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2013-04-08
M100827/16 MSG/JRE

Fabric Colline Manufacturer Kvadrat A/S

**Determination of the
airflow resistance according to EN 29053**

Test Report No. M100827/16

Client:	Kvadrat A/S Lundbergsvej 10 DK – 8400 Ebeltoft
Consultant:	Jan-Lieven Moll M.Eng. Philipp Meistring
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Certified quality management system according to ISO 9001
Accredited testing laboratory according to ISO/IEC 17025

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Appendix A: Measurement results and evaluation

Appendix B: List of test equipment

1 Task

On behalf of Kvadrat A/S, DK – 8400 Ebeltoft, the airflow resistance of the fabric type Colline has to be measured according to EN 29053 [1].

2 Basics

This test report is based on the following documents:

- [1] EN 29053 “Acoustics – Materials for acoustical applications – Determination of airflow resistance”. 1993

3 Test object

The tested material is described by the manufacturer as follows:

- fabric type Colline
- manufacturer Kvadrat A/S
- material: 75 % new wool, 17 % acrylic, 8 % nylon

The test laboratory has determined the following parameters:

- area specific mass $m'' = 463 \text{ g/m}^2$
- thickness $t = 2.2 \text{ mm}$

4 Execution of measurements

The airflow resistance was determined according to EN 29053 [1].

The measurements for the determination of the airflow resistance were carried out at different air velocities. The continuous airflow method was applied. The specimen holder has a diameter of 100 mm. The test specimen was fitted flat over the specimen holder, without stretching the material, sealed at the edges and fixed.

According to the standard the specific airflow resistance R_s is indicated as measurement result which was determined by extrapolation (linear regression) at an airflow velocity of $u = 0.0005 \text{ m/s}$.

The test equipment listed in Appendix B was used for the measurements.

5 Measurement results

For the tested fabric, type Colline, a specific airflow resistance of $R_s = 409 \text{ Pa} \cdot \text{s/m}$ was determined.

For further information regarding the measurements, see Appendix A.

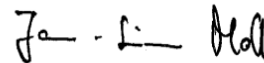
6 Remarks

The determined test results only refer to the prevailing conditions on the day of measurements.

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M. Eng. Philipp Meistring



Jan-Lieven Moll



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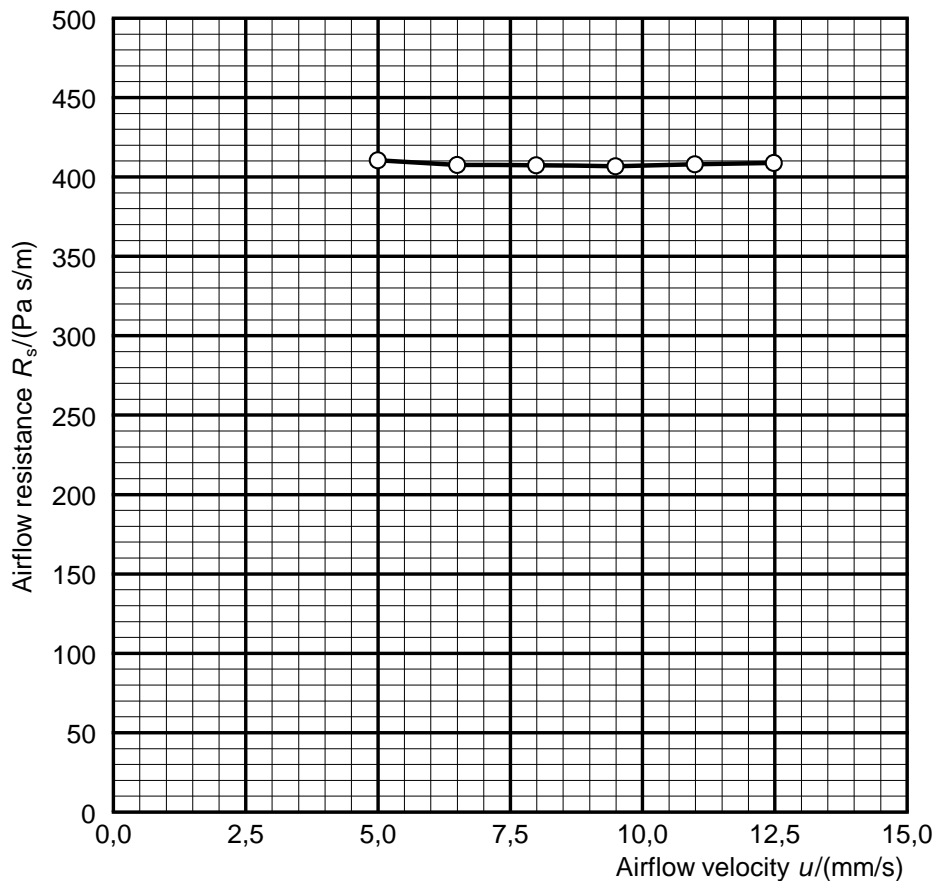
EN 29053
Determination of airflow resistance

Client: Kvadrat A S
8400 Ebeltoft Denmark
Order Number: M100827
Müller-BBM Probe Number: 8386
Test object: - fabric type Colline
- material: 75 % new wool, 17 % acrylic, 8 % nylon

Diameter: 100 mm
Thickness: 2.2 mm
Area-specific mass: 463 g/m²

Barometric pressure:
 $B = 94,3 \text{ kPa}$
Temperature:
 $\theta = 22,6 \text{ °C}$
Relative humidity:
 $r. h. = 21,5 \%$

$u/$ (mm/s)	$R_s/$ (Pa s/m)
4.99	410
6.49	408
7.99	407
9.49	407
10.98	408
12.48	409



Airflow resistance $R_s = 409 \text{ Pa s/m}$

Laboratory: Planegg
Responsible: Moll
Date: 2013/04/08

List of test equipment

For the measurements and evaluations, the following test equipment was applied:

Name	Manufacturer	Type	Serial-No.
air flow resistance measurement system	Müller-BBM	M89319-00	315003
Software for data logging and evaluation	Müller-BBM	m ars	v1.0.0.2
Digital measuring slide	Mitutoyo	CD-15PPR	07019377
Electronic balance	Kern	440-49N	WC0633572