



**Quality Assessment**

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VÖHRINGER GmbH  
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72818 Trochtelfingen

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**Test report No. B-2080/05**


**Customer:** VÖHRINGER GmbH  
In Aufzügen 11  
72818 Trochtelfingen

**Material:** Laminate floor covering: FANTASY 31  
Decor: No. 024, Imperial Oak

**Object of the test:** Testing of a laminate floor covering according to DIN EN 13329 „Laminate floor coverings - Specifications, requirements and test methods“  
Level of use: 31

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The test report comprises 5 pages. A publication of this report in excerpts is subject to the written consents of Fraunhofer-Institut für Holzforschung, Wilhelm-Klauditz-Institut (WKI), Braunschweig.

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 <b>DAP-PL-2071.00</b>	Testing laboratory authorised by DAP Deutsches Akkreditierungssystem Prüfwesen GmbH according to DIN EN ISO/IEC 17025. The requirements of the DIN EN ISO 9001 : 1994 are fulfilled. The authorisation covers the test methods listed in the certificate.

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## 1. Task

The Fraunhofer-Institut für Holzforschung, Wilhelm-Klauditz-Institut (WKI), was authorised with the testing of a laminate floor covering. The tests in accordance with DIN EN 13329 „Laminate floor coverings - Specifications, requirements and test methods“ should be performed for the level of use 31.

## 2. Material to be tested and parameters

On 2005-08-12 three packages (à 8 elements, 1210 mm x 193 mm x 8,3 mm) of a laminate floor covering were given to the WKI. The material to be tested was selected by the customer.

Name of the specimen: Laminate floor covering: FANTASY 31  
(according to the customer) Decor: No. 024, Imperial Oak

The material that has not been used up will be disposed of by the WKI one year after the completion of the tests.

## 3. Execution of the test

Following tests were performed in accordance with DIN EN 13329 „Laminate floor coverings - Specifications, requirements and test methods“ (September 2000):

- Thickness, length, width, squareness, straightness and flatness
- Openings and height differences between elements
- Dimensional variations after changes in relative humidity
- Light fastness
- Residual indentation after static loading
- Surface soundness
- Abrasion resistance and abrasion classification
- Impact resistance and impact classification
- Resistance to staining
- Resistance to cigarette burns
- Effect of the simulated movement of a furniture leg
- Effect of a castor chair
- Thickness swelling
- Marking, designation and packaging



## 4. Results

### 4.1 General requirements

Characteristic	Requirement	Result	Complies
Thickness of the element, t Nominal value*: 8,3 mm	$\Delta t_{\text{average}} \leq 0,50$ mm, relative to nominal value $t_{\text{max}} - t_{\text{min}} \leq 0,50$ mm	$\Delta t_{\text{average}} = 0,00$ mm $t_{\text{max}} - t_{\text{min}} = 0,15$ mm	Yes
Length of the surface layer, l Nominal value*: 1210,0 mm	For the nominal values given, no measured value shall exceed: $l \leq 1500$ mm: $\Delta l \leq 0,5$ mm $l > 1500$ mm: $\Delta l \leq 0,3$ mm/m	$\Delta l = 0,4$ mm	Yes
Width of the surface layer, w Nominal value*: 193,0 mm	$\Delta w_{\text{average}} \leq 0,10$ mm, relative to nominal value $w_{\text{max}} - w_{\text{min}} \leq 0,20$ mm	$\Delta w_{\text{average}} = 0,00$ mm $w_{\text{max}} - w_{\text{min}} = 0,10$ mm	Yes
Squareness of the element, q	$q_{\text{max}} \leq 0,20$ mm	$q_{\text{max}} = 0,20$ mm	Yes
Straightness of the surface layer, s	$s_{\text{max}} \leq 0,30$ mm/m	$s_{\text{max}} = 0,15$ mm/m	Yes
Flatness of the element, f	Maximum single values: $f_{w, \text{concave}} \leq 0,15$ % $f_{w, \text{convex}} \leq 0,20$ % $f_{l, \text{concave}} \leq 0,50$ % $f_{l, \text{convex}} \leq 1,00$ %	$f_{w, \text{concave}} = 0,12$ % $f_{w, \text{convex}} = 0,08$ % $f_{l, \text{concave}} = 0,12$ % $f_{l, \text{convex}} = \text{---}$	Yes
Openings between elements, o	$o_{\text{average}} \leq 0,15$ mm $o_{\text{max}} \leq 0,20$ mm	$o_{\text{average}} = 0,00$ mm $o_{\text{max}} = 0,05$ mm	Yes
Height difference between elements, h	$h_{\text{average}} \leq 0,10$ mm $h_{\text{max}} \leq 0,15$ mm	$h_{\text{average}} = 0,00$ mm $h_{\text{max}} = 0,05$ mm	Yes
Dimensional variations after changes in relative humidity, $\delta l$ , $\delta w$	$\delta l_{\text{average}} \leq 0,9$ mm $\delta w_{\text{average}} \leq 0,9$ mm	$\delta l_{\text{average}} = 0,6$ mm $\delta w_{\text{average}} = 0,8$ mm	Yes
Light fastness	Blue wool scale, not worse than 6, Grey scale, not worse than 4	Blue wool scale: > 6 Grey scale: > 4	Yes
Static indentation	No visible change, i.e. $\leq 0,01$ mm indentation using a straight steel cylinder, $\varnothing = 11,30$ mm	No visible change, 0,00 mm indentation	Yes
Surface soundness	$\geq 1,00$ N/mm <sup>2</sup>	1,47 N/mm <sup>2</sup>	Yes

