



TEST REPORT

issued by Testing Laboratory No. 1018.3
accredited pursuant to ČSN EN ISO/IEC 17025:2005 by Czech Accreditation Institute

No. 010-036045

on settlement test of **dimensional tolerances, shape
shear load resistance of mechanical fastening systems
resistance to soft body impact
resistance to hard body impact
resistance to eccentric load
pull-through resistance of mechanical fasteners
perpendicular tensile strength
parallel tensile strength
compressive strength**

Ordering Party: Technický a zkušební ústav stavební Praha, s. p.
Address: Prosecká 811/76a, 190 00 Praha 9 - Prosek

Company ID: 00015679

Manufacturer: NEVPANEL YAPI MADEN ÜRETİM İTHALAT İHRACAT SANAYİ VE
TİCARET LİMİTED ŞİRKETİ
Address: Bağdat Caddesi Çolakoğlu İş Merkezi No:458 / 30 Maltepe - Istanbul,
Turkey

Test sample: Fire protective board NevPanel(DragonBoardTürkiye; MagnumBoard)
Order No.: Z010150201

Number of pages of the Test Report incl. title page: 6

Pages of Annexes: 0

Prepared by:



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Approved by:

RNDr. Vojtěch Hötzel
head of the testing department

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stamp of 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: VZ010150383
Sample: NevPanel
DragonBoardTürkiye
MagnumBoard
Order: Z010150201
Date of sample delivery: 23. 9. 2015
Sampling place: storage of manufacturer
Sampling method: ---
Method of the sample preparation: ---

Data of sampling conditions, plan and sampling procedure, if necessary, the name of the person performing the sampling are listed in the minutes of sampling, which is stored in the testing department

2. Test methods

ČSN EN 12467:2013 Fibre-cement flat sheets - Product specification and test methods
(this test method was included in the scope of accreditation under the standards review)

ČSN EN 789:2005 Timber structures - Test methods - Determination of mechanical properties of wood based panels
(this test method is not included in the scope of accreditation).

ČSN EN 319:1994 Particleboards and fibreboards. Determination of transverse tensile strength perpendicular to the plane of the board
(this test method is not included in the scope of accreditation).

ISO/DIS 8413:1990 Performance standards in buildings – Partitions made from components test for ability to withstand suspended static loads
(this test method is not included in the scope of accreditation).

EOTA TR001 Determination of impact resistance of panels and panels assemblies
(this test method is not included in the scope of accreditation).

ETAG 018-4 Fire protective products - Part 4: fire protective board, slab and mat products and kits
(this test method is not included in the scope of accreditation).

(EAD DP 14-35-0142-11.06) Fire Protective Products - Part 3: fire protective board, slab and mat products and kits
(this test method is not included in the scope of accreditation).

Deviations from a standard procedure or the use of non-standardized methods: were not applied.



3. Test results

The tests were carried out on: 06. 10. - 08. 12. 2015

The tests were performed by: Ing. Jan Appl

Date about person performing the test, testing equipment and about test conditions are listed in test minutes. All measurement and test equipment are calibrated according to valid plan of the testing department.

3.1 Determination of length, width, thickness, dimensional tolerances, shape acc. to ČSN EN 12467

Table 1: board of thickness 4 mm (06. 10. 2015)

| # of measuring | width (mm) | length (mm) | thickness (mm) | right-angle (2 mm/m) | straightness of edges (0,1 %) |
|------------------------|----------------|----------------|----------------|----------------------|-------------------------------|
| 1 (board 1) | 1220 | 2440 | 4,1 | 0,0 | 1,1 |
| 2 (board 1) | 1221 | 2440 | 4,0 | | |
| 3 (board 1) | 1220 | 2441 | 4,1 | | |
| 1 (board 2) | 1220 | 2440 | 4,1 | 1,0 | 1,0 |
| 2 (board 2) | 1220 | 2441 | 4,1 | | |
| 3 (board 2) | 1221 | 2440 | 4,0 | | |
| 1 (board 3) | 1220 | 2440 | 4,1 | 0,5 | 0,7 |
| 2 (board 3) | 1220 | 2441 | 4,0 | | |
| 3 (board 3) | 1220 | 2440 | 4,1 | | |
| arithmetic mean | 1220,22 | 2440,33 | 4,07 | 0,50 | 0,93 |

