



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

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Testing Laboratory No 1018.3
accredited by ČIA pursuant to ČSN EN ISO/IEC 17025:2018

TEST REPORT

No 010-046838

on tests:

- **determination of compression behaviour**
- **determination of dimensional stability under specified temperature and humidity**
- **determination of tensile strength parallel / perpendicular to faces**
- **determination of dimensions**
- **determination of density**

Manufacturer: Balticfloc Ltd.
Address: Ata Kronvalda Street 40/22-601, Cēsis, LV 4101, Latvia

Plant: Balticfloc Ltd.
Address: Ata Kronvalda Street 40/22-601, Cēsis, LV 4101, Latvia

Test sample: **BFlex Hemp**

Order No: Z010220247

Number of pages of the test report incl. title page: 6

Pages of annexes: 0

Prepared by:

Jiří Novák

test technician - specialist

Approved by:



Ing. Radka Sedmidubská

head of the Testing Department

Copy No: 1
Number of copies: 3

Praha, on 15.05.2023

stamp of the testing laboratory No 1018.3

Declaration: 1) The test results in this Report relate only to the tested article and they do not substitute any other documents.
2) The test report must be copied as a whole only otherwise a written consent of the testing laboratory is needed.

1. Sample data

Evidence Number: VZ010230154

Sample: BFlex Hemp
Declared dimensions: Thicknesses: 50 mm

Contract: Z010220247
Date of sample delivery: 30.03.2023

Sampling place: warehouse of the manufacturer
Sampling method: not stated
Method of the sample preparation: according to relevant testing standard

Data on sampling conditions, plan and procedure of sampling and name of the person who performed sampling are stated in the Sampling Minutes that are stored in the Testing Department.
The test results are related to the sample as received.

2. Test methods

Identification of the test method		Title of the test method
ČSN EN 826	Thermal insulating products for building applications - Determination of compression behaviour	Determination of compression behaviour
ČSN EN 1604	Thermal insulating products for building applications - Determination of dimensional stability under specified temperature and humidity	Determination of dimensional stability under specified temperature and humidity
ČSN EN 823	Thermal insulating products for building applications - Determination of thickness	Determination of thickness
ČSN EN 1608	Thermal insulating products for building applications - Determination of tensile strength parallel to faces	Determination of tensile strength parallel to faces
ČSN EN 822	Thermal insulating products for building applications - Determination of length and width	Determination of length and width
ČSN EN 1607	Thermal insulating products for building applications - Determination of tensile strength perpendicular to faces	Determination of tensile strength perpendicular to faces
ČSN EN 1602	Thermal insulating products for building applications - Determination of the apparent density	Determination of the apparent density



3. Test results

The tests were performed on: 30.03.2023 – 15.05.2023
Place of testing: Laboratories of Testing Department Praha
The tests were performed by: Jiří Novák

Data on person who performed the test, test conditions and equipment used are listed in the Test Minutes. Apparatuses and measuring instruments used for testing have been calibrated and verified pursuant to the valid plan of Testing Department Praha.

3.1 Determination of compression behaviour according to ČSN EN 826

Test was performed at $(23 \pm 2) ^\circ\text{C}$

Controlled environment of $(23 \pm 2) ^\circ\text{C}$ and relative air humidity $(50 \pm 5) \%$ was used to condition the samples for min. 6 hours before the test.

Table No. 1 - BFlex Hemp

Sample number	1	2	3	4	5
Test result [kPa]	2.85	2.20	2.30	2.20	3.00
Arithmetical mean	2.51 kPa				

3.2 Determination of dimensional stability at $(23 \pm 2) ^\circ\text{C}$, relative humidity $(90 \pm 5) \%$, for (48 ± 1) hours according to ČSN EN 1604

Test was performed at $(23 \pm 2) ^\circ\text{C}$, RH $(90 \pm 5) \%$ and for (48 ± 1) hours

Controlled environment of $(23 \pm 2) ^\circ\text{C}$ and relative air humidity $(50 \pm 5) \%$ was used to condition the samples for min. 6 hours before the test.

Table No. 2 - BFlex Hemp

Sample No.	1	2	3	Arithmetic mean
Dimensional change $\Delta\epsilon_i$ [%]	+0.6	+0.3	+0.5	+0.5
Dimensional change $\Delta\epsilon_b$ [%]	+0.4	+0.3	+0.6	+0.5
Dimensional change $\Delta\epsilon_d$ [%]	+0.4	+0.5	+0.6	+0.5



3.3 Determination of tensile strength parallel to faces according to ČSN EN 1608

Test was performed at (23 ± 2) °C

Controlled environment of (23 ± 2) °C and relative air humidity (50 ± 5) % was used to condition the samples for min. 6 hours before the test.

Table No. 3 - BFlex Hemp

Sample number	1	2	3	4	5
Test result [kPa]	33	40	32	24	31
Arithmetical mean	32 kPa				

3.4 Determination of tensile strength perpendicular to faces according to ČSN EN 1607

Test was performed at (23 ± 2) °C

Controlled environment of (23 ± 2) °C and relative air humidity (50 ± 5) % was used to condition the samples for min. 6 hours before the test.

Table No. 4 - BFlex Hemp

Sample number	1	2	3	4	5
Test result [kPa]	4.10	3.70	6.85	6.80	6.55
Arithmetical mean	5.60 kPa				

3.5 Determination of apparent density according to ČSN EN 1602

Test was performed at (23 ± 2) °C

Controlled environment of (23 ± 2) °C and relative air humidity (50 ± 5) % was used to condition the samples for min. 6 hours before the test.

Table No. 5 - BFlex Hemp

Sample number	1	2	3	4	5
Test result [kg/m ³]	54.9	50.5	52.5	52.0	51.5
Arithmetical mean	52.3 kg/m ³				



3.6 Determination of thickness according to ČSN EN 823

Test was performed at $(23 \pm 2) ^\circ\text{C}$

Controlled environment of $(23 \pm 2) ^\circ\text{C}$ and relative air humidity $(50 \pm 5) \%$ was used to condition the samples for min. 6 hours before the test.

Table No. 6 - BFlex Hemp (declared thickness 50 mm)

Sample number	1	2	3	4	5
Determination No. 1 [mm]	49.5	50.0	48.5	49.5	50.5
Determination No. 2 [mm]	49.5	51.0	48.0	50.5	49.0
Determination No. 3 [mm]	49.5	51.5	48.5	52.0	49.0
Determination No. 4 [mm]	50.5	50.5	50.5	50.5	50.5
Determination No. 5 [mm]	51.0	48.5	51.5	48.0	51.5
Mean value [mm]	50.0	50.3	49.5	50.0	50.1
The average of the mean value [mm]	50.0				

3.7 Determination of length and width according to ČSN EN 822

Test was performed at $(23 \pm 2) ^\circ\text{C}$

Controlled environment of $(23 \pm 2) ^\circ\text{C}$ and relative air humidity $(50 \pm 5) \%$ was used to condition the samples for min. 6 hours before the test.

Table No. 7 - BFlex Hemp

Sample No.	1	2	3	4	5
Legth determined [mm]	1198.0	1199.0	1200.0	1198.0	1198.0
Arithmetical mean [mm]	1198.5				

Table No. 8 - BFlex Hemp

Sample No.	1	2	3	4	5
Width determined No. 1 [mm]	591.0	593.0	592.0	590.0	591.0
Width determined No. 2 [mm]	592.0	589.0	592.0	591.0	591.0
Arithmetical mean [mm]	591.5				



4. Annexes:

END OF THE TEST REPORT

