

**Test report No. 2019-1900**  
for applying of a required “Verwendbarkeitsnachweis”  
issued 09.09.2019

**Applicant:** Mapal Cooperative Society Ltd.  
Kibutz Mevo Hamma  
12934, Isreal

**Date of order:** 21.07.2019  
**Date of sampling:** *no official sampling of the specimen by a representative of Warringtonfire Frankfurt GmbH*  
**Date of arrival:** 21.08.2019  
**Date of test:** 05.09.2019

**Order**

Testing of the flammability (building class B1) according to DIN 4102-1 (May 1998)

**Description / designation of the test object**

Product name: Maplon Polypropylene Sheets

**Description of the relevant test procedure**

DIN 4102 part 1 (Mai 1998)

This test report does not replace the required „Verwendbarkeitsnachweis“. It is only used for issuing the “Verwendbarkeitsnachweis”.

## 1. Description of the test material

### 1.1 Details of the customer:

Product name: Maplon Polypropylene Sheets

Face to be tested: any face

### Product description:

Main components: Polypropylene-Homopolymere  
-Randum Copolymer  
LLDPE  
FR ADDITIVE

Thickness: 0.2 mm and 2 mm

Gross weight: Density 0,93 g/m<sup>3</sup>

Color: white

Intended end use  
of product: Polypropylene Sheets for Printing

### 1.2 By Warringtonfire Frankfurt GmbH determined values:

Polypropylen

Colour: white white

Thickness: 0,2 mm 1,96 mm

Square weight: 190 g/m<sup>2</sup> 1,826 kg/m<sup>2</sup>

Testing after storing 14- days under climatic conditions (23°C / 50 % rel. humidity).

## 2. Test results

### 2.1. Brandschachtprüfung according to DIN 4102-1

Sample A: Material tested in production direction. Thickness: 0,2 mm  
Sample B: Material tested in production direction. Thickness: 1,96 mm

Test results of the Brandschacht tests part 1						
line no.		Measurements test sample				
			A	B	C	D
1	<u>no. test arrangement according to DIN 4102 part 15, table 1</u>		1	1		
2	<u>flame height max. over lower sample edge</u> time <sup>1)</sup>	cm	30	40		
		min : s	00:12	01:04		
3	<u>ascertainties on the front side</u> Flaming/glowing time <sup>1)</sup>	min : s	00:04	00:30		
4	<u>melting / burning through</u> time <sup>1)</sup>	min : s	00:07	01:00		
5	<u>ascertainties on the back side</u> Flaming/glowing time <sup>1)</sup>	min : s	no	no		
6		discolouring time <sup>1)</sup>	min : s	no	no	
7	<u>burning droplets</u> begin <sup>1)</sup> extent	min : s	no	no		
8		occasional dropping of material				
9		constant dropping of material				
10	<u>separating from burning sample parts</u> begin <sup>1)</sup>	min : s	no	no		
11		occasional separating parts				
12		constant separating parts				
13	duration of burning on the sieve tray (max.)	min : s	no	no		
14	influence on the burner flame by dropping of / separating material time <sup>1)</sup>	min : s	00:18	01:45		
15	<u>earlier end of test</u> end of the fire scenario on the sample <sup>1)</sup>	min : s	no	no		
16	time of a possible resulted test stop <sup>1)</sup>	min : s				

<sup>1)</sup> time from start of test

Test results of the Brandschacht tests part 2						
line no.		Measurements test sample				
			A	B	C	D
17	<u>flaming after end of test</u> duration	min : s	no	no		
18	number of sample		no	no		
19	front side of sample	cm	no	no		
20	backside of sample		no	no		
21	flame length		no	no		
22	<u>glowing after end of test</u> duration	min . s	--/--	--/--		
23	number of sample		no	no		
	place of occurrence		no	no		
24	lower sample part		no	no		
25	upper sample part		no	no		
26	front side of sample		no	no		
27	backside of sample	no	no			
28	<u>smoke density</u> < 400 % x min		1	22		
29	> 440 % x min		--/--	--/--		
30	<u>diagram in annex no.</u>		1	2		
31	<u>residual length</u> single results	cm	64 / 66 66 / 66	54 / 52 54 / 51		
32	average of the single results	cm	65	52		
33	photo of the sample on page		5	5		
34	<u>smoke temperature</u> max. of the average results	°C	109	108		
35	time <sup>1)</sup>	min : s	09:53	02:13		
36	diagram in annex no.		1	2		

<sup>1)</sup> time from start of test

Remarks: Melting the samples.  
As the residual length was > 45 cm during the Brandschacht test, no further tests were necessary according to DIN 4102-16.

