

Test report no. 81737/08-III

Customer: REHAU AG + Co.
Ytterbium 4
91058 Erlangen-Eltersdorf
GERMANY

Test: Testing and classification of window profiles
made of PVC-U according to BS EN 12608: 2003

System: REHAU Prestige-Design

Designation of profile: Sash T 77, Art. 500163

Designation of formulation: RAU-PVC 1406

Basis of stabilisation: Lead

Manufacturer of profile: REHAU Polymers (Suzhou) Co Ltd.,
215400 Taicang, CHINA

Test samples received on: 2008-05-07

Test period: 2008-06-27 to 2008-06-30

Result: The requirements according to BS EN 12608 are met.

Classification ¹: EN 12608 - II - B

This test report consists of 5 pages and 1 enclosure.

Würzburg, 2008-09-23
Naw/ste/

i. V.

Dr. Anton Zahn



i. A.

Wolfgang Ries

¹ The window profile can not be classified by climatic zone, because the resistance to weathering was not verified.

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1. Order

The company REHAU AG + Co., Ytterbium 4, 91058 Erlangen-Eltersdorf, GERMANY, ordered the following test to be carried out at SKZ - TeConA GmbH in their E-Mail dated March 18, 2008: Testing and classification of window profiles made of PVC-U according to BS EN 12608: 2003.

2. Test material

SKZ - TeConA GmbH had the following test material at their disposal on May 7, 2008:

13 x 1 m pieces of frame profile, made of PVC-U and 3 welded corners

Profile designation: Sash T 77, Art. 500163
Profile marking: REHAU 302 02 2007/12/08 05:39 41 500163 RAU-PVC

3. Execution of test

The tests described below were carried out according to BS EN 12608, unplasticised polyvinylchloride (PVC-U) profiles for the fabrication of windows and doors, classification, requirements and test methods, 2003 edition.

Usually we carry out tests according to standards for which we have an accreditation. The list of all standards for which we are accredited is shown on the homepage at www.skz.de.

3.1 Material characteristics

The material characteristics were tested according to BS EN 12608, annex A. The test results were taken over from test report no. 81375/08, issued by SKZ - TeConA GmbH.

3.2 Appearance

The profile sections sent were subjected to visual inspection. The surface shall be smooth, flat and free from pitting, impurities, cavities and other surface defects. The edges of the profiles shall be clean and burr-free.



3.3 Dimensions

The dimensional test and the test in respect of deviation from straightness were carried out according to item 6.2, test methods.

For the dimensional test of the profile sections, the requirements according to item 5.3 and additional features from the profile drawing were taken into consideration.

3.4 Mass of main profiles

The determination of the mass of the profile sections was carried out according to item 6.3, test methods.

3.5 Heat reversion

The test was carried out according to EN 479 on 3 samples.

3.6 Resistance to impact of main profiles by falling mass

The test was carried out according to EN 477 on 10 samples.

The samples, stored at -10 °C, were tested according to classification II (falling mass 1000 g, falling height 1500 mm).

3.7 Behaviour after heating at 150 °C

The test was carried out according to EN 478 on 3 samples.

3.8 Weldability

The weldability test was carried out according to EN 514, compression bending test. The breaking stress was determined in N/ mm².



4. Results

4.1 Material characteristics

The requirements according to BS EN 12608, annex A, are met.

The test results have been documented in test report no. 81375/08, issued by SKZ - TeConA GmbH.

With respect of the classification of Charpy impact strength, the requirement of at least 20 kJ/ m² was met.

4.2 Appearance

The profiles were smooth, the edges were clean and burr-free. No lines, streaks, stains or other surface defects were found.

4.3 Dimensions

External dimensions and functional dimensions as well as wall thickness **class B** and deviation from straightness in mm:

Measuring point	Actual value	Required value	Deviation
1	77.3	77.0 ± 0.5	0.3
2	37.0	37.0 ± 0.5	0.0
3	60.1	60.0 ± 0.3	0.1
4	45.8	46.0 ± 0.4	-0.2
5	3.5	3.5 +0.2 - 0.4	0.0
6	4.0	4.0 ± 0.2	0.0
7	16.4	16.4 ± 0.3	0.0
8	3.5	3.5 +0.2 - 0.4	0.0
9	31.9	31.8 ± 0.35	0.1
10	45.9	46.0 ± 0.4	-0.1
11	20.3	20.0 ± 0.5	0.3
Wall thickness	2.5	≥ 2.5	0.0
Wall thickness	2.1	≥ 2.0	0.1

