibres, neps, seed-coat neps and trash particles. Dust and fibre fragments are collected in appropriate filters. Neps, seed-coat neps and trash particles are separated into a dedicated chamber to be weighted using a high-precision balance. From this weight the non-lint percentage is determined. By using an additional **NT-DA** (Neps and Trash-Digital Analysis) or **OPTOTEST**, these impurities are classified according to their size and number as neps, seed-coat neps and trash particles. Hence, the **MDTA 4** is the first and only testing instrument to combine both test methods – the weight percentage and number of impurities per gram.

The **MDTA 4** allows to test different sample forms, such as fibres from the bale, tufts before carding as well as carding- and draw-frame slivers. The instrument can be used to analyse the cleaning efficiency of the back process and carding machines.

During the measurement, a sample of up to 10 g is mechanically opened down to single fibres by a roller. Both, cotton and man-made fibres are tested by the **MDTA 4**.

Opening Work Measurement

During opening, the energy required to open the sample to single fibres is recorded to determine the opening behavior. This opening work is an essential parameter for the carding process – depending on the setting of the **MDTA 4** it is indicative of the fibre-to-fibre or the fibre-to-metal friction.

Sliver Creation and Spinnability

After opening, the clean fibres are collected in a rotor ring assembly to create a sliver of 1 m length which is useful for various applications: e.g. counting number of sticky points or checking the cleanability and nep sensitivity of the fibres. Since the fibres are well blended in the sliver created by **MDTA 4**, the color of a mélange is quickly evaluated. Finally, spinning the sliver into an OE yarn allows to directly assess the spinnability of the fibres.

Fibre Length Measurement

Alternatively, the clean fibres can be passed through an opto-electronic sensor assembly after opening. Here, the length of the individual fibres is measured using digital image processing. This length measurement assures not only an accurate measurement of the fibre length distribution, but also a precise determination of the short fibre content in absolute numbers.

MDTA 4 is part of Textechno's **FIBRE CLASSIFYING SYSTEM – FCS.**



MDTA 4

Technical data

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|-------------------|-------------------|-----------|----------------|
| - Mains supply: | 230 V, 50 (60) Hz | - Height: | 1250 mm |
| - Compressed air: | 6 bar | - Width: | 1250 mm |
| - Capacity: | Approx. 100 l/min | - Depth: | 900 mm |
| - Lacquer finish: | RAL 9006/5002 | - Weight: | approx. 270 kg |

The above technical contents can be subject to changes by Textechno.

Textechno

textile testing technology



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