



GERMAN CERT

Environmental Management System Certificate

Daejin Co., Ltd.

#176-10 Yeonamyulgum-ro, Eumbong-myeon, Asan-si, Chungcheongnam-do, Korea

German Cert Co., Ltd. Hereby certifies that the Environmental Management System of the above organization has been evaluated and found to be in line with the requirements of the following standard:

ISO 14001:2004

For the scope of

Manufacture and Sale of PVC(Vinyl) Flooring (Square Wood Tiles)

Certificate Number : **KorE-113768**

Certificate Valid Until : **02 May 2014** ~ **01 May 2017**

Initial Certification Date : 09 May 2008

GC Certification Date : 02 May 2014

Certification Expiry Date : 01 May 2017

GERMAN CERT
ENVIRONMENTAL MANAGEMENT SYSTEM

Scheme Manager





GERMAN CERT

Quality Management System Certificate

Daejin Co., Ltd.

#176-10 Yeonamyulgeum-ro, Eumbong-myeon, Asan-si, Chungcheongnam-do, Korea

German Cert Co., Ltd. Hereby certifies that the Quality Management System of the above organization has been evaluated and found to be in line with the requirements of the following standard:

ISO 9001:2008

(Excluding Clause: 7.3 Design & Development)

For the scope of

Manufacture, Sale and Service of PVC(Vinyl) Flooring (Square Wood Tiles)

Certificate Number : **KorQ-142840**

Certificate Valid Until : **02 May 2014 ~ 01 May 2017**

Initial Certification Date : 20 May 2008

GC Certification Date : 02 May 2014

Certification Expiry Date : 01 May 2017

GERMAN CERT
QUALITY MANAGEMENT SYSTEM

Scheme Manager



DAKKS

Deutsche
Akkoeditierungsstelle
D-ZM-18096-01-01





Certificate

Wir bestätigen, dass unten genannten Erzeugnisse die Anforderungen der Prüfgrundlage erfüllen.

We hereby declare that the items described below comply with the requirements of examination standards.

Prüfmuster Test Specimen	:	Bodenbeläge Floor coverings
Bezeichnung Type Designation	:	PVC LAMINATED FLOOR TILE (DW-3008)
Dimension Type Designation	:	Wear layer 0.3 mm, 0.5 mm, 0.7 mm, 1.0 mm
Antragsteller Applicant	:	DAEJIN Co., Ltd. 327, Sodong-ri, Umbong-myeon, Asan-si, Chungcheongnam-do, 336-864, Rep. of Korea
Prüfört Testing location	:	TÜV Rheinland laboratory
Prüfgrundlage Examination Standards	:	EN 649:1997 EN 14041: 2000 (Clause 4.5 "slip resistance" was performed according to client's request)

Die einzelne Prüfergebnisse sind in unseren Prüfberichten Nr. 13005601 001 aufgezeigt.
The full details of the test results are given in our test reports No. 13005601 001.

Note: The above reflects our findings at the time and place of inspection. This certificate does not relieve the seller/manufacturer from their contractual liabilities.

Seoul, 31 Aug. 2006

TÜV Rheinland Korea Ltd.
Product Safety and Quality


Sang Hun Yang


Dipl.-Ing. D.H. Kim



KS CERTIFICATE

This is to certify that the Korean Industrial Standard Mark(KS mark) of :

DAEJIN Co., Ltd
327, Sodong-ri, Umbong-myon, Asan-si, Chungchongnam-do, Korea
Jungtae, Kim

*has been approved by Korean Standards Association
to the following Korean Industrial Standard :*

KS M 3802
Floorcovering -PVC
Homogeneous Tile.

in accordance with the Korean Industrial Standardization Act.

Certificate Number : 99-0577

Certification Date : 30-Apr-1999

Current Certificate : 02-Apr-2010

Certified by Kaphong chon

President

Korean Standards Association

Korea Technology Center, 701-7, Yeoksam-dong, Gangnam-gu, Seoul, Korea



TEST REPORT

APPLICANT : DAEJIN CO., LTD.

