

Müller-BBM GmbH
Robert-Koch-Strasse 11
82152 Planegg
Germany

Tel. +49 (89) 85602-0
Fax +49 (89) 85602-111

www.MuellerBBM.de

M. Eng. Philipp Meistring
Tel. +49(89)85602-228
Philipp.Meistring@MuellerBBM.de

2012-04-03
M60 836/85 msg/mol

**Upholstery fabric
Balder 2 by Fanny Aronsen
Manufacturer Kvadrat A/S**

**Determination of the
air flow resistance according to EN 29053**

Test Report No. M60 836/85

Client:	Kvadrat A/S Lundbergsvej 10 DK – 8400 Ebeltoft
Consultant:	M. Eng. Philipp Meistring
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Date of test:	2012-04-03
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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 upholstery fabric type Balder 2 by Fanny Aronsen 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:

- upholstery fabric type Balder 2 by Fanny Aronsen
- manufacturer Kvadrat A/S
- material: 68 % new wool, 26 % cotton, 6 % polyamide

The test laboratory has determined the following parameters:

- area specific mass $m'' = 503 \text{ g/m}^2$
- thickness $t = 1.14 \text{ mm}$

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 upholstery fabric, type Balder 2 by Fanny Aronsen, a specific airflow resistance of $R_s = 1243 \text{ Pa} \cdot \text{s/m}$ was determined.

For further information regarding the measurements, see Appendix A.

6 Remarks

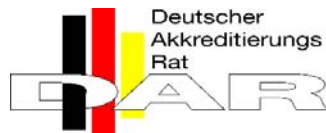
The determined test results only refer to the prevailing conditions on the day of measurements.

This test report may only be published and copied as a whole including all of its appendixes. The publishing of extracts requires the prior written consent of Müller-BBM GmbH.



M. Eng. Philipp Meistring

MÜLLER-BBM
Accredited Testing Laboratory
according to DIN EN ISO/IEC 17025



DGA-PL-2465.10

EN 29053
Determination of Airflow Resistance

client: Kvadrat A/S
8400 Ebeltoft
Denmark

Projectnumber: M60836

Test Object: - Balder 2 by Fanny Aronsen, manufacturer Kvadrat A/S
- material: 68 % new wool, 26 % cottob, 6 % polyamide

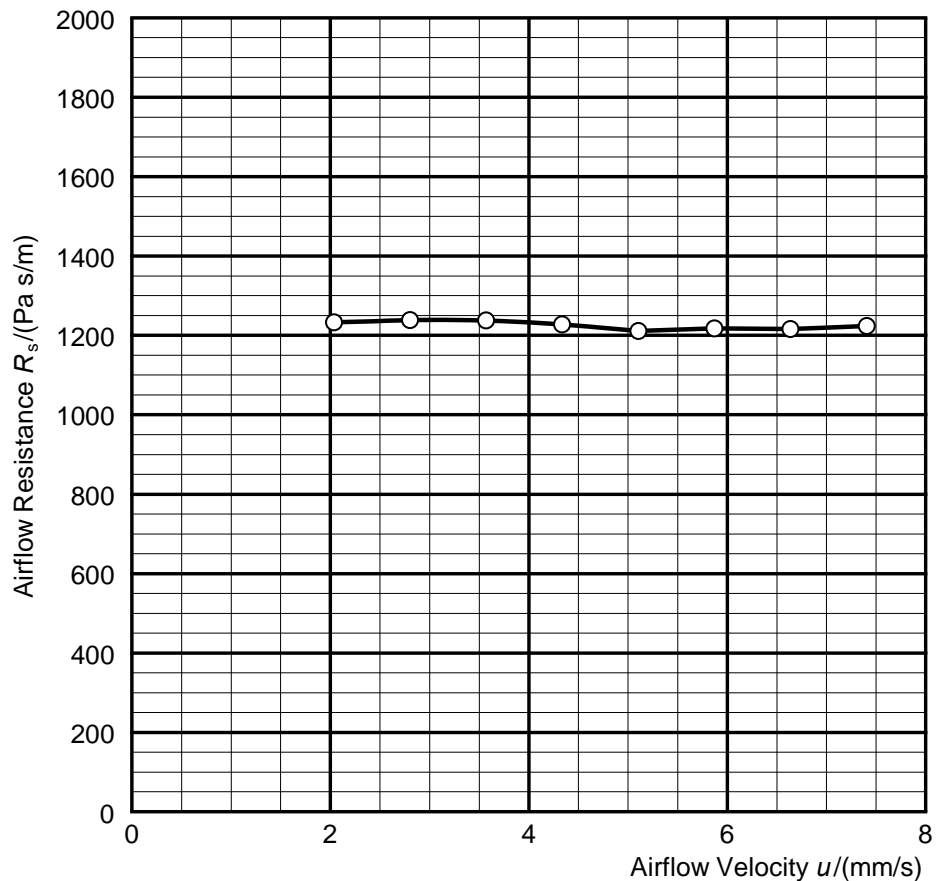
Diameter: 100 mm
Thickness: 1.14 mm
Area-related Mass: 503 g/m²

Barometric Pressure:
 $B = 94,3 \text{ kPa}$

Temperature:
 $\theta = 22,7 \text{ °C}$

Relative Humidity:
 $r. h. = 27,3 \text{ %}$

$u/$ (mm/s)	$R_s/$ (Pa s/m)
2.04	1233
2.80	1239
3.57	1238
4.33	1228
5.10	1211
5.87	1218
6.64	1216
7.40	1223



Airflow Resistance $R_s = 1243 \text{ Pa s/m}$

Laboratory: Müller-BBM Planegg
Responsible: Moll
Date: 2012/04/03

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