Table 2: board of thickness 9 mm (06. 10. 2015)

| # of measuring | width (mm) | length (mm) | thickness (mm) | right-angle (2 mm/m) | straightness of edges (0,1 %) |
|------------------------|----------------|----------------|----------------|----------------------|-------------------------------|
| 1 (board 1) | 1219 | 2439 | 9,1 | 1,0 | 0,5 |
| 2 (board 1) | 1220 | 2439 | 9,1 | | |
| 3 (board 1) | 1220 | 2439 | 9,0 | | |
| 1 (board 2) | 1219 | 2439 | 9,0 | 0,0 | 0,8 |
| 2 (board 2) | 1219 | 2440 | 9,0 | | |
| 3 (board 2) | 1219 | 2439 | 9,0 | | |
| 1 (board 3) | 1219 | 2439 | 9,1 | 0,5 | 0,5 |
| 2 (board 3) | 1219 | 2439 | 9,1 | | |
| 3 (board 3) | 1220 | 2439 | 9,0 | | |
| arithmetic mean | 1219,33 | 2439,11 | 9,04 | 0,83 | 0,73 |

Table 3: board of thickness 18 mm (06. 10. 2015)

| # of measuring | width (mm) | length (mm) | thickness (mm) | right-angle (2 mm/m) | straightness of edges (0,1 %) |
|------------------------|----------------|----------------|----------------|----------------------|-------------------------------|
| 1 (board 1) | 1220 | 2440 | 18,2 | 1,2 | 1,4 |
| 2 (board 1) | 1220 | 2440 | 18,1 | | |
| 3 (board 1) | 1220 | 2440 | 18,0 | | |
| 1 (board 2) | 1220 | 2440 | 18,1 | 0,7 | 1,1 |
| 2 (board 2) | 1220 | 2441 | 18,0 | | |
| 3 (board 2) | 1220 | 2440 | 18,1 | | |
| 1 (board 3) | 1220 | 2440 | 18,0 | 0,5 | 1,0 |
| 2 (board 3) | 1221 | 2439 | 18,1 | | |
| 3 (board 3) | 1220 | 2440 | 18,2 | | |
| arithmetic mean | 1220,11 | 2440,00 | 18,09 | 0,80 | 1,17 |



3.2 Determination of shear load resistance of mechanical fastening systems acc. to ETAG 018-4 art. 5.1.4.1.2

Table 4: board of thickness 12 mm (06. 11. 2015)

| # of measuring | F _{max} (N) |
|------------------------|----------------------|
| 1 | 1202 |
| 2 | 1309 |
| 3 | 1192 |
| 4 | 1090 |
| 5 | 1410 |
| arithmetic mean | 1240,6 |

3.3 Determination of resistance to soft body impact acc. to article 2 of EOTA TR001

Table 5: board of thickness 15 mm (23. 11. 2015)

Impactor - weight = 50 kg

Surface structure of board: smooth

| # of measuring | height of impact (mm) | energy (Nm) | damage |
|----------------|-----------------------|-------------|------------------------|
| 1 | 122 | 60 | without damage |
| 2 | 200 | 100 | without damage |
| 3 | 245 | 120 | without damage |
| 4 | 265 | 130 | without damage |
| 5 | 408 | 200 | without damage* |
| 6 | 490 | 240 | damage - burst |

* no collapse, no penetration, no degradation, no projection

3.4 Determination of resistance to hard body impact acc. to article 3 of EOTA TR001

board of thickness 15 mm (23. 11. 2015)

testing sphere - weight = 0,5 kg

height of falling = 1200 mm

energy = 6 Nm

result: without damage*

* no collapse, no penetration, no degradation, no projection

3.5 Determination of resistance to eccentric load acc. to ISO/DIS 8413 (EAD DP 14-35-0142-11.06 article 2.2.1.5)

Table 6: board of thickness 15 mm (01 - 02. 12. 2015)

| # of measuring | testing weight (kg) | time (h) | damage |
|----------------|---------------------|----------|---|
| 1 | 35 | 24 | without damage |
| 2 | 40 | < 24 | extraction between board and eccentric construction |