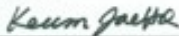
REPORT NO. : 41-62-05-22235
SAMPLE RECEIVED DATE : 2005-09-06
TEST STARTED DATE : 2005-09-06
REPORT ISSUED DATE : 2005-09-16
PAGE : 1 OF 3

SAMPLE DESCRIPTION : ONE(1) PIECE OF SUBMITTED SAMPLE SAID TO BE TILE.

ITEM : DECORIA TILE

TEST CONDUCTED : AS REQUESTED BY THE APPLICANT, FOR DETAILS PLEASE SEE ATTACHED PAGES.

PREPARED AND CHECKED BY
FOR FITI



JAE HO, KEUM
QUALITY MANAGER

AUTHORIZED BY
FOR FITI



SHEE YONG, CHO
EXECUTIVE DIRECTOR



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

Akreditovaná zkušební laboratoř, Autorizovaná osoba, Certifikační orgán, Notifikovaná osoba, Inspekční orgán
Accredited Testing Laboratory, Authorized Body, Certification Body, Notified Body, Inspection Body
Prosecká 811/76a, 190 00 Praha 9 - Prosek, Czech Republic

Authorized Body 204

Notified Body 1020

Branch 0100 - Praha

REPORT

on the initial type tests: reaction to fire, emission of formaldehyde

pursuant to Article 5 Clause 1 b) of the Czech Republic Government Decree No. 190/2002 Coll. (system of conformity assessment 3), and in compliance with the Council Directive 89/106/EEC of 21 December 1988 on the approximation of laws, regulations and administrative provisions of the Member States relating to construction products (the Construction Products Directive or CPD), as later amended

No. 1020 - CPD – 010029479

Trade name:

Resilient floor coverings according to EN 14041:2004/AC:2006

Type/variation: **DAEJIN DECORIA, DECORIA CLICK**

Manufacturer:

Daejin CO., LTD.

INo: 312-81-08961
Address: 327, Sodong-ri, Eumbong-myun, Asan-shi, Chungnam, Korea
Plant: Daejin CO., LTD.
Address: 327, Sodong-ri, Eumbong-myun, Asan-shi, Chungnam, Korea
Order: Z010110400

Number of Report pages including title page: 4

Number of Annexes: 3

This Report is only a part of the complete initial type-testing report.

The person taking responsibility for the content of this report:


Ing. Lucie Cinařová
Head Assessor

The person taking responsibility for correctness of this report:

Stamp of Notified body 1020

Praha, February 16, 2012




Ing. Iveta Jiroutová
Deputy Manager of the Notified Body 1020

Note: This Report may not be reproduced otherwise but complete without a written consent of the notified body deputy manager.

Technical and Test Institute for Construction Prague, branch 0100 - Praha, Prosecká 811/76a, 190 00 Praha 9, Czech Republic
Phone: +420 286 019 400, +420 286 885 548, fax: +420 286 891 393, e-mail: info@tzus.cz, <http://www.tzus.cz>
Bank connection: KB Praha 1 Czech Republic, account No.: 1501-931/0100, ID: 000 15679, VAT: CZ00015679

1 Specification of tested subject

Resilient floor coverings Daejin Decoria and Decoria Click are used as floor coverings into the interiors of buildings.

