



**Test Result :** B,s2,d0

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**Applicant/Deney Sahibi :** GF GENERAL FORMULATIONS GmbH  
**Contact Person / Yetkili :** Alwina Bathija  
**Contact Telephone / Telefon:** +491877621589  
**Contact e-mail / E-Posta:** abathija@generalformulations.com  
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	TEST	METHOD	RESULT		
*	<b>Fire classification of construction products and building elements- Part 1: Classification using test data from reaction to fire tests.</b>	<b>EN 13501-1</b>	<b>PASS</b>		
			<b>B</b>	<b>s2</b>	<b>d0</b>

NOTE: This test result replaces the conformity assessment, can be presented to official institutions, and used in products and brochures.

Test results, methods and other information about the sample shown in the relevant pages of this Report are based on the information specified in accordance with \*Test Request Form (PR03-F01) conveyed to us from the Applicant. Test results are valid for the sample as identified above. Sample may not represent the lot which it belongs. This Report does not replace a Product Certificate. Full report or any part of it may not be reproduced or used for any other purpose without the written permission of EUROLAB Laboratory. Sampling has not been done by us. Unsigned and unsealed Reports are invalid. Analysis as indicated with "\*" are in the Scope of our Accreditation Certificate issued from UAF according to TS EN ISO/IEC 17020, 17025, Analysis as indicated with "\*" are performed at the external laboratories using accredited test methods according to EN ISO/IEC 17020, 17025 from UAF. Possible extra notes may add with starting N! to related pages. Tested and remaining samples will be kept in specified terms & conditions at test request and/or proposal form. Physically, chemically and microbiologically decomposed samples are discarded regardless of the storage period. Applicant can not claim any right in this regard. Results are shown in this Report do not include Measurement Uncertainty values. Measurement Uncertainty values are not taken in consideration during Pass/Fail assessment the of test results shown in this Report. Evaluation of the test results using Measurement Uncertainty values is the responsibility of the Applicant.

PR33-F01/08.10.2015/Rev:17.01.2017-R01

## RESULTS

### 1.TS EN ISO 13501-1

Building products and structural elements, fire classification. Part 1: Classification by using data obtained from the behavior tests against fire.

This standard covers the behavior of all building products, including products used in combination with structural elements, against flame.

Provisions for Inspection and Test:

If Rule / Test Is Not Needed To Be Applied To Sample (Not Applicable To Sample) NU

If the Specimen Fits the Rules (Passed) P

If the Specimen Tested Does Not Comply with the Rules (Left) K

If there is a Rule / Experiment Not Applied for Any Reason (Unable) Y

Sample No	1	2	3	
Flammability (Yes/No)	No	No	No	
Whether the flame is spread (Yes/No)	No	No	No	
Flame Spreading Time	9 sec	9 sec	9 sec	
Combustion on Filter Paper (Yes/No)	No	No	No	

#### Related Product Standard and Citations: Fire Response Test (EN 13501-1 B Class)

Conditioning Details: The test samples were conditioned at  $23 \pm 2$  ° C and  $50 \pm 5\%$  relative humidity at EN 13238 according to 4.3 C..

<b>Class B</b> (TS EN ISO 13501-1 Clause 8.3)	For the determination of conformity to Class <i>B</i> , use a product, the time of exposure to flame according to TS EN 13501-1
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<b>Test Sample</b>	Length -- mm , Width -- mm , Thickness — mm
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<b>Exposure Requirements</b>	<b>Surface exposed to flame</b>
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**RESULT:** Tests and tests were carried out according to the European Standard TS EN ISO 13501-1. The product has passed the test successfully.

*“The result of this experiment is related to the behavior of the test specimen of a product under the special conditions in which the test is applied; Not a single criterion for assessing the potential fire hazard of a product under actual use.”*

### Reaction to fire

The combustion class (Euroclasses) of the product must be determined in accordance with EN 13501-1.

