



TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ PRAHA, s.p.
Technical and Test Institute for Construction Prague
pobočka / branch Praha

Akreditovaná zkušební laboratoř • Autorizovaná osoba • Certifikační orgán • Inspekční orgán
Accredited Test Laboratory Authorised Body Certification Body Inspection Body



L 1018.5

REPORT

Test Laboratory No. 1018.5

**Accredited by The Czech Institute for Accreditation o.p.s. in accordance with
ČSN EN ISO/IEC 17025**

No. 010-031290

**about tests of visible defects, thickness and surface density, tensile
properties and hardness (Shore A)**

Client: Technical and Test Institute for Construction Prague, s. p.
Address: Branch 0100 Praha
Prosecká 811/76a, 190 00 Praha 9
INo: 00015679
Applicant: Dural GmbH & Co. KG
Address: Südring 11, D-56412 Ruppach-Goldhausen, Germany

Tested sample: Rubber EPDM

Order number: Z 010 13 0070

Report contains 4 written pages including the title page

Number of Annexes: 0

The person responsible for the content of this report:

Jiří Novák
Report executor

The person responsible for correctness of this report:

RNDr. Vojtěch Hötzel
Head of the Test Laboratory

Prague, 12.03.2013

Copy No.: 1
Number of copies: 3



Stamp of Test Laboratory No. 1018.5

Declaration:
1) Results of the tests are valid only for the sample that has been tested and they don't substitute another documents.
2) Without the approval by the Test Laboratory the Report may not be copied otherwise than complete. Neither the Report nor its parts may be altered in any way.
3) The complaint or objection to this Report may be made in written form to the Head of Test Laboratory within 15 days of delivery.

1. Identification of the manufacturer of the subject of tests

- 1.1. Product: Rubber EPDM
- 1.2. Manufacturer: Dural GmbH & Co. KG, Südring 11, D-56412 Ruppach-Goldhausen, Germany

2. Test specification

Performed tests:

Determination of visible defects

Determination of thickness

Determination of surface density

Determination of tensile properties

Determination of hardness (Shore A)

3. Sampling and sample preparation:

Date of sampling: 20.06.2012

Sampler: Ing. Michal Vindyš, employee of branch 0100 Praha

Date of sampling in accredited testing laboratory No. 1018.5: 20.06.2012

Sampler in accredited testing laboratory No. 1018.5: Jiří Novák

Testing specimens were prepared for testing according to relevant standards.

4. Test methods, standards and procedures

4.1. The tests were carried out according to that standard:

ČSN EN 1850-2:2001 Flexible sheets for waterproofing - Determination of visible defects - Part 2: Plastic and rubber sheets for roof waterproofing

ČSN EN 1849-2:2010 Flexible sheets for waterproofing - Determination of thickness and mass per unit area - Part 2: Plastic and rubber sheets for roof waterproofing

ČSN EN ISO 527-1:2012 Plastics - Determination of tensile properties - Part 1: General principles

ČSN EN ISO 527-3:1997 Plastics - Determination of tensile properties - Part 3: Test conditions for films and sheets

ČSN EN ISO 868:2003 Plastics and ebonite - Determination of indentation hardness by means of a durometer (Shore hardness)

4.2. Deviations from the standard testing methods:

No deviation from the standard testing methods has been applied.

5. Testing equipment

- Sliding gauge 0-300 mm, ID: 376
- Sliding gauge 0-150 mm, ID: 194
- Dial gauge DIGI 12,5/0,001 mm, type S 229, ID: 319
- TIRAtest 2300 scale range 0-100 kN, ID: 80
- Thermometer HHP -2001, ID: 62
- Thermometer with hygrometer, ID: 256

All the testing and measuring equipment is calibrated and filed in the metrological order of testing laboratory. Certificates of calibration are deposited by the metrologist of the laboratory.

6. Test results

Date of test: 08.08. 2012

The test were performed by Jiří Novák

6.1 Determination of thickness

Laboratory condition: temperature: 23 °C, relative humidity: 55 %.

Sample description	1	2	3	4	5
Thickness [mm]	4,85	4,86	4,84	4,90	4,85
Sample description	6	7	8	9	10
Thickness [mm]	4,82	4,83	4,86	4,83	4,83
mean value [mm]					4,85

6.2 Determination of surface density

Laboratory condition: temperature: 23 °C, relative humidity: 55 %.

Sample description	1	2	3	4	5
surface density [g·m ⁻²]	6541,1	6521,4	6547,0	6550,7	6545,8
mean value [g·m ⁻²]					6541,2

6.3 Determination of tensile strength at F_{max}

Laboratory condition: temperature: 23 °C, relative humidity: 55 %.

Feed speed: 100 mm/min., tested specimen: type: 2.

Sample description	1	2	3	4	5
tensile strength at F_{max} [MPa]	4,9	4,7	4,6	4,9	5,0
mean value [MPa]					4,8

6.4 Determination of Elongation at break [%]

Laboratory condition: temperature: 23 °C, relative humidity: 55 %.

Feed speed: 100 mm/min., tested specimen: type: 2.

Sample description	1	2	3	4	5
Elongation at break [%]	384,0	383,3	386,2	384,1	379,8
mean value [%]					383,5

6.5 Determination of hardness

Laboratory condition: temperature: 23 °C, relative humidity: 54 %. Hardness Shore type A

Detected thickness: 5 mm. Reading time: 1 second.

Sample description	1	2	3	4	5
Hardness (Shore A)	56,3	58,2	57,7	56,9	59,0
mean value					57,6

THE END OF REPORT