



Laboratory for Fire Safety

Classification of reaction to fire in accordance with EN 13501-1:2018 of Kvadrat Silvretta fabric

Classification report

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Classification report

client Kvadrat A/S
Lundbergsvej 10
8400 Ebeltoft
Denmark

issued by Peutz bv
Lindenlaan 41
NL-6584 AC Molenhoek
Postbus 66
NL-6585 ZH Mook
Nederland



notified body no. NB 2264



product name **Kvadrat Silvretta fabric**

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reference HL/NvD//Y 2174-7E-RA
representative ing. H.H.A. Leenders
author ing. N.F. van Dijk
+31 858 228 636
n.vandijk@peutz.nl

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peutz bv, postbus 66, 6585 zh mook, +31 85 822 86 00, info@peutz.nl, www.peutz.nl

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1 Introduction

On behalf of Kvadrat A/S an investigation was performed with respect to the reaction to fire properties of Kvadrat Silvretta fabric.

This classification report defines the reaction to fire classification of the product in accordance with the procedures described in EN 13501-1: 2018.



For this type of measurements the Laboratory for Fire safety has been accredited by the Dutch "Raad voor Accreditatie" (RvA).

The RvA is member of EA MLA (**EA MLA: European Accreditation Organisation MultiLateral Agreement**: <http://www.european-accreditation.org>).

EA: "Certificates and reports issued by bodies accredited by MLA and MRA members are considered to have the same degree of credibility, and are accepted in MLA and MRA countries."

2 Product description

2.1 General

The information in this chapter is based on information provided by the client.

The product investigated is Kvadrat Silvretta fabric, hereinafter also called 'the product'. The intended application is for use as blinds for internal applications and the product is available in 4 colours. The materials to be tested were delivered on the date specified in Table 2.1. On arrival the material was verified and marked by Peutz.

2.2 Harmonised product standard

The relevant harmonised European product standard is EN 13120:2009+A1:2014. Reaction to fire of the product according to EN 13501-1.

2.3 Product identification

The most important parameters for identifying the product are summarized in Tables 2.1 and 2.2 below.

t2.1 General information of product to be tested

product	Kvadrat Silvretta fabric
date of delivery	23 August 2019
commercial name	Kvadrat Silvretta
produced by	Reference is made to the test reports
Identification	
batchnumbers	EB01 1905 000 293 (black, Silvretta 1011) ED01 1903 000 295 (white, Silvretta 1031) ED04 1905 000 299 (dark beige, Silvretta 1034)
date of manufacture	14 August 2019
sampling	
date of sampling	21 August 2019
sampling by	Reference is made to the test reports

Peutz was not involved in the selection of the test specimen (or of its materials). The laboratory cannot make any declaration about the representativeness of the provided specimen and the samples made available.

t2.2 Additional information of product to be tested

product	Kvadrat Silvretta fabric
description	fabric of PET yarns, metallized
thickness	0.44 mm
density	570 kg/m ³
weight	250 g/m ²
fire retardant additive	Yes; organic phosphorous compound: Aflammit,
Amount of fire retardants (%)	applied amount 5 % (w/w)
colour	white, black and dark beige with metallized backside
organic content of the colours	100 %
content of organic colours in the product	0-1 % (w/w)
Orientation	warp direction upwards (machine direction)

The values mentioned are the nominal values as given by the client, unless otherwise stated (MV, measured value).

3 Reports and results in support of this classification

3.1 Reports

The client has confirmed that the reports provided (see Table 3.1) may be used for this classification.

t3.1 Reports in support of classification

name of laboratory	name of client	number and date of report	test method field of application rules
Peutz bv	Kvadrat A/S	Y 2174-5E-RA	EN 13823:2010+A1:2014
Peutz bv	Kvadrat A/S	Y 2174-6E-RA	EN-ISO 11925-2:2010

3.2 Results

The results obtained are summarised in Tables 3.2 and 3.3.

t3.2 Summary of test results EN-ISO 11925-2

flame application time 30 s	parameter	number of tests	Max. flame height	results compliance parameters
– Surface exposure	F _s ≤ 150 mm	6	78	Y
Black	Ignition of filter paper			N
– Surface exposure	F _s ≤ 150 mm	2	58	Y
White	Ignition of filter paper			N
– Surface exposure	F _s ≤ 150 mm	2	65	Y
Dark beige	Ignition of filter paper			N
– Surface exposure	F _s ≤ 150 mm	2	65	Y
Back side	Ignition of filter paper			N
– Edge exposure	F _s ≤ 150 mm	6	79	Y
Black	Ignition of filter paper			N
– Edge exposure	F _s ≤ 150 mm	2	56	Y
White	Ignition of filter paper			N
– Edge exposure	F _s ≤ 150 mm	2	68	Y
Dark beige	Ignition of filter paper			N
– Edge exposure	F _s ≤ 150 mm	2	56	Y
Back side	Ignition of filter paper			N