2.1.2 Appearance of the specimen after the test:



Sample A



Sample B

2.3 Normal flammability test according to DIN 4102-1

Test with edge ignition without deposit  
Flame application on: lower sample edge  
Edge ignition

Thickness: 0,2 mm

Sample-no.	1	2	3	4	5
Time from start of test					
Ignition point [s]	1	1	1	1	1
Reaching the measuring mark within 20 seconds	no	no	no	no	no
Self-extinguishing of the flame [s]	3	3	3	3	3
Max. flame height [mm]	30	30	30	30	30
Time [s]	3	3	3	3	3
End of afterflaming [s]	-	-	-	-	-
End of afterglowing [s]	-	-	-	-	-
Flames extinguished after [s]	-	-	-	-	-
Smoke development (visual impression) <sub>low / moderate / strong</sub>	low development				
Separating from burning material	no	no	no	no	no
Time [s]	-	-	-	-	-

Remarks: Melting the samples.

Thickness: 1,96 mm

Sample-no.	1	2	3	4	5
Time from start of test					
Ignition point [s]	1	1	1	1	1
Reaching the measuring mark within 20 seconds	no	no	no	no	no
Self-extinguishing of the flame [s]	15	15	15	15	15
Max. flame height [mm]	40	40	40	40	40
Time [s]	11	11	10	10	10
End of afterflaming [s]	-	-	-	-	-
End of afterglowing [s]	-	-	-	-	-
Flames extinguished after [s]	-	-	-	-	-
Smoke development (visual impression) <sub>low / moderate / strong</sub>	low development				
Separating from burning material	no	no	no	no	no
Time [s]	-	-	-	-	-

Remarks:

3. Appearance of the sample after the small burner test:



## Assessment

The material described in chapter one fulfils the requirements of the building class B2 according to DIN 4102-1 (Mai 1998).

The determined test results show that the material also fulfils the requirements

### of the building class B1

according to DIN 4102-1 (Mai 1998).

## Special note

The fire test result is only valid for the material described in chapter one in the tested colour, thickness from 0,2 up to 2 mm and square weight.

The test was carried out in free hanging configuration.

The distance to other plane material must be more or equal then 40 mm.

The material wasn't tested after an outside storage.

In combination with other materials (for example coatings, deposits) the burning behaviour could be influenced unfavourable so that the classification above is not valid any longer. According to DIN 4102-1 the burning behaviour in combination with other materials has to be tested separately.

This test report does not replace the required „Verwendbarkeitsnachweis“. It is only used for issuing the “Verwendbarkeitsnachweis”.

Frankfurt, the 9<sup>th</sup> September 2019



H. Anders  
Tester in Charge



P. Scheinkönig  
Prüfstellenleiter Bau-PVO



This Test report is valid until 04.09.2024.

The results of the tests relate only to the behaviour of the test specimen which is designated on the top.

