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TÜV Eesti OÜ Testing Laboratory
Test Report No. 017-14TM

EN ISO 11925-2: 2010

Reaction To Fire Tests - Ignitability Of Building Products Subjected To Direct Impingement Of Flame – Part 2: Single-flame Source Test

Sponsored By
Novewater OÜ
Suur-Sõjamäe 27C,
11415 Tallinn, Estonia

VÄLJA LÄINUD
Nr. 109
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Contents

Test Details

Purpose of test	To determine the performance of specimens of a product when they are subjected to the conditions of the test specified in EN ISO 11925-2:2010 "Reaction to Fire tests - Ignitability Of Building Products Subjected to Direct Impingement of Flame – Part 2: Single Flame Source Test". The test was performed in accordance with the procedure specified in EN ISO 11925-2:2010 Reaction to Fire Tests - Ignitability of Building Products subjected to direct impingement of flame – Part 2: Single Flame Source Test, and this report should be read in conjunction with that EN ISO Standard.
Scope of test	EN ISO 11925-2:2010 specifies a method of test for determining the ignitability of building products by direct small flame impingement under zero impressed irradiance using specimens tested in a vertical orientation.
EGOLF	Certain aspects of some fire test specifications are open to different interpretations. EGOLF has identified a number of such areas and has agreed Recommendations which define common agreement of interpretations between fire test laboratories which are members of the Groups. Where such Recommendations are applicable to this test they have been followed.
Instruction to test	The test was conducted on the 15.05.2014 at the request of **Novewater OÜ**, the sponsor of the test. According to provided specimens the provisions in annex A of the standard were not required.
Provision of test specimens	The specimens were supplied by the sponsor of the test. **TÜV Eesti OÜ Testing Laboratory** was not involved in any selection or sampling procedure.
Conditioning of specimens	The specimens were received on the 05.05.2014. Prior to test the specimens were stored in a standard atmosphere as defined in EN 13238:2010 Conditioning Procedures and General Rules for selection of substrates until constant mass was achieved. Data about conditioning of the specimens is brought out in Table 1.
Intended application	Product is used as material for containers
Substrate	The specimens were tested without a substrate present
Flame application time	The flame was applied for 15 seconds to factory cut surface

Description of Test Specimens

The description of the specimens given below has been prepared from information provided by the sponsor of the test. All values quoted are nominal, unless tolerances are given.

The specimen's material(MFE-W3) were produced by Huachang Polymer CO., LTD. Of ECUST(130, Meilong Road, P.O. 352, Shanghai 200237, P.R.China). MFE-W3 is a high heat-resistance, heat distortion, temperature of casting is 150°C and for FRP is 210°C, excellent anti-corrosion and superior stability to some solvents and oxidizing media, complies with FDA regulation 21 CFR 177.2420, when properly formulated and cured, for repeated use in food contact materials. According to sponsor all specimens were cut out of the board longwise. Specimen's thickness 4 – 5mm.

Material specifications	
Specification	**Range**
apperiance	light yellow
acid value, mg KOH/g	6 - 14
viscosity, cps 25°C	250 - 350
gel time, min 25°C	10 - 20
gel to peak, min	5 - 10
peak exoterm, °C	160 - 180
solids content, %	62 - 68
thermal stability, hr 80°C	≥24
tensile strength, Mpa	80
tensile modulus, GPa	3,6
tensile elongation, %	3,5
flexural strength, MPa	145
flexural modulus, GPa	3,6
heat distortion temperature, °C	150

Test Results

Number of specimens tested

Set of six specimens were tested, each of which were subjected to surface exposure to flame. Specimens were cut longwise.

Applicability of test results

The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test, they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use. The test results relate only to the specimens of the product in the form in which they were tested. Small differences in the composition or thickness of the product may significantly affect the performance during the test and may therefore invalidate the test results. Care should be taken to ensure that any

product which is supplied or used is fully represented by the specimens which were tested.

The test results for the individual specimens, together with observations made during the test and comments on any difficulties encountered during the test are given in Table 2.

Specimens were tested in application of 15 seconds and flame tip did not reach a distance of 150mm before the end of the test.