\* Declaration of manufacturer



#### 4.2 Classification requirements and levels of use

Class	Levels of use						Result
	Domestic			Commercial			
	Moderate	General	Heavy	Moderate	General	Heavy	
Class	21	22	23	31	32	33	
Abrasion resistance*	AC1 IP ≥ 900	AC2 IP ≥ 1800	AC3 IP ≥ 2500		AC4 IP ≥ 4000	AC5 IP ≥ 6500	Abrasion class: AC3 (Average IP-value: 2800 revolutions)
Impact resistance	IC1				IC2	IC3	Impact class: IC2 (Small – diameter ball test: 15 N Large – diameter ball test: 1550 mm height of fall)
Resistance to staining	4, groups 1 and 2 3, group 3	5, groups 1 and 2 4, group 3					Groups 1 – 2: Grade 5 Group 3: Grade 5
Resistance to cigarette burns	---	≥ Grade 4					Grade 5
Effect of a furniture leg	---		No damage shall be visible, when tested with foot type 0				No visible damage according to EN 424
Effect of a castor chair	---		No change in appearance or damage, as defined in EN 425. Single-wheel castors, as defined in EN 12529:1998, 5.4.4.2 (Type W) shall be used.				No visible change or damage (according to EN 425 changes in gloss have not been taken into account)
Thickness swelling	≤ 20,0 %			≤ 18,0 %			9,0 %

\* The abrasive wheels used at the test were harder than specified in the standard, wheels conforming to the standard are not available. From experience a higher IP-value should be determined using wheels conforming to the standard.

#### 4.3 Marking, designation and packaging

Laminate floor coverings which comply with the requirements of this standard shall have the following information clearly marked by the manufacturer, either on their packaging, or on a label or information sheet included in the packaging:

Marking and designation (EN 13329, 5.1)	Complies
a) Number of the European Standard followed by suffix according to clause 5.2	No
b) Manufacturer's and/or supplier's identification	Yes
c) Product name	Yes
d) Colour/pattern and batch number	Yes
e) Symbol appropriate to the class of product according to table 4	No
f) Nominal dimensions of one floor covering element in millimetres	Yes
g) Number of elements contained in a package	Yes
h) Area in square metres contained in a package	Yes

In the delivered form the requirements to marking and designation have not been fulfilled completely. The number of the European Standard followed by the suffix of the level of use and the classification symbol is missing.



Laminate floor coverings shall be delivered in packages designed to protect the corners, edges and surfaces of the product, under normal conditions of transport and handling. Installation, cleaning and maintenance instructions shall be delivered together with the product. The requirements to packaging (EN 13329, 5.3) have been considered to be fulfilled in the delivered form.

## 5. Evaluation of the results

The examined samples meet the requirements of the level of use 31 according to DIN EN 13329 „Laminate floor coverings - Specifications, requirements and test methods“. The marking of the product does not comply with the requirements of the EN 13329, 5.1 in two points (see 4.3). The requirements to packaging have been considered to be fulfilled in the delivered form.

The test results exclusively relate to the objects tested.

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