

Müller-BBM GmbH  
Robert-Koch-Str. 11  
82152 Planegg bei München

Telephone +49(89)85602 0  
Telefax +49(89)85602 111

www.MuellerBBM.de

M.Eng. Philipp Meistring  
Telephone +49(89)85602 228  
Philipp.Meistring@mbbm.com

2014-01-09  
M100827/49 MSG/JRE

## **Curtain fabric Air 4 Manufacturer Kvadrat A/S**

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

**Test Report No. M100827/49**

Client:	Kvadrat A/S Lundbergsvej 10 DK – 8400 Ebeltoft
Consultant:	M.Eng. Philipp Meistring
Date of report:	2014-01-09
Delivery date of test object:	2013-12-20
Date of test:	2014-01-08
Total number of pages:	In total 6 pages: 4 pages text, 1 page Appendix A and 1 page Appendix B.

Certified quality management system according to ISO 9001  
Accredited testing laboratory according to ISO/IEC 17025

Müller-BBM GmbH  
HRB Munich 86143  
VAT Reg. No. DE812167190

Managing directors:  
Stefan Schierer, Elmar Schröder  
Carl-Christian Hantschk, Edwin Schorer  
Horst Christian Gass, Norbert Suritsch

**Table of contents**

<b>1</b>	<b>Task</b>	<b>3</b>
<b>2</b>	<b>Basics</b>	<b>3</b>
<b>3</b>	<b>Test object</b>	<b>3</b>
<b>4</b>	<b>Execution of measurements</b>	<b>3</b>
<b>5</b>	<b>Measurement results</b>	<b>4</b>
<b>6</b>	<b>Remarks</b>	<b>4</b>

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 curtain fabric type Air 4 has to be measured according to EN 29053 [1].

## 2 Basics

This test report is based on the following document:

- [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:

- manufacturer Kvadrat A/S
- curtain fabric type Air 4, color 133
- material: 100 % Trevira CS

The test laboratory has determined the following parameters:

- area specific mass  $m'' = 80.2 \text{ g/m}^2$
- thickness  $t = 0.21 \text{ mm}$

## 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 used for the measurements is listed in Appendix B.

## 5 Measurement results


The airflow resistance of the tested curtain fabric is below the valid range of the measurement equipment. Thus, for the curtain fabric, type Air 4, a specific airflow resistance of  $R_s < 10 \text{ Pa} \cdot \text{s/m}$  can be stated.

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



Durch die DAkkS Deutsche Akkreditierungsstelle GmbH  
nach DIN EN ISO/IEC 17025 akkreditiertes Prüflaboratorium.  
Die Akkreditierung gilt für die in der Urkunde aufgeführten Prüfverfahren.

**EN 29053**  
Determination of airflow resistance

**Client:** Kvadrat A S  
8400 Ebeltoft Denmark  
**Order Number:** M100827  
**Müller-BBM Probe Number:** 9634  
**Test object:** - fabric type Air 4, color 133  
- material: 100 % Trevira CS

Diameter: 100 mm  
Thickness: 0.21 mm  
Area-specific mass: 80.2 g/m<sup>2</sup>

The airflow resistance of the specimen is below the valid range of the measurement equipment.  
Thus, a specific airflow resistance of  $R_s < 10$  Pa s/m can be stated.

Airflow resistance  $R_s < 10$  Pa s/m

Laboratory: Planegg  
Responsible: Aumann  
Date: 2014/01/08

## List of test equipment

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

<b>Name</b>	<b>Manufacturer</b>	<b>Type</b>	<b>Serial-No.</b>
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