Validity

The specification and interpretation of fire test methods are the subject of ongoing development and refinement. Changes in associated legislation may also occur. For these reasons it is recommended that the relevance of test reports over five years old should be considered by the user. The laboratory that issued the report will be able to offer, on behalf of the legal owner, a review of the procedures adopted for a particular test to ensure that they are consistent with current practices, and if required may endorse the test report. This report may only be reproduced in full. Extracts or abridgements shall not be published without permission of **TÜV Eesti OÜ Testing Laboratory**

The test results relate to the behaviour of the test specimens of a product under the particular conditions of the test; they are not intended to be the sole criterion for assessing the potential fire hazard of the product in use

Table 1

Conditioning of specimens*

Specimen No.	1	2	3	4	5	6
surface exposure to flame						
Weight t (g)	154	162	170	174	174	157
Weight t+24 (g)	154	162	170	174	174	156

** Conditioning room temperature 23±2 °C; relative humidity 50±5 %*

Table 2

Test Flame Application Position - Surface Of Front Face*

Specimen No.	Ignition, sec	Time from start of test for flame tip to reach 150mm(sec)	Flame extinguish time, sec	Extent of Flame Spread(mm)	Flaming Debris	Glowing	Extent of Damaged Area(mm)	
surface exposure to flame							Height	Width
1	12	no	15	45	no	no	43	9
2	13	no	15	45	no	no	43	8
3	13	no	15	45	no	no	39	6
4	13	no	15	45	no	no	41	8
5	13	no	15	35	no	no	30	6
6	13	no	15	45	no	no	43	8

** test room temperature 23,2 °C; relative humidity 26,2%*

Photos of specimens

Photo 1. Specimens before the test

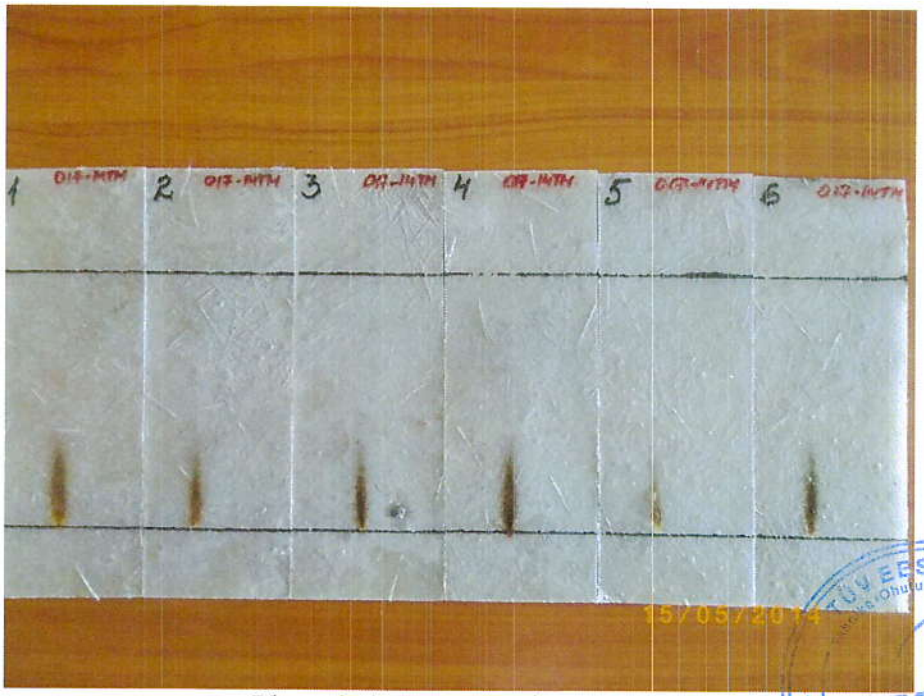

Photo 2. Specimens after the test

Classification

According to test results the reaction to fire classification of the product is class E. Classification is made according to standard EN 13501-1.

Signatories

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Authorized
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Head of the Testing Laboratory

* For and on behalf of **TÜV Eesti OÜ Testing Laboratory**

Report Issued: 15.05.2014