Deviation from straightness in mm/m Actual value: 0.2 Required value: ≤ 1

4.4 Mass of main profiles

Mass per meter in g/m Actual value: 1125 Required value: 1000
Deviation from required value in % Actual value: 12.5 Required value: ≥ -5



4.5 Heat reversion

	Heat reversion in % Required value: ≤ 2.0						Difference between sight surfaces Required value: ≤ 0.4		
	Sight surface 1			Sight surface 2					
Sample	1	2	3	1	2	3	1	2	3
Actual value	1.6	1.6	1.6	1.6	1.6	1.6	0.0	0.0	0.0

4.6 Resistance to impact of main profiles by falling mass

Resistance to impact by falling mass (class II, falling height 1500 mm)

Breaking rate in % Actual value: 0 Required value: ≤ 10

4.7 Behaviour after heating: no complaints

4.8 Weldability

mean breaking stress in N/mm^2 Actual value: 48.2 Required value: $\geq 35 \text{ N/mm}^2$
smallest single value in N/mm^2 Actual value: 47.7 Required value: $\geq 30 \text{ N/mm}^2$



Enclosure to test report no. 81737/08-III

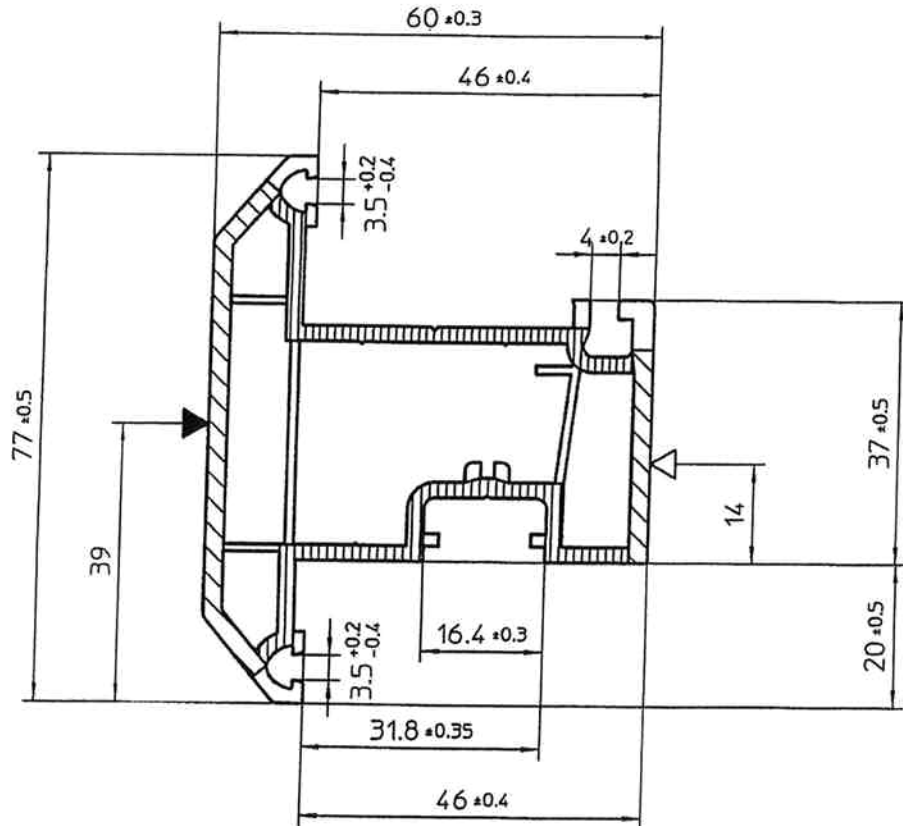
Profilhersteller: REHAU AG+Co

System: REHAU Prestige-Design

Statistikgruppe: 921

Profilbezeichnung: Sash T 77, Art.500163

Laborzeichnung



Metergewicht: 1.00 kg/m

Schweißleistung beim Systemhersteller: $F_{\text{soll}} = 2692 \text{ N}$

Eckbruchwert für Fensterfertigung: $F_{\text{soll}} = 1938 \text{ N}$

$$W_y = \underline{5971 \text{ mm}^3}$$

$$e_y = \underline{38.86 \text{ mm}}$$

$$L_j = \underline{205 \text{ mm}}$$

- 2.7 ± 0.2
- 2.2 ± 0.2
- frei

▽ Kennzeichnung

← = Vorzugsweise Prüfung

↙ = Alternativ

Datum: 25. 07. 2008

Unterschrift: *Andreas Meyer*

REHAU

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