

090-034613/2243

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Technický a zkušební ústav stavební Praha, s. p.
Testing laboratory TZÚS Prague, Branch TIS
Prosecká 811/76a, 190 00 Praha 9 - Prosek, Czech Republic

TEST REPORT**No. 090-034613/2243****Order No.: Z090 15 0503**

Test item: NevPanel Smart Screw 39x32 mm

Test: Pull-out resistance of mechanical fasteners

Test standard: ETAG 018

This report contains **3** pages including front page and **1** annex page
Copies: customer, order, archive ZL

Number of issues: 3

Issue No.: 1

Prague, 13th October 2015

Ing. Vladimír Martan
Head of testing laboratory



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1. Data on compiler of test report

Organization: Technický a zkušební ústav stavební Praha, s. p.
Pobočka TIS, Prosecká 811/76a, 190 00 Praha 9

Test engineer: Petr Petřina

2. Data on a customer:

Customer: Technický a zkušební ústav stavební Praha, s. p.
Pobočka Praha, Prosecká 811/76a, 190 00 Praha 9

Manufacturer: NEVPANEL YAPI MADEN ÜRETİM İNTHALT İHRACAT
SANAYİ VE TİCARET LİMİTED ŞİRKETİ
BAGDAT CADDESİ COLAKOĞLU İŞ MERKEZİ NO: 458/30
MALTEPE İSTANBUL

Representative: Ing. Klára Bednářová

3. Data on a test:

3.1 Test: Pull-out resistance of mechanical fasteners
(ETAG 018, Part 4, 5.3.4.1.1)

Date of receive the test product: 06.10. 2015

Date of a test: 09.10. 2015

Place of the test: TZÚS Praha s.p., pobočka TIS

Persons involved during test: -

Measuring tools and equipment:

- Loading device ZPK – 2 kN registration No. 090.8312
- Load cell LUKAS S 22 registration No. 9-306, serial No. 2504
- Digital caliper (150 mm), registration No. 9-269
- Digital thermometer, temperature range -50°C to +70°C, registration No. 9-346

Measuring tools and equipment, used for tests, are metrologically registered and calibrated.

3.2 Test process

Tests were done in accordance with ETAG 018, Part 4.

3.2.1 Pull-out test

The screw was installed in to the substrate and assembled in the test rig. Test sample is under tensile load. Load is constantly increased until pull-out or sample failure. Screw displacement relative to surface of the substrate was measured by displacement transducers.

Test results are shown in the Table 1.

4. Product description

Mechanical fastener: NevPanel Smart Screw 39x32 mm

Substrate: hot-dip zinc coated structural steel sheet, 1.00 mm thick, type S280 GD

5. Test results:

Table 1 – **Pull-out resistance test** – NevPanel Smart Screw 39x32 mm

Sample	1	2	3	4	5	$N_{u,m}$
Ultimate tension load [kN]	1,14	1,07	1,01	1,12	1,09	1,09
Failure	Pull out	Pull out	Pull out	Pull out	Pull out	-

Test record – Annex 1

Statement by the testing laboratory:

The test results apply only for the test product (device). The protocol will not, without the written permission of the testing laboratory reproduced other than in full.

Prague, 13th October 2015

Petr Petřina
Test engineer

Ing. Vladimír Martan
Head of testing laboratory

THE END OF THE TEST REPORT


TECHNICKÝ A ZKUŠEBNÍ ÚSTAV STAVEBNÍ STAVEBNÍ PRAHA, s.p.

Prosecká 81 1/76a, CZ-190 00 Praha 9

Internet www.zus.cz

 datum-date:
9.10.2015

 Název zkoušky
Odolnost mechanických upevňovacích prostředků proti vytažení
Name of test:
Pull-out resistance of mechanical fasteners

 Typ kotvy :
Type anchor:
NewPanel Smart Screw 39x32

 Teplota :
Temperature:
20,8°C

 Beton
concrete
třída-Class
dnů-days
 $f_{c,act}$ (N/mm²)

 zákl.stav.mat.
Base material
Steel sheet S280 GD
thickness [mm]
1

 rozměr dílce
size of slab (mm)
310 x 310

 datum výroby
date of manufacture

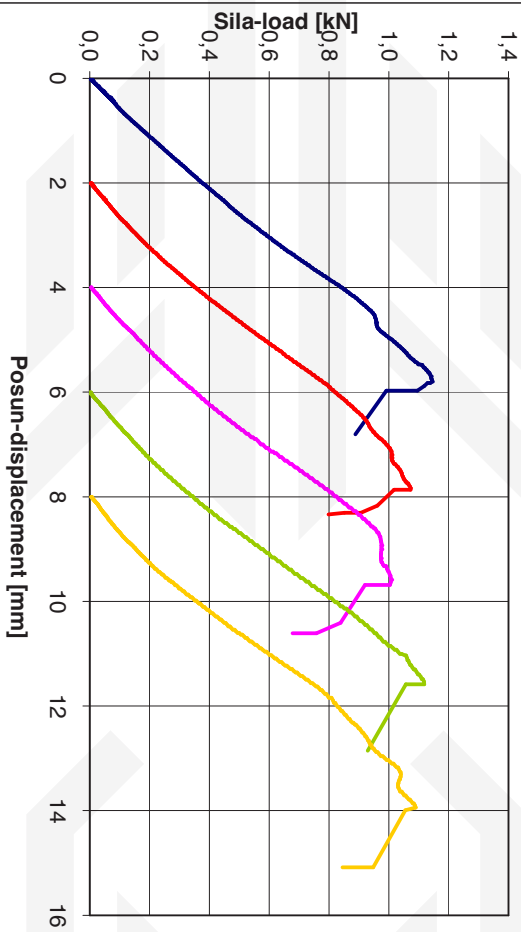
 ø vrátku
ø drillbit
(mm)

 kotvení hloubka
embedment
 h_{ef} (mm)

Legenda
Typ porušení - type of rupture
C beton-concrete
B - zákl.mat.-base mat.
H-pouzdrí-sleeve
P₀ - vytažení-pull out
P₋ - protažení-pull through

 % - směrodatná odchylka-coefficient of variation
σ - směrodatná odchylka-coefficient of variation

 δi - posun-displacement
 $f_{c,act}$ -char.pevnost betonu(krychle)-strength
 f_{tRk} -pevnost-strength

 F_{tRk} -maximální síly-ultimate loads


číslo zkoušky test number	T1	T2	T3	T4	T5	Průměr Average	v%	σ	měřící přístroj - meier
F_{tRk} (kN)	1,14	1,07	1,01	1,12	1,09	1,09	4,77	0,05	služba-load cell :
δi (mm)	5,80	5,83	5,59	5,58	5,94	5,75	2,74	0,16	provedl-carried out:
δi($F_{tRk}/2$) (mm)	2,91	2,80	2,70	2,92	2,76	2,82	3,44	0,10	podpis-signature:
Typ porušení type of rupture	P ₀	P ₀	P ₀	P ₀	P ₀	$N'_{Rk} =$	0,91	KN	