Technical specification:

- EN 14041: 2004/AC:2006 Resilient, textile and laminate floor coverings - Essential characteristics

Manufacturer: Daejin CO., LTD.
327, Sodong-ri, Eumbong-myun, Asan-shi, Chungnam, Korea

Plant: Daejin CO., LTD.
327, Sodong-ri, Eumbong-myun, Asan-shi, Chungnam, Korea

2 Sampling

- Place of sampling: dispatch store of the manufacturer Daejin CO., LTD.
- Sampler: Mr. C.S. Jeong (KTR, 88, 8Ga, Youngdungpo-Dong, Youngdungpo-Gu, Seoul, Korea)
- Sampling method: original undisturbed packing
- Transport mode: DHL
- Date of the taking over: 23.11.2011
- Sample registration numbers: 400/11A, 400/11B

3 Test results

3.1 Reaction to fire

Determination according to test methods:

- ČSN EN ISO 9239-1:2003 Reaction to fire tests for floorings - Part 1: Determination of the burning behaviour using a radiant heat source
- ČSN EN ISO 11925-2:2010 Reaction to fire tests - Ignitability of building products subjected to direct impingement of flame - Part 2: Single-flame source test

Classification according to:

- ČSN EN 13501-1+A1:2010 Fire classification of construction products and building elements - Part 1: Classification using test data from reaction to fire tests

Tests were carried out by: Vít Slaboch, Centrum stavebního inženýrství, a.s.; Pražská 16, 10200, Praha 10, Accr.T.Lab. No. 1007.7

- Test Report No.15837 – 1/2 on Fire and Technical Characteristics, dated 2012-01-30, issued by CSI, a.s.; Fire technical laboratory, Authorized Body AO 212
- Test Report No.15837 – 2/2 on Fire and Technical Characteristics, dated 2012-02-07, issued by CSI, a.s.; Fire technical laboratory, Authorized Body AO 212
- Test Report No.15838 – 1/2 on Fire and Technical Characteristics, dated 2012-01-30, issued by CSI, a.s.; Fire technical laboratory, Authorized Body AO 212
- Test Report No.15838 – 2/2 on Fire and Technical Characteristics, dated 2012-02-07, issued by CSI, a.s.; Fire technical laboratory, Authorized Body AO 212

Date of the test ending: 1.02.2012

a) Daejin DecoriaSurface weight: 4800 g/m²

Thickness: 3,0 mm

Reaction-to-fire classification report: PK-12-013

Testing Procedure	Parameter	Number of tests	Results	
			Average continuous parameter	Compliance parameter
ČSN EN ISO 9239-1	Critical heat flow CHF (kW/m ²)	3	8,6	B _{f1} ≥ 8,0
	Darkening-by-smoke integral S(% . min)	3	621,4	s1 ≤ 750
ČSN EN ISO 11925-2	Propagation of flame (mm)	6	0	≤ 150 to 20 s

Reaction to fire class: **B_{f1}**Classification in relation to smoke production: **s1**

Reaction to fire	B_{f1}-s1
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b) Decoria ClickSurface weight: 8260 g/m²

Thickness: 5,0 mm

Reaction-to-fire classification report : PK-12-014

Testing Procedure	Parameter	Number of tests	Results	
			Average continuous parameter	Compliance parameter
ČSN EN ISO 9239-1	Critical heat flow CHF (kW/m ²)	3	8,8	B _{f1} ≥ 8,0
	Darkening-by-smoke integral S(% . min)	3	566,3	s1 ≤ 750
ČSN EN ISO 11925-2	Propagation of flame (mm)	6	0	≤ 150 to 20 s

Reaction to fire class: **B_{f1}**

Classification in relation to smoke production: **s1**

Reaction to fire	B_{f1}-s1
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3.2 Emission of formaldehyde

The evaluation was performed without testing under the condition that no formaldehyde was added during the manufacturing process of all floor coverings (see Art. 1 of this report) – according to Art. 4.3 of the standard EN 14041

Classification	E1	Written declaration of the manufacturer*
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*the manufacturer submitted the composition table of the products to the Notified Body

4 Annexes

- Classification of reaction to fire in accordance with 13501-1+A1:2010, No. PK-12-013, dated 2012-02-10, issued by CSI, a.s.; Fire technical laboratory, Authorized Body AO 212
- Classification of reaction to fire in accordance with 13501-1+A1:2010, No. PK-12-014, dated 2012-02-10, issued by CSI, a.s.; Fire technical laboratory, Authorized Body AO 212
- Declaration of Producer (formaldehyde) - Daejin CO., LTD., dated 14.12.2011

