

Warringtonfire Frankfurt GmbH ist vom Eisenbahn-Bundesamt (EBA) unter der Ident. Nr. 031/09/07 als sachkundige Prüfstelle für Vorbeugenden Brandschutz in Schienenfahrzeugen nach DIN 5510 zertifiziert.

Test report No. 210390

issued 31.05.2021

Applicant: JP Air Tech
Skifervej 2
4990 Sakskøbing

Date of order: 12.05.2021
Date of sampling: no official sampling by a representative of
Warringtonfire Frankfurt GmbH
Date of arrival: 21.05.2021
Date of test: 31.05.2021

Order

Testing of the fire behaviour of materials according to DIN 5510-2:2009-05 (DIN 53 438-3 (6/84)) for use in rail vehicles of public passenger transport.

Description / designation of the test object

Product name: JX135FR-NANO

Description of the relevant test procedure

DIN 53 438-2 (6/84) edge ignition

DIN 53 438-3 (6/84) surface ignition

DIN 5510-2: 2009-05

1. Description of the test material

1.1 Details of the customer:

Product name: JX135FR-NANO

Product description:

Main components: 80/20 Blend (80% cellulose and 20% polyester)
Flame retardant material with nanofiber coating

Thickness 0.45mm

Surface weight: 135 g/m²

Colour: White color on the dust side
white color on the clean air side with orange/yellow/red lining

Intended end use of product: Filter media for air and dust filtration

1.2 At the specimen preparation by Warringtonfire Frankfurt GmbH determined values:

Material: Filter material

Colour: white

Thickness: approx.0,45 mm

Surface weight: 136,84 g/m²

Testing after acclimate storage at 23°C and 50% humidity.

2. Test results:

DIN 53 438-2 (6/84) edge ignition
Ignition area: sample edge
Ignition time: 15 [s]

Length direction:

Specimen no.	1	2	3	4	5
Ignition time [s]	1	1	1	1	1
Reaching the measuring mark (150 mm) within 20 seconds	no	no	no	no	no
Reaching the measuring mark (150 mm) time [s]	no	no	no	no	no
Self extinguishing of the flame [s]	15	15	15	15	15
Max. flame height [mm]	60	60	60	60	60
Time [s]	7	7	7	7	7
After flame time [s]	-	-	-	-	-
After glow time [s]	-	-	-	-	-
Flames extinguished after [s]	-	-	-	-	-
Smoke development (visuell impression) low / moderate/ strong	low smoke development				
Burning parts	no	no	no	no	no
Time [s]	-	-	-	-	-

Remarks: none

DIN 53 438-2 (6/84) edge ignition
Ignition area: sample edge
Ignition time: 15 [s]

Cross direction:

Specimen no.	1	2	3	4	5
Ignition time [s]	1	1	1	1	1
Reaching the measuring mark (150 mm) within 20 seconds	no	no	no	no	no
Reaching the measuring mark (150 mm) time [s]	no	no	no	no	no
Self extinguishing of the flame [s]	15	15	15	15	15
Max. flame height [mm]	50	50	50	50	50
Time [s]	5	5	5	5	5
After flame time [s]	-	-	-	-	-
After glow time [s]	-	-	-	-	-
Flames extinguished after [s]	-	-	-	-	-
Smoke development (visuell impression) low / moderate/ strong	low smoke development				
Burning parts	no	no	no	no	no
Time [s]	-	-	-	-	-

Remarks: none

2.1 Test results:

DIN 53 438-3 (6/84) surface ignition
Ignition area: 40 mm above lower sample edge
Ignition time: 15 [s]

Length direction:

Specimen no.	1	2	3	4	5
Ignition time [s]	2	2	2	2	2
Reaching the measuring mark (150 mm) within 20 seconds	no	no	no	no	no
Reaching the measuring mark (150 mm) time [s]	no	no	no	no	no
Self extinguishing of the flame [s]	15	15	15	15	15
Max. flame height [mm]	60	60	60	60	60
Time [s]	7	7	7	7	7
After flame time [s]	-	-	-	-	-
After glow time [s]	-	-	-	-	-
Flames extinguished after [s]	-	-	-	-	-
Smoke development (visuell impression) low / moderate/ strong	low smoke development				
Burning parts	no	no	no	no	no
Time [s]	-	-	-	-	-