#### TS EN 13501-1 - Flammability Test (TS EN ISO 1182)

This test is carried out to determine whether a contribution to a fire is significant, regardless of the end use of a product.

Material	Rule / Test	Result / Evaluation	Decision
5	Test sample		
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6	Conditioning		
	<p>Test samples shall be conditioned as specified in EN 13238. The test samples should be dried and tested for 20 hours to 24 hours in an air-circulating oven with a temperature of <math>(60 \pm 5)^\circ\text{C}</math>. it must be allowed to cool to ambient temperature in a desiccator before being held. The mass of each sample should be determined with a sensitivity of 0.01 g before the experiment.</p>	<p>Conditioning Time: 1 week            Conditioning Temperature: <math>23 \pm 2^\circ\text{C}</math>            Humidity: <math>50 \pm 5\%</math>            EN 13238 4.3 Conditioning for fixed period            a) Minimum conditioning period of one weeks:            2) cement based products;</p>	PASS
8	<p><b>Display of results</b></p> <p>The mass loss measured mass loss is calculated and recorded in% for each of the three test samples.</p>		
8.1	<p>Flammability The measured total time of continuous exacerbation is calculated and recorded in seconds for each of the three test samples.</p>	1. test	<p><b>2.12 MJ/kg</b></p> <p>TS EN ISO 11925-2</p>
8.2	<p>Note 1: TS EN 13501 -1 Class <math>A_{fl}</math> Homogeneous and non-homogeneous products must meet the <math>t_t \leq 30^\circ\text{C}</math> and ,m ve 50% and <math>t_f = 0\text{s}</math> criteria.</p>	2. test	<p><b>2.13 MJ/kg</b></p> <p>TS EN ISO 11925-2</p>
8.3	<p>Note 2: TS EN 13501-1 Class <math>A_{fl}</math> Homogeneous and non-homogeneous products must meet the <math>\Delta t \leq 50^\circ\text{C}</math> and <math>\Delta m</math> olmayan 50% and <math>t_f</math> Sınıf 20s criteria.</p> <p>Note 3: TS EN 13501-1 Class <math>A_{fl}</math> Homogen products shall meet the PCS ojen 2.0 MJ / kg criteria.</p>	3. test	<p><b>2.14 MJ/kg</b></p> <p>TS EN ISO 11925-2</p>
			N/A

Classification of according to TS EN 13501-1 according to the behavior against fire:

**B**

<u>Test method</u>	<u>Parameter</u>	<u>Number of tests</u>	<u>Mean of continuous parameter</u>	<u>Results</u> Suitable parameter
TS EN 13823	FIGRA <sub>0,4MJ</sub> (W/s)	3	113	≤120
	LFS < side	3	(-)	No
	THR <sub>600s</sub> (MJ)	3	6,2	≤7,5
	SMOGRA (m <sup>2</sup> /s <sup>2</sup> )	3	160	≤180
	TSP <sub>600s</sub> (m <sup>2</sup> )	3	185	≤200
	Drops and droplets (s)	3	(-)	No

<u>Test method</u>	<u>Parameter</u>	<u>Parameter</u>	<u>Compliance criteria</u>
TS EN 13823	FIGRA <sub>0,2 MJ</sub> [W/s]	113	≤120 (B)
	THR <sub>600s</sub> (MJ)	6,2	≤7,5 (B)
	LFS < side	(-)	No
	SMOGRA [m <sup>2</sup> /s <sup>2</sup> ]	160	≤180(s2)
	TSP <sub>600s</sub> [m <sup>2</sup> ]	185	≤200 (s2)
	burning drops / particles burning time (s)	No	No (d0)

Classification of based on fire behavior: **B**

Additional classification for smoke formation:**S2**

Additional classification for burning drops / beads: **d0**

*Reaction to fire for*

<u>Flammability Behavior</u>		<u>Smoke</u>			<u>Burning Drops</u>	
B	-	s	2	-	d	0

**\*\*\*End Of Report\*\*\***