**Centrum stavebního inženýrství a.s.**

Fire Technical Laboratory

AUTHORIZED
BODY No. 212NOTIFIED
BODY No. 1390**CLASSIFICATION OF REACTION TO FIRE IN
ACCORDANCE WITH
ČSN EN 13501-1+A1:2010**

Applicant: Technický a zkušební ústav stavební
Praha, s.p.
Prosecká 811/76a
190 00 Praha 9
Czech republic

Prepared by: Centrum stavebního inženýrství a.s.
Pražská 16
102 00 Praha 10
Czech republic

Product name: DAEJIN DECORIA (0.3/3.0T)

**Classification
report No.:** PK-12-013

Issue number: 1/2

Date of issue: 10th February 2012

This classification report consists of 4 pages and may only be used or reproduced in its entirety.

1. DETAILS OF CLASSIFIED PRODUCT

Nature and end use application:

Classification of the product *DAEJIN DECORIA (0.3/3.0T)* is valid for the following end use application:

Floor covering

Description:

The product *DAEJIN DECORIA (0.3/3.0T)* is fully described in the test reports in support of the classification listed in clause 2.

2. TEST REPORTS AND TEST RESULTS IN SUPPORT OF THIS CLASSIFICATION

Test reports

Name of laboratory	Name of sponsor	Test report ref. no.	Test method
CSI a.s., Fire technical laboratory	TZÚS Praha, s.p.	15837 – 1/2	ČSN EN ISO 11925-2
		15837 – 2/2	ČSN EN ISO 9239-1

Measured values

Test method	Parameter	Number of test	Results	
			Continuous parameter mean (m)	Compliance parameters
ČSN EN ISO 11925-2 surface flame attack	$F_s \leq 150$ mm	6	(-)	yes
ČSN EN ISO 9239-1	CHF (kW/m ²)	3	8,6	(-)
	Smoke (% × min)	3	621,4	(-)

(-): not applicable

Test results

Test method	Parameter	Mean value	Criterion compliance
ČSN EN ISO 11925-2	$F_s \leq 150$ mm (1)	yes	yes (B _{fl} to D _{fl})

(1): until 20. second from the start of exposition

Test results

Test method	Parameter	Mean value	Criterion compliance
ČSN EN ISO 9239-1	CHF (kW/m ²) Smoke (% x min)	8,6 621,4	≥ 8,0 (B _f) ≤ 750 (s1)

3. CLASSIFICATION AND DIRECT FIELD OF APPLICATION**Reference and direct field of application**

This classification has been carried out in accordance with the clauses 12.6 and 12.9.2 of ČSN EN 13501-1+A1:2010.

Classification

The product *DAEJIN DECORIA (0.3/3.0T)*, in relation to its reaction to fire behaviour is classified:

B_f

The additional classification in relation to smoke production is:

s1

The format of the reaction to fire classification for *DAEJIN DECORIA (0.3/3.0T)* is:

Fire behaviour		Smoke production	
B _f	-	s	1

Reaction to fire classification: B_f-s1

Field of application

This classification is valid for the following end-use conditions:

- substrate: products of reaction to fire class A1_f or A2_f
- fixing method: glued with polyurethane or dispersion adhesives

4. LIMITATIONS**Restrictions**

This classification report is valid until 10th February 2017, provided that the technical specifications of the product will not be changed.

Warning

This document does not represent type approval or certification of the product.

