

Rapportage Brandproeven t.b.v. “Frozen baguettes”



Execution address

FX Prevent
Veilingweg 27A
2675 BR Honselersdijk

Principal

FX Prevent
Veilingweg 27A
2675 BR Honselersdijk

Construction Year	Last Update	Type of business	Protected Area
N.a.	N.a.	Industrial function	Frozen Storage

Installation

Oxygen reduction unit

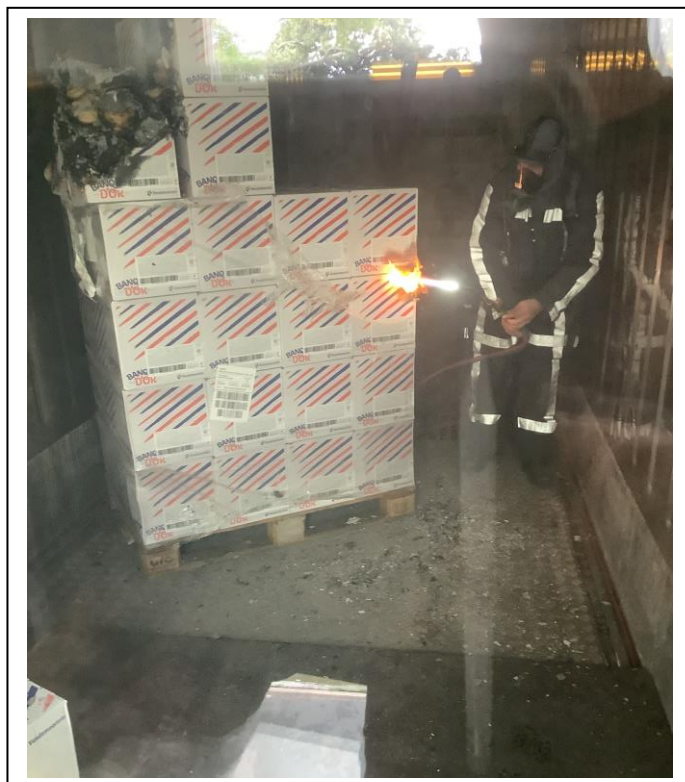
Inspectie uitgevoerd door

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Inspector	Other	Assesment date	File
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Purpose of the fire tests

Determination of the ignition limit according to the test method as described in VdS 3527:2018 Annex E of the following product:
- A typical method of storing of frozen baguettes in plastic bags, packed in cardboard, wrapped in a layer of plastic, stacked on a wooden pallet.



Date: 28 September 2022

VdS Nederland B.V.
Inspectie-instelling



Ing. C. de Haan

1 Execution site

The measurements were performed at the company location of FX Prevent in Honselersdijk. The test setup consisted of a modified sea container, with a transparent partition on 1/3 of the container for observation purposes. The remaining space of the container was furnished with measuring and blowing equipment for the nitrogen supply. The actual nitrogen production was located outside the container against its back wall.



2 Overview of the results

At a temperature of approximately -24°C, the following ignition limits could be determined:

Test stand equipment	Average * oxygen value (%vol)	Average * temperature (in ° Celsius)	Start ignition with gas flame (for a duration of 3 minutes)	After flashing/glowing	Note
7 zakken gestapeld omwikkeld met plastic verpakking					
Test 1	17,4	-22	9:40	8 sec	Instantly extinguished
Test 2	17,8	-23	10:04	Over 1:10 min	Adjacent products catch fire, visible flames on the rest of the product. Test failed
Test 3	17,6	-22	10:52	18 sec	After 18 seconds the flames disappear, little glowing. Test succesfull
Test 4	17,6	-22,5	11:29	51 sec	After 51 seconds the flames disappear, little glowing. Test succesfull
Test 5	17,6	-21,5	11:56	51 sec	After 51 seconds the flames disappear, little glowing. Test succesfull
Note:	<i>After the tests, it was found that at a value of 17,6% was sufficient.</i>				

The average temperatures and oxygen values were determined according to the usual statistical method



2.1 Overview of the results

The standard applied defines the following limit values for open flames and afterglowing time ("hot spots"):

After removing the gas flame, there should be no open flame after one minute, or after 10 minutes the hot spots should have disappeared.

Interpretation of the tests	Time of open flame disappearance in sec	Annealing
frozen in plastic bags, wrapped in a layer of plastic (pulled around the products as a bag).		
Test 1	0	no
Test 2	Over 1:10	Yes, long duration
Test 3	18	Yes, short time
Test 4	51	Yes, short time
Test 5	51	Yes, short time

2.2 Test procedure

Before starting the tests, the room and the test material were cooled down to the values mentioned in the table. The oxygen concentration was set to a pre-set value. The oxygen concentration was achieved by means of a nitrogen generator by blowing nitrogen into the room. By means of the nitrogen blow-in points and three oxygen sensors evenly distributed over the height of the room, the nitrogen production is monitored and automatically regulated.

The temperature is controlled by a cooling unit. The nitrogen production, the oxygen concentration and the indoor temperature were measured continuously. When the target values (temperature and oxygen concentration) were reached, the tests were started by aiming a permanently installed gas burner with directed flame for a duration of 3 minutes at the corner of the test pallet.

2.3 Normative framework

The normative framework consists of all relevant documented information, such as component data (data sheets, approvals, manuals, etc.), national or international norms, regulations, standards, branch documents (such as the standard documents of framework-setting parties, such as NVBR), decision lists (of NEN, the Committee of Experts on Firefighting and the Harmonisation Consultation) and test results (of full-scale tests, functional tests and test fires).

2.4 Documents used

The assessment was carried out on the basis of the relevant documents mentioned in this chapter. The documents of VdS are used for the assessment according to conformity to standards.

Basic data	
Basis of inspection	▪ VdS 3527en Planning and installation 2018-08, annex E
Basic design	▪ Approved basic document not present
Detailed design	▪ Not present
Other documents	▪ Product sheets applied devices FX Prevent

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The conclusion(s) of this inspection report are based on the inspection results mentioned in this report. The following applies to the way inspection results are written: if an inspection result is described as an action, this should not be interpreted as a prescribed solution. This inspection report does not indicate how an inspection result should be remedied, often there are several possibilities. Other solutions are possible as far as they fit within the validated normative framework.

The inspections are carried out at random. The sample size is sufficient to arrive at a reliable statement, while not every part of the system is assessed. If, at the start of the inspection, an installation certificate or a maintenance certificate is available, the inspection scope and depth for the inspection points are determined in accordance with the CCV Fire Protection Systems Inspection Scheme. and depth for the installation. It is therefore possible that deviations occurring in the installation will not be noticed by the inspector. Vds is not responsible for the installation or maintenance certificate. Traceability of the noted deviations can be requested.

The user owner remains responsible for the effective operation of the installation. VdS is not responsible for the content and execution of the risk analysis in the field of personal safety and set objectives in the field of fire safety.

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