Remarks: none

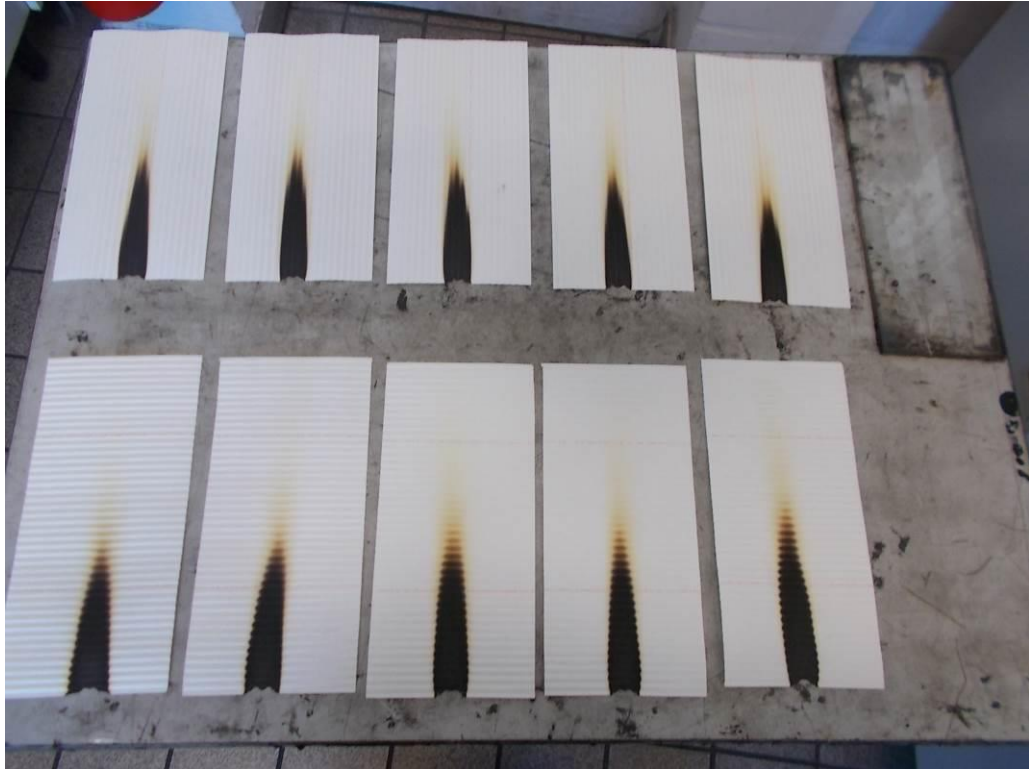
DIN 53 438-3 (6/84) surface ignition
Ignition area: 40 mm above lower sample edge
Ignition time: 15 [s]

Cross direction:

Specimen no.	1	2	3	4	5
Ignition time [s]	2	2	2	2	2
Reaching the measuring mark (150 mm) within 20 seconds	no	no	no	no	no
Reaching the measuring mark (150 mm) time [s]	no	no	no	no	no
Self extinguishing of the flame [s]	15	15	15	15	15
Max. flame height [mm]	60	60	60	60	60
Time [s]	7	7	7	7	7
After flame time [s]	-	-	-	-	-
After glow time [s]	-	-	-	-	-
Flames extinguished after [s]	-	-	-	-	-
Smoke development (visuell impression) low / moderate/ strong	low smoke development				
Burning parts	no	no	no	no	no
Time [s]	-	-	-	-	-

Remarks: none

2.3 Appearance of the material after the tests:



3. Assessment

The in section 1 described material fulfils the requirements of the **class K1** according to DIN 53 438-2 (6/84) edge ignition and **class F1** according to DIN 53 438-3 surface ignition and thus the requirements according to DIN 5510-2:2009-05-4.2.2 to the flammability **class S 1**.

Classification according to DIN53 438-2	
Assessment criteria	class
The top mark is not achieved from the tip of the flame (the specimen extinguish before by itself)	K1
The tip of the flame of the burning specimen reaches the upper mark in 20 or more seconds	K2
The tip of the flame of the burning specimen reaches the upper mark in less than 20 seconds	K3
Classification according to DIN53 438-3	
Assessment criteria	class
The top mark is not achieved from the tip of the flame (the specimen extinguish before by itself)	F1
The tip of the flame of the burning specimen reaches the upper mark in 20 or more seconds	F2
The tip of the flame of the burning specimen reaches the upper mark in less than 20 seconds	F3

4. Special comment

The fire test result is valid only for in section 1 described material.

If combined with other materials the burning behaviour can be influenced unfavourably so that the classification above is not valid any more. The burning behaviour in composition with other materials has to be tested separately.

Frankfurt, the 31.05.2021



H. Anders
Tester in charge



P. Scheinkönig
Senior Test Engineer



The Validity of the Audit report shall apply on 30.05.2024 according to DIN 5510-2 (2009-05), unless otherwise regulated by the authorisation authority.

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This test report is a translation of the German version 210390 (issued 31.05.2021). In case of doubt only the German version is valid

This test report contains 6 pages