Prepared:



.....
Jiří Socha



Reviewed:



.....
Vít Slaboch
head of laboratory

**Centrum stavebního inženýrství a.s.**

Fire Technical Laboratory

AUTHORIZED
BODY No. 212NOTIFIED
BODY No. 1390**CLASSIFICATION OF REACTION TO FIRE IN
ACCORDANCE WITH
ČSN EN 13501-1+A1:2010**

Applicant: Technický a zkušební ústav stavební
Praha, s.p.
Prosecká 811/76a
190 00 Praha 9
Czech republic

Prepared by: Centrum stavebního inženýrství a.s.
Pražská 16
102 00 Praha 10
Czech republic

Product name: DECORIA CLICK (0.5/5.0T)

**Classification
report No.:** PK-12-014

Issue number: 1/2

Date of issue: 10th February 2012

This classification report consists of 4 pages and may only
be used or reproduced in its entirety.

1. DETAILS OF CLASSIFIED PRODUCT

Nature and end use application:

Classification of the product *DECORIA CLICK (0.5/5.0T)* is valid for the following end use application:

Floor covering

Description:

The product *DECORIA CLICK (0.5/5.0T)* is fully described in the test reports in support of the classification listed in clause 2.

2. TEST REPORTS AND TEST RESULTS IN SUPPORT OF THIS CLASSIFICATION

Test reports

Name of laboratory	Name of sponsor	Test report ref. no.	Test method
CSI a.s., Fire technical laboratory	TZÚS Praha, s.p.	15838 – 1/2	ČSN EN ISO 11925-2
		15838 – 2/2	ČSN EN ISO 9239-1

Measured values

Test method	Parameter	Number of test	Results	
			Continuous parameter mean (m)	Compliance parameters
ČSN EN ISO 11925-2 surface flame attack	$F_s \leq 150$ mm	6	(-)	yes
ČSN EN ISO 9239-1	CHF (kW/m ²)	3	8,8	(-)
	Smoke (% × min)	3	566,3	(-)

(-): not applicable

Test results

Test method	Parameter	Mean value	Criterion compliance
ČSN EN ISO 11925-2	$F_s \leq 150$ mm (1)	yes	yes (B _{fl} to D _{fl})

(1): until 20. second from the start of exposition

Test results

Test method	Parameter	Mean value	Criterion compliance
ČSN EN ISO 9239-1	CHF (kW/m ²) Smoke (% x min)	8,8 566,3	≥ 8,0 (B _f) ≤ 750 (s1)

3. CLASSIFICATION AND DIRECT FIELD OF APPLICATION**Reference and direct field of application**

This classification has been carried out in accordance with the clauses 12.6 and 12.9.2 of ČSN EN 13501-1+A1:2010.

Classification

The product *DECORIA CLICK (0.5/5.0T)*, in relation to its reaction to fire behaviour is classified:

B_f

The additional classification in relation to smoke production is:

s1

The format of the reaction to fire classification for *DECORIA CLICK (0.5/5.0T)* is:

Fire behaviour		Smoke production	
B _f	-	s	1

Reaction to fire classification: B_f-s1

Field of application

This classification is valid for the following end-use conditions:

- substrate: products of reaction to fire class A1_{fl} or A2_{fl}

4. LIMITATIONS

Restrictions

This classification report is valid until 10th February 2017, provided that the technical specifications of the product will not be changed.

Warning

This document does not represent type approval or certification of the product.

Prepared:



Jiří Socha



Reviewed:



Vít Slaboch
head of laboratory



Head Office / Factory : 327, SODONG-RI, EUMBONG-MYUN, ASAN-SHI, CHUNGNAM, KOREA
Phone : +82-41-547-0301 FAX : +82-41-547-0305 URL : www.decoria.co.kr

Doc. # DJ-2011-12-01

Date 14th. December. 2011

Attn to: Ms. L. Cinarova

T Z U S

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

Prosecká 811/76 a,
Prague 9 - Prosek 190 00

Re : The Declaration of Formaldehyde Free

Dear Sir.

We declare that no formaldehyde was added during the manufacturing process of every type as the following products list.

- *DAEJIN DECORIA*
- *DECORIA CLICK*

Manufacturers Registered Name : **DAEJIN CO., LTD.**

Manufacturers Registered Address : **327, SODONG-RI, EUMBONG-MYUN, ASAN-SHI, CHUNGNAM,
KOREA**

Thanks for your cooperation.

