



## Declaration of conformity


The FALCO Chipboard Manufacturing Co. (FALCO Forgácsolapgyártó Zrt., H-9700 Szombathely, Zanati út 26., Hungary) as producer declare herewith that the product

### **Betonyp cement-bonded particleboards -EN 634-2** In 8 to 40 mm thickness

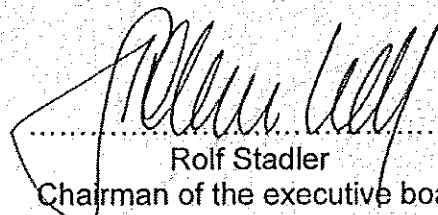
fulfills the requirements of the following standards:

EN 634-2  
MSZ EN 13 986 : 2005

TYPE TEST CERTIFICATE **Betonyp** (thickness: 8-40mm) Nr.: M-3036/2007  
issued by ÉMI Kht. Zentrál Labor, H-1113 Budapest, Diószegi út 37., on 29/10/2007.

  
.....  
Dénes Vecsey  
General manager

**FALCO Zrt.**  
**SZOMBATHELY**

  
.....  
Rolf Stadler  
Chairman of the executive board

Szombathely, 01.03.2008.



Építészeti Minőségellenőrző Innovációs Kht.  
NB-CPD 89/106 EGK  
Nr. 1415

**ÉPÍTÉSÜGYI MINŐSÉGELLENŐRZŐ  
INNOVÁCIÓS KHT.  
Central Laboratory**

H-1113 Budapest, Diószei út 37. Mailing address: H-1518 Budapest, Pf: 69.  
Phone: +36 (1) 372-6100 Fax: +36 (1) 386-8794  
E-mail: info@emi.hu Internet: http://www.emi.hu

No.: M-3036/2007

**TVB  
TYPE TEST CERTIFICATE**

about construction product

**Betony cement-bonded particleboards, in 8 to 40mm thickness**

placed on the market by

**FALCO Forgácslapgyártó Zrt.  
H-9701 Szombathely, Zanati u. 26  
Hungary**

and produced in the factory

**FALCO Forgácslapgyártó Zrt.  
9701 Szombathely, Zanati u. 26  
Hungary**

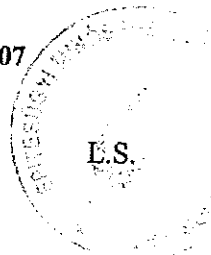
The Central Laboratory of ÉMI Kht. attests with this certificate that the Initial Type Test of the construction product subjected to Construction Product Directive (89/106/EEC) and to BM-GKM-KvVM Common Decree no. 3/2003. (dated 25<sup>th</sup> January) were performed. According to the tests results detailed in the Initial Type Test Report with the same number and date the product fulfils all the requirements detailed on page 2/2 of this certification and described in standard MSZ EN 13986:2005 "Wood-based panels for use in construction. Characteristics, evaluation of conformity and marking" to product cement-bonded particleboards intended for use as the permanent formwork of concrete, outer and inner wall covering and false ceiling.

The certificate is VALID

– assuming unchanged product characteristics –

until 30<sup>th</sup> July 2012

Dated at Budapest, 29<sup>th</sup> October 2007



*Tamás Bánky*  
Dr. Tamás Bánky  
Head of Central Laboratory

This Type Test Certificate contains 2 numbered pages, which are valid only together.

ÉMI Kht. is certified by MSZT (Hungarian Standard Institution) and IQNET (International Certification Network) according to ISO 9001

KBIA-III-3-11.05.2006

Product characteristics (properties) concerning the attestation of conformity of the product:

Properties and units	Requirements and declared values	Test/assessment method
Apparent density kg/m <sup>3</sup>	≥ 1000	MSZ EN 323:1995
Flexural strength (resistance against ageing) N/mm <sup>2</sup>	≥ 9.0	MSZ EN 310:1999
Bending stiffness (bending flexibility rate) N/mm <sup>2</sup>	≥ 4000	MSZ EN 310:1999
Inner cohesion (tensile strength normal to surface) stored under normal climate N/mm <sup>2</sup> after cyclical load (moisture resistance) N/mm <sup>2</sup>	≥ 0.5 ≥ 0.3	MSZ EN 319:1998, MSZ EN 321:1998
Swelling in thickness after soaking for 24 hours in 20°C water (durability) % after cyclical load (moisture resistance) %	≤ 1.5 ≤ 1.5	MSZ EN 317:1998 MSZ EN 321:1998
Formaldehyde emission class E <sub>1</sub> mg/m <sup>3</sup>	≤ 0.124	MSZ EN 717-1:2004
Reaction to fire class	B-s1-d0	MSZ EN 13501-1:2002
Vapour conductivity	wet μ=30 dry μ=50	MSZ EN 12524:2000
Airborne sound insulation (R) db	NPD**	MSZ EN ISO 140-3:1998
Sound absorption -	NPD**	MSZ EN 20354:1994
Thermal conductivity (λ) W/mK	NPD**	MSZ EN 12664:2001
Biological durability class	NPD**	MSZ EN 335-1:2007
Pentachlorophenol content ppm/kg*	≤ 5	CEN TR 14823 Technical Report