3.6 Determination of pull-through resistance of mechanical fasteners acc. to ETAG 018-4 chapter 5.1.4.1.1

Table 7: board of thickness 12 mm - dry board (11. 11. 2015)

| # of measuring | F_{max} (N) |
|------------------------|------------------|
| 1 | 1139 |
| 2 | 974 |
| 3 | 956 |
| 4 | 1056 |
| 5 | 1163 |
| arithmetic mean | 1057,6 |

Table 8: board of thickness 12 mm - wet board (11. 11. 2015)

| # of measuring | F_{max} (N) |
|------------------------|------------------|
| 1 | 890 |
| 2 | 853 |
| 3 | 671 |
| 4 | 713 |
| 5 | 718 |
| arithmetic mean | 769,0 |

3.7 Determination of perpendicular tensile strength acc. to EN 319

Table 9: board of thickness 15 mm (11. 11. 2015)

| # of measuring | F_{max} (N) | cross-section 50×50 mm (mm ²) | $f_{t\perp}$ (N/mm ²) |
|------------------------|------------------|--|--------------------------------------|
| 1 | 4204 | 2500 | 1,68 |
| 2 | 5592 | | 2,24 |
| 3 | 4757 | | 1,90 |
| 4 | 5478 | | 2,19 |
| 5 | 4760 | | 1,90 |
| arithmetic mean | 4958,2 | - | 1,98 |

3.8 Determination of parallel tensile strength acc. to article 9 of EN 789

Table 10: board of thickness 15 mm (01. 12. 2015)

| # of measuring | width of sample (mm) | cross-section (mm ²) | F_{max} (N) | f_t (kPa) |
|------------------------|-------------------------|-------------------------------------|------------------|----------------|
| 1 | 155 | 2325 | 7498,0 | 3224,9 |
| 2 | 154 | 2310 | 7658,6 | 3315,4 |
| 3 | 154 | 2310 | 7520,0 | 3255,4 |
| arithmetic mean | - | - | - | 3265,3 |

Table 11: board of thickness 18 mm (07. 12. 2015)

| # of measuring | width of sample (mm) | cross-section (mm ²) | F_{max} (N) | f_t (kPa) |
|------------------------|-------------------------|-------------------------------------|------------------|----------------|
| 1 | 151 | 2718 | 9560,0 | 3517,3 |
| 2 | 152 | 2736 | 10150,0 | 3709,8 |
| 3 | 151 | 2718 | 10428,0 | 3836,6 |
| arithmetic mean | - | - | - | 3687,9 |



3.9 Determination of compressive strength acc. to article 8 of EN 789

Table 12: board of thickness 15 mm - perpendicular to board (08. 12. 2015)

| # of measuring | dimensions of sample (mm) | cross-section (mm ²) | F _{max} (kN) | f _c (MPa) |
|------------------------|---------------------------|----------------------------------|-----------------------|----------------------|
| 1 | 45×70 | 3150 | 43,0 | 13,65 |
| 2 | 45×70 | 3150 | 43,5 | 13,81 |
| 3 | 45×70 | 3150 | 44,0 | 13,97 |
| arithmetic mean | - | - | - | 13,81 |

Table 13: board of thickness 15 mm - parallel to board (08. 12. 2015)

| # of measuring | dimensions of sample (mm) | cross-section (mm ²) | F _{max} (kN) | f _c (MPa) |
|------------------------|---------------------------|----------------------------------|-----------------------|----------------------|
| 1 | 45×70 | 3150 | 39,0 | 12,38 |
| 2 | 45×70 | 3150 | 37,5 | 11,90 |
| 3 | 45×70 | 3150 | 40,0 | 12,70 |
| arithmetic mean | - | - | - | 12,33 |

END OF THE TEST REPORT