With Best Regards.

A handwritten signature in black ink, appearing to read 'Kim Jeung Tae', enclosed in a rectangular box.

Mr. KIM JEUNG TAE
CEO of DAEJIN CO., LTD.



INSTITUT PRO TESTOVÁNÍ A CERTIFIKACI, a. s.

tř. T. Bati 299, 764 21 Zlín, Czech Republic

Accredited Testing Laboratory No. 1004



Testing laboratory * Calibration laboratory * Product certification body * Quality management systems certification body

Inspection body * Authorized body * Notified body

tel.:+420 577 523 657

fax: +420 577 523 657

e-mail:mordeltova@itczlin.cz

www.itczlin.cz

Number of pages:

3

Page : 1

ref.No. 412601278/1

**ACCREDITED LABORATORY
TEST REPORT
ref.No. 412601278/1**

Client: Technical and Test Institute for Constructions Prague
Company registration number: 00015679

Address: Prosecká 811/76a, 190 00 Prague 9, Czech Republic

Sample: **PVC floor covering: DAEJIN DECORIA (0.3/3.0T)**

Work requested: Measurement of dynamic coefficient of friction on dry floor surface

Sample received on: 12th January 2012

Report elaborated by: Irena Čaňová

Place and date of issue: Zlín, 19th January 2012



Doc. Dipl. Ing. Vladimír Klepal, CSc.
Head of Accredited Testing Laboratory

Note: The results given in this Test Report apply only to the sample tested by our laboratory!

Without a written consent by the Institut pro testování a certifikaci, a.s. Zlín, the Test Report may not be reproduced unless as a whole!



Sample description and identification:

Product sample – Sample No. 1 – **PVC floor covering: DAEJIN DECORIA (0.3/3.0T)**
(contract No. Z 010 11 0400) – was registered under No. 1278-1/12.

Sampling method used:

The sample supplied by the client, taken by the laboratory staff member using the random selection method - non-accredited sampling, etc.

Work requested:

Measurement of dynamic coefficient of friction on dry floor surface according to ČSN EN 13893

Testing method used:

Measurement of dynamic coefficient of friction on dry floor surface according to ČSN EN 13893

Test equipment used:

Test machine for testing of slip resistance

Conditioning:

Time: 48 h.; temperature: $(23\pm 2)^{\circ}\text{C}$, relative humidity: $(50\pm 5)\%$

Test conditions:

Temperature: $(23\pm 2)^{\circ}\text{C}$, relative humidity: $(50\pm 5)\%$, test cycle consists: no less than of 5 measurements in one test condition, expression of result: arithmetic mean

Testing laboratory:

The tests were made by the Testing Laboratory No. 1004 - ITC Zlín – detached workplace No. 3
– Testing laboratory of shoes and personal protective equipments, SVIT area, building No.34, 762 17 Zlín.

Tested by:

Dipl.Ing. Marie Ordeltová on 17th January 2012

Test results:

The test results are given in the following table:

Note: The results given in this Test Report apply only to the sample tested by our laboratory!

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Property measured	Direction of production	Measurements obtained					Data of measurement uncertainty ²⁾	
		the measured values						arithmetic mean
Dynamic coefficient of friction ¹⁾	direction A	0,49	0,47	0,46	0,49	0,47	0,48	0,01
	direction B	0,46	0,48	0,49	0,49	0,46	0,48	0,01

Legende:

¹⁾ coefficient of friction is ratio of the frictional force divided by the normal force, unit is 1

²⁾ expressed as an extended measurement uncertainty for extension coefficient k=2

Dipl. Ing. Marie Ordeltová
Head of testing laboratory of shoes and PPE

Note: The results given in this Test Report apply only to the sample tested by our laboratory!

Without a written consent by the Institut pro testování a certifikaci, a.s. Zlín, the Test Report may not be reproduced unless as a whole!