\*ppm is a 10<sup>-6</sup> magnitude of the given unit of measure (in this case kg)

\*\*None Performance Declared

The results of the Initial Type Test can be used for issuing Declaration of Conformity in compliance the Annex III. of directive 89/106/EEC (CPD) and Annex 4. of BM-GKM-KvVM Common Decree no. 3/2003. (dated 25<sup>th</sup> January) and according to the product type in system (3): CPD Annex III.2.(ii), second possibility, until the manufacturing place, the technical specification, the product characteristics, the requirements and the manufacturing processes of the product remains unchanged.


Customer has to claim any changes in the aforementioned properties within 30 days, which can be the inquiry to renew the Initial Type Test and the Type Test Certificate.

The Type Test Certificate attests only that the Initial Type Test of the product were performed and the results are satisfactory.

The review of the factory and the factory production control is performed once a year by ÉMI Kht. on the basis of an extra order. In the course of the review, the method and documents of in-process tests associated with the production process as well as the proper use of the CE marking are inspected.

If this review obligation is disregarded, the type testing certificate TVB becomes invalid. In case of omission of the verification, the Type Test Certificate will be invalidated. In case products possess ÉMI Quality Mark (ÉMI-MJ) the verification is not necessary.

Test performed by

  
Miklós Nagy  
Testing Engineer

Checked by

  
Mrs Török Éva Horváth  
Head of Scientific Department

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Építésügyi Minőségellenőrző Innovációs Kht.

Építésügyi Minőségellenőrző Innovációs Kht.  
Central Laboratory

Special Laboratory for Fire Safety  
Address: 1113 Budapest, Diószegi út 37.  
Phone: 372-6164 Fax: 372-6156  
E-mail: tuzvedelem@emi.hu

A testing laboratory accredited under No. NAT-1-1110/2006 by the National Accreditation Board.

Subject No. M-3036/2007

Date: 29.11.2007

## Test Report

on the fire safety tests of

**BETONYP**  
cement-bonded particleboards

in accordance with the Standard MSZ EN 13501-1

Identification details of product: **BETONYP cement-bonded particleboards**

Manufacturer: **FALCO Forgácsolgyártó Zrt.**  
Szombathely  
Zanati u. 26  
9701

Customer: Division of Materials and Structural Sciences  
Department of Mechanical Sciences  
Budapest  
Diószegi út 37  
1113

Order date: 10.10.2007

Executive: Miklós Nagy

Date: 29 November 2007

Test results only apply to the units tested.

The Test Report may only be copied in its entirety, unless a written consent is obtained from the special laboratory.

Comments and interpretation issued in the Test Report are not part of the accredited activities.

This Report comprises 5 numbered pages and 4 enclosures.



Test Report  
Subject No. M-3036/2007  
Date: 29.11.2007

## 1. Details

The Customer's employee has supplied to our Laboratory on the 5<sup>th</sup> of October 2007 four each 1500mm x 1000mm, four each 1500 x 500mm, and twelve each 90mm x 250mm, 10mm and 40mm thick Betonyp test specimens.

Conditioning: in accordance with the specifications of Standard MSZ EN 13238.

## 2. Sampling

Test specimens were prepared by the manufacturer.

## 3. Test

### 3.1. Combustibility test

We have carried out the test in accordance with the specifications of the Standard **MSZ EN ISO 11925-2:2002**.

Testing equipment: The unit manufactured by FADDIKOR Kft. in 2005. Calibration of air velocity meter PROVA AVM-03 is valid until 09.01.2007.

Test site: Fire Safety Laboratory, Szentendre, Dózsa György u. 26

Test date: 16 October 2007

### 3.2. SBI test

We have carried out the test in accordance with the specifications of the Standard **MSZ EN 13823:2002**.