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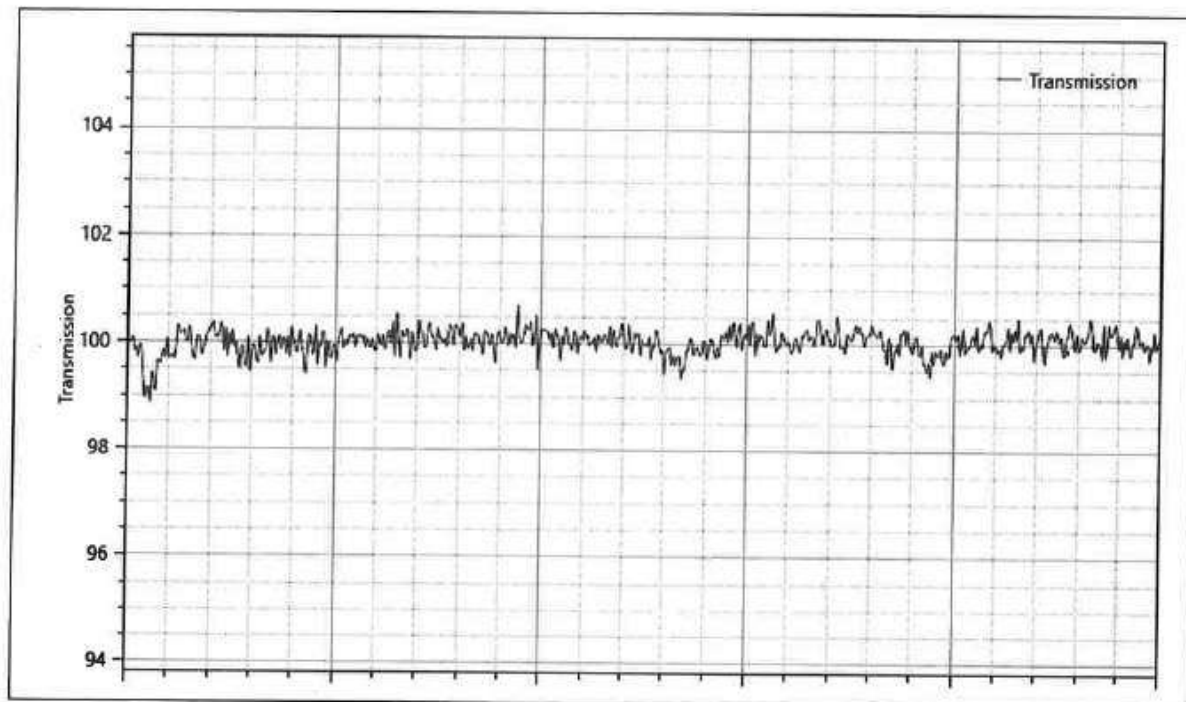
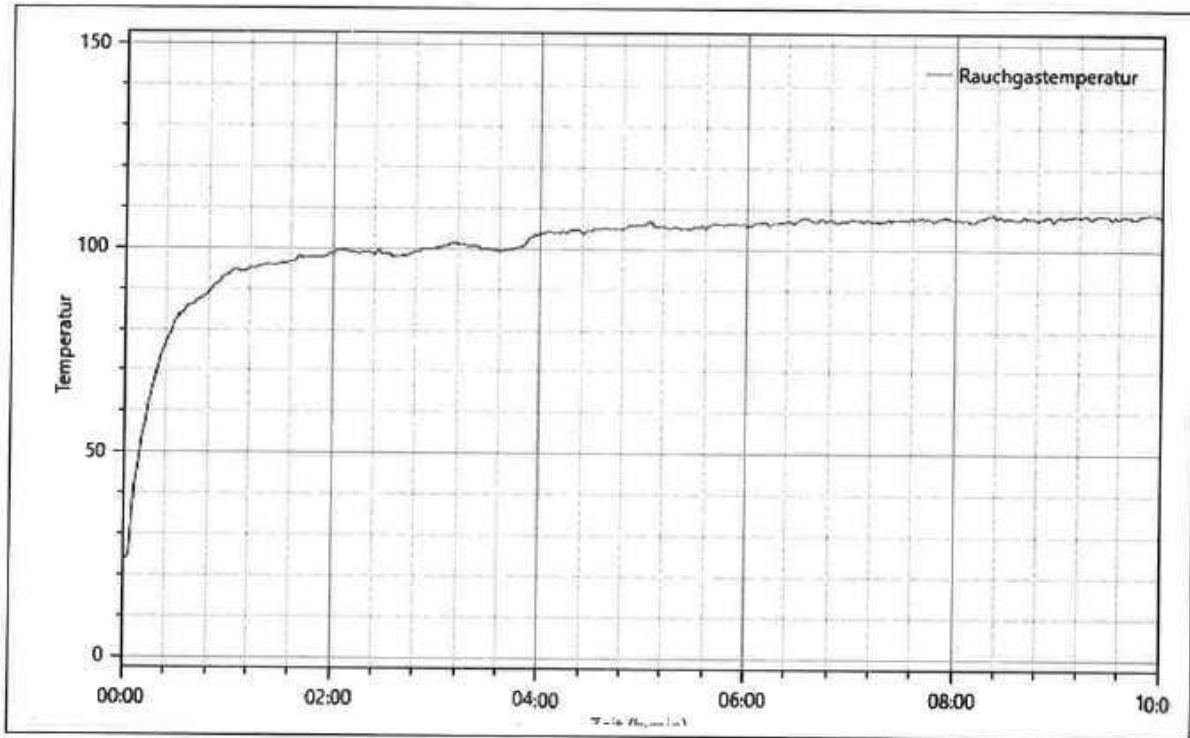
This test report is a translation of the German version 2019-1900 (issued 09.09.2019). In case of doubt only the German version is valid

This test report contains 8 pages and 2 annexes.



Annex 1 to the Test report No. 2019-1900 issued 09.09.2019 \_\_\_\_\_

Sample A:



Annex 2 to the Test report No. 2019-1900 issued 09.09.2019

Sample B:

