

REPORT

**Emission chamber test according to French VOC-
Regulation (Décret No. 2011-321)**

Product: WICONA WICLINE 75 evo

**Report-No.: CAL18-102603-2b (replaced Report-No.
CAL18-102603-1b from 10th August 2018)**

Sample-No:	18-065111-01
Order-No:	CAL-07615-18
Client:	Hydro Building Systems Germany GmbH Einsteinstrasse 61 89077 Ulm
Order date:	24 th April 2018
Project manager:	Christopher Teichmann

Altenberge, 14th September 2018

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1 Introduction

WESSLING GmbH was contracted to perform an emission test chamber study of a metal window element "WICONA WICLINE 75 evo" according to French VOC Regulation (Décret No. 2011-321).

The sample was provided by the manufacturer.

2 Test Data

2.1 Product Data

Name of product:	WICONA WICLINE 75 evo
Sample-No.	18-065111-01
Date of production	unknown
Type of packaging	Aluminium-composite foil
Date of receipt	29/06/2018
Period of examination	10/07/2018 – 07/08/2018

2.2 Test chamber specifications

Test-Norm	DIN EN ISO 16000-9 (2008-04) ^A /-11 (2006-06) ^A (Produktanalytik Altenberge)
Type	Self made, stainless steel
Volume	20 m ³
Temperature	23 °C
Rel. Humidity	50 %
Exchange rate	0,68 h ⁻¹

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2.3 Preparation of test specimen

The preparation and application were performed according to the client's specification.

Loading	0,091	m ² /m ³ (application: window)
Area-specific Air Exchange Rate	7,5	m ³ /m ² h
Surface area of sample	1,81	m ²
Test chamber load	10/07/2018	

2.4 Sampling

Air-sampling after 28 days					
Date	Parameter	Test-norm	Sorbens	sampling-volume	Sampling-time
07/08/2018	VOC	DIN EN 16516 (2018-01) ^A	Tenax-TA	5 L	50 min
	Aldehydes	DIN ISO 16000-3 (2013-01) ^A	DNPH	50 L	25 min

The analyses were carried out by WESSLING according to DIN EN 16516 (2018-01)^A and DIN ISO 16000-3 (2013-01)^A in Altenberge and Hannover .

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3 General information

The health and well-being of the people inside buildings is also influenced by possible indoor air contamination. Air contamination can be caused by building products, as many of them cover a large area in the room.

According to French VOC Regulation "describes dans l'air intérieur" and as from 1st January 2012, all building products, decorative products and furnishings, which are intended to be brought on the French market must be examined in relation to their emission performance and characterization. For all products which are available that are already on the French market, the emission classification and labelling will apply from 1st September 2013.

The basis for the tests of Décret n° 2011-321 is: "Arrêté du 19 avril 2011 à l' relatif étiquetage des produits de construction de revêtement ou de mur de sol et des vernis peintures et sur leurs émissions de polluants the volatile ". All products which are used inside have to be tested and labelled according to the detected emission class.

Testing is based on the international testing standards series ISO 16000. Therefore the process underlies a recognized methodology, which has also been recognized by a committee for health assessment of construction products (AgBB) and the German Institute for Building Technology (DIBt). Contrary to the German general building approval process (abZ) French VOC Regulation is based on voluntary self-assessment by the manufacturer.



Deutsche
Akkreditierungsstelle
D-PL-14162-01-00

Testing laboratory accredited by DAKKS as per DIN EN ISO/IEC 17025. The accreditation applies to the accreditation scope defined in the certification attachment [D-PL-14162-01-00]. Accredited procedures are marked with ^Δ. Test reports or excerpts from such reports must not be copied without the prior consent of WESSLING GmbH. Measurement results apply exclusively to the test objects received by us.

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HRB 1953 AG Steinfurt

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The evaluation criteria in detail (in $\mu\text{g}/\text{m}^3$):

parameter	emission group			
	A+	A	B	C
formaldehyde	<10	<60	<120	>120
acetaldehyde	<200	<300	<400	>400
toluone	<300	<450	<600	>600
tetrachlorethene	<250	<350	<500	>500
xylene	<200	<300	<400	>400
1,2,4-trimelitic acid	<1000	<1500	<2000	>2000
1,4-dichlorbenzene	<60	<90	<120	>120
ethylbenzene	<750	<1000	<1500	>1500
2-Butoxyethanol	<1000	<1500	<2000	>2000
styrol	<250	<350	<500	>500
TVOC	<1000	<1500	<2000	>2000

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4 Results and Assessment

4.1 TVOC

Table 4.1: VOC-results after 28 days

parameter	group	CAS_Number	concentration in chamber air ($\mu\text{g}/\text{m}^3$)
Caprolactam	VOC	105-60-2	2
Decamethylcyclopentasiloxane	VOC	541-02-6	115
Not identified VOC	VOC		6
VVOC (<C6)	VVOC		n.d.
TVOC (C6-C16)*	VOC		121
SVOC (>C16-C22)	SVOC		n.d.

 * Sum TVOC: * Sum TVOC: Limits of consideration $\geq 5 \mu\text{g}/\text{m}^3$ (average of repeat determination)

 n.d. = not detected (limit of quantitation: $< 1 \mu\text{g}/\text{m}^3$)

4.2 Aldehydes

Table 4.2: Aldehydes-results after 28 days

parameter	group	CAS_Number	concentration in chamber air ($\mu\text{g}/\text{m}^3$)
Formaldehyde	VVOC	50-00-0	3
Acetaldehyde	VVOC	75-07-0	9

4.3 Classification

The product "WICONA WICLINE 75 evo" meets the criteria of A+ – classification.

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5 Summary

WESSLING GmbH was contracted to perform an emission test chamber study of a metal window element "WICONA WICLINE 75 evo" according to French VOC Regulation (Décret No. 2011-321).

The sample was prepared according to the client's specification and placed in an emission test chamber according to DIN EN ISO 16000-9 (2008-04)[^] and DIN EN 16516 (2018-01)[^]. On day 28 after loading the test chamber air was analysed for VOCs and aldehydes.

With regard to manner and extent of the performed examination the present product meets the criteria of A+ - classification after 28 days.



Christopher Teichmann
Project manager



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Scientist