Testing equipment: The unit manufactured by TAURUS in 2005. Calibration is valid until 03.03.2008.

Test site: Fire Safety Laboratory, Szentendre, Dózsa György u. 26

Test dates: 30 and 31 October 2007

## 4. Test results

### Combustibility test results

Section 6.3 of the Standard MSZ EN 13501-1:2002 stipulates that in the course of a combustibility test – in the case of construction items not used as flooring – the behaviour of both surface and edges shall be tested in fire. The duration of exposure to flames is 30 sec as specified in Table 1, concerning fire safety grades B, C and D.

The details of the combustibility test – performed according to the Standard MSZ EN ISO 11925-2:2002 – are given in Table 1.



Table 1

Sample description	Test parameters	Sample No.					
		1*	2**	3*	4*	5*	6*
BETONYP cement- bonded particleboards	Surface test						
	Combustion	no	no	no	no	no	no
	Tip of flame reached 150mm distance (sec)	no	no	no	no	no	no
	Filter paper caught fire	no	no	no	no	no	no
	Edge test						
	Combustion	no	no	no	no	no	no
	Tip of flame reached 150mm distance (sec)	no	no	no	no	no	no
Filter paper caught fire	no	no	no	no	no	no	

\* 10mm thick specimen

\*\* 40mm thick specimen

**SBI test results**

The details of the SBI test – performed according to the Standard MSZ EN 13823:2002 – are given in Table 2.

Table 2

Sample description	Test parameters	Sample No.				Average*
		1*	2**	3*	4*	
BETONYP cement-bonded particleboards	FIGRA <sub>0.2 MJ</sub> (W/S)	10.29	0.00	6.83	9.61	8.91
	FIGRA <sub>0.4 MJ</sub> (W/S)	10.29	0.00	6.83	9.30	8.81
	THR <sub>600 s</sub> (MJ)	1.34	0.80	0.95	1.29	1.19
	SMOGRA (m <sup>2</sup> /s <sup>2</sup> )	0.00	0.00	0.00	0.00	0.00
	TSP <sub>600 s</sub> (m <sup>2</sup> )	18.48	15.13	12.75	20.43	17.22
	LFS < specimen edge	yes	yes	yes	yes	yes

\* 10mm thick specimen

\*\* 40mm thick specimen



Test Report  
Subject No. M-3036/2007  
Date: 29.11.2007

### 5. Assessment

Section 10.6 of the Standard MSZ EN 13501-1:2002 specifies that when tested in accordance with the Standard MSZ EN ISO 11925-2:2002, the vertical spread of flame may not be more than 150mm from the contact point of the ignition flame – with the flame ignited for 30 seconds – within 60 seconds of igniting the flame, and furthermore when tested according to the Standard MSZ EN 13823:2002,

- there may be no lateral flame spread (LFS)
- $FIGRA_{0.2MJ} (W/S) \leq 120 W/s$
- $THR_{600s} (MJ) \leq 7.5 MJ$

and still furthermore, pursuant to Section 10.9.2 of the Standard MSZ EN 13501-1:2002, smoke emission is of grade **s1**, if the product meets the following criterion:

- $SMOGRA (m^2/s^2) \leq 30 m^2/s^2$
- $TSP_{600s} (m^2) \leq 50 m^2$

And it is of grade **d0**, if flaming droplets/particles are not generated within 600 sec when we conduct the SBI test in accordance with the Standard EN 13823:2002.

### **BETONYP cement-bonded particleboards**

has met the criteria outlined above, and therefore it

**complies with  
the regulations of**

**fire safety grade B-s1, d0**

in accordance with MSZ EN 13501-1.

Statement:

“Test results apply under actual testing conditions to the behaviour of specimens taken from a certain product; it is not the purpose of these specimens to represent the only means of evaluating the potential fire risk of a product under the actual conditions of use.”



Test Report  
Subject No. M-3036/2007  
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Note:

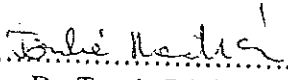
In the course of Factory Production Control stipulated by Standard MSZ EN 13986:2005, the test specified in Standards MSZ EN ISO 11925-2 and MSZ EN 13823:2002 shall be performed or caused to be performed with the identified frequency.

Budapest, 29 November 2007

Test performed and Test Report drawn up by

Technically checked and approved by

  
.....  
Mrs. G. Parlagi  
Testing Engineer

  
.....  
Dr. Tamás Bánky  
Head of Central Laboratory