Test report no.: **121949/16**

Customer:
EGE Profil Tic. ve San A. S.
Atatürk Organize Sanayi Bölgesi
10003 Sokak No.:5
35510 CIGLI-IZMIR
TURKEY

Order: Testing of the material characteristics according to DIN EN 12608-1: 2016-08, annex A on window profiles made of PVC-U for the fabrication of windows and doors

E-mail of: 2017-01-23 **by:** Mr. Mehmet Arslanbaba

Sample receipt: 2017-01-26

Test period: 2017-02-02 to 2017-03-10

This test report comprises 4 pages.

Würzburg, 2017-03-23
Rs/km

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1. Order

By its e-mail of 23 January 2017 the company EGE Profil Ticaret ve Sanayi A.S., Atatürk Organize Sanayi Bölgesi 10003 Sokak No.: 5, 35510 Cigli-Izmir, TURKEY, instructed the SKZ - Testing GmbH with testing of the material characteristics according to DIN EN 12608-1: 2016-08, annex A on window profiles made of PVC-U for the fabrication of windows and doors.

2. Test material

SKZ - Testing GmbH had the following test material at their disposal on 26 January 2017:

2 x 1 m window profile sections made of PVC-U, colour white

Designation of formulation:	**91022**
Base of stabilization:	**CaZn**
Profile manufacturer:	EGE Profil Ticaret ve Sanayi A.S., Sarimese Mah. Suadiye Cad. No:5 Kartepe-KOCAELI, TURKEY

3. Test procedure

Testing of the material characteristics was carried out according to DIN EN 12608-1, "Unplasticized poly(vinyl chloride) (PVC-U) profiles for the fabrication of windows and doors – classification, requirements and test methods – Part 1: Non-coated PVC-U profiles with light coloured surfaces, issue 2016-08, annex A, item A.4.

Unless indicated otherwise, pre-testing storage and the test itself were carried out at standard conditioning atmosphere 23/50, class 1 according to DIN EN ISO 291: 2008-08.

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 Vicat-softening temperature (VST)

The Vicat-softening temperature (VST) was determined according to DIN EN ISO 306: 2004-10, method B/50. The required samples were taken from the outer surface of the window profile. The mean value is based on 3 individual values.

Requirement:

The mean value of Vicat-softening temperature (VST) shall not be less than 75 °C and also no single value shall be less than 73 °C.

3.2 Flexural modulus of elasticity

The flexural modulus of elasticity (E_b) was determined according to DIN EN ISO 178: 2013-09. The samples were taken from profile section by milling. The test speed was 1 mm/min, the support distance L was 46 mm (16 x sample thickness).

Requirement:

The flexural modulus of elasticity shall not be less than 2200 N/mm² and also no single value shall be less than 2000 N/mm².

3.3 Tensile impact strength

The tensile impact strength test was carried out according to DIN EN ISO 8256: 2005-05 on samples of type 5. The samples were taken from the outer sight surface of the window profiles, in the direction of extrusion, by machining. The impact energy capacity of the pendulum was 50 J.

The mean value is based on 10 individual values.

Requirement:

The mean tensile impact strength shall not be less than 600 kJ/m² and also no single value shall be less than 450 kJ/m².

4. Test results

4.1 Vicat-softening temperature (VST)

Vicat-softening temperature (VST) in [°C]			
Individual values			Mean value
81.1	81.1	81.2	**81.1**

Smallest single value: 81.1 °C

4.2 Flexural modulus of elasticity

Flexural modulus of elasticity in [N/mm²]	
Mean value from min. 5 individual measurements	Standard deviation
3040	71

Smallest single value: 2940 N/mm²

4.3 Tensile impact strength

Tensile impact strength in [kJ/m²]		
Mean value from 10 individual measurements	Standard deviation	Fracture behaviour
1049	128	ductile

Smallest single value: 800 kJ/m²

5. Assessment of test results

The requirements of DIN EN 12608-1: 2016-08, annex A concerning material characteristics on window profiles made of PVC-U were fulfilled in the tested items.