t3.3 Summary of test results EN 13823

Parameter		Test 1	Test 2	Test 3	Test 4	Test 5
		Black	Dark beige	White	Dark beige	Dark beige
THR _{600s}	[MJ]	0.11	0.09	0.07	0.14	0.08
FIGRA _{0,2MJ}	[W/s]	0.0	0.0	0.0	0.0	0.0
FIGRA _{0,4MJ}	[W/s]	0.0	0.0	0.0	0.0	0.0
TSP _{600s}	[m ²]	22.2	24.0	22.3	26.1	23.7
SMOGRA	[m ² /s ²]	0.0	0.0	0.0	0.0	0.0
LFS<edge	[Y/N]	Y	Y	Y	Y	Y
FDP ≤ 10 s	[Y/N]	N	N	N	N	N
FDP > 10 s	[Y/N]	N	N	N	N	N

With regard to this classification of the fire behaviour for the product, colour variation is the only end-use application that varies. The procedure for classification with regard to colours is based on EGOLF recommendation 003-2016 'Selection of colours for covering a range', 18/10/2016. The results show that the tests all fall within the limits for a B-s1,d0 classification.

Pictures of the colour range are shown in Annex 1.

3.3 Test results for classification

t3.4 Summary of test results EN-ISO 11925-2 for classification

The classification is based on the tested samples in black according to EN 13501-1 H7 (number of tests for classification).

flame application time 30 s	parameter	Number of tests	results	
			continuous parameters (average)	compliance parameters
– Surface exposure	Fs ≤ 150 mm	6	-	Y
	Ignition of filter paper		-	N
– Edge exposure	Fs ≤ 150 mm	6	-	Y
	Ignition of filter paper		-	N

t3.5 Summary of test results EN 13823 for classification

The classification is based on the tested samples in the colour dark beige, according to EN 13501-1 H7 (number of tests for classification).

Parameter	Aantal testen	Resultaat	
		Continu- parameters (gemiddelde)	Voorwaarde- parameters
- FIGRA _{0,2MJ} [W/s]	3	0	-
- FIGRA _{0,4MJ} [W/s]		0	-
- THR _{600s} [MJ]		0.1	-
- SMOGRA [m ² /s ²]		0	-
- TSP _{600s} [m ²]		24.6	-
- LFS bereiken rand vallende deeltjes		-	N
- FDP ≤ 10 s		-	N
- FDP > 10 s		-	N

3.4 Classification criteria

The classification to be obtained is based on the classification criteria given in EN 13501-1. In Tables 3.6 and 3.7 these criteria are summarised.

t3.6 Classification criteria

test	parameter continuous (average) or compliance	class				
		B	C	D	E	F
EN-ISO 11925-2	Flame spread ≤ 150 mm	Y	Y	Y	Y	N
EN 13823	FIGRA _{0,2MJ} [W/s]	≤ 120	-	-	-	-
	FIGRA _{0,4MJ} [W/s]	-	≤ 250	≤ 750	-	-
	THR _{600s} [MJ]	≤ 7,5	≤ 15	-	-	-
	LFS reaching edge	N	N	-	-	-

t3.7 Criteria additional classifications

test	parameter continuous (average) or compliance	class			class		
		s1	s2	s3	d0	d1	d2
EN-ISO 11925-2	Ignition of filter paper <i>Note: ignition of filter paper leads to classification d2, irrespective of the results for FDP in EN 13823</i>	-	-	-	N	N	Y
EN 13823	SMOGRA	[m ² /s ²] ≤ 30	≤ 180	not s1	-	-	-
	TSP _{600s}	[m ²] ≤ 50	≤ 200	or s2	-	-	-
EN 13823	Flaming droplets/particles (FDP) within 600 s						
	- FDP ≤ 10 s	-	-	-	N	Y	-
	- FDP > 10 s	-	-	-	N	N	not d0 or d1

4 Classification and field of application

4.1 Reference of classification

This classification has been carried out in accordance with EN 13501-1:2018 and EGOLF Recommendation EGR 003-2016 - Selection of colours for covering a range, 18/10/2016.

4.2 Classification

The product, Kvadrat Silvretta fabric, has been classified to its reaction to fire behaviour as: B. The additional classification for the smoke production is: s1, the additional classification for flaming droplets is: d0.

Reaction to fire classification: B-s1, d0

