NFG 07107 03/06/2007

Group	1	1.1	1.2

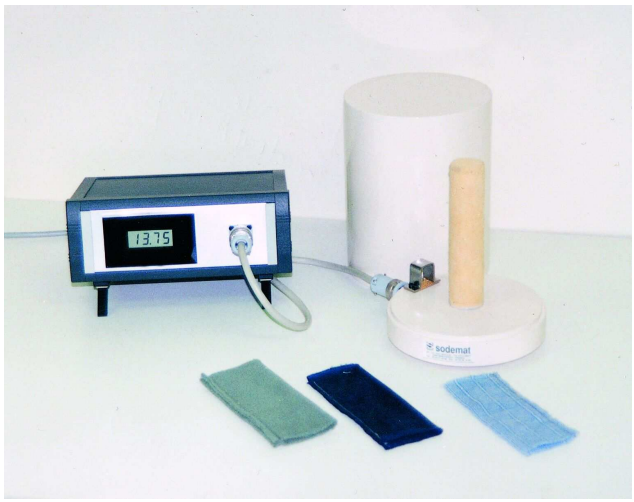
ADIATHERMIC POWER METER

Réf.: S041

The current worries concerning energy sources and the need for a degree of comfort has created the metrological need for a measuring instrument that measures the transmission of heat towards textile materials

The aim of this instrument is therefore to measure adiathermic power: a characteristic linked to the thermic resistance and the radiation properties of different materials used in the textile industry. This instrument allows for the comparison of different materials from the point of view of calorific transmission.

Principle



It measure the electric power provided to a heat resistance surrounded by aluminium cylinder in order to maintain a constant gap between the surface temperature of the cylinder and the cylinder environment.

An electronic regulation system functioning proportionally allows for the gap to be maintained at a fixed value of 20°C.

A cylinder shaped sample in which the dry good is placed surrounds the heated cylinder. This limits the heat escaping according to the thermic resistance and radiation characteristics. The presence of the sample therefore reduces the electric power needed to be provided.

The knowledge of electric power with and without sample on the cylinder shaped body allows for the heat retaining properties of a dry good to be determined.

The electric power emitted is given by measuring the resistance supply voltage.

Group:
1 Textile – **1.1** Clothing – **1.2** Health – **1.3** Technical – **2** Non woven – **3** Leather – **4** Thermoplastics – **5** Thermosets/Composites

Field

This version allows for the heat retaining properties of all dry goods to be determined (clothing covering arms, legs, or the human body in general, with the exclusion of parkas and anoraks) or flexible materials of which the heat retaining power is between 10 and 60%.

Use

The removed samples must have a dimension of 160 x 220 mm. The smaller dimension corresponds to the channel or the mesh columns. Sewing has to be carried out before forming the cylinder which will be placed in an aluminium tube. The measuring is carried out simply and the result is visualised on a screen. The evolution can be visualised throughout the test thanks to the software option available.

Technical characteristics**

Weight:	3.5 kg (total)
Dimensions (L x lx ht):	160 x 160 x 235 mm, head of measure 180 x 180 x 80 mm, case
Power supply:	220 V single phase, or 110 V single phase, 50 Hz or 60 Hz
Sample:	Dimensions: 160 x 120 mm
Test conditions:	Temperature 20°C – 30°C Relative humidity: 60% – 70%

*** Characteristics given as an estimate, we reserve the right to freely modify them with the aim of improving the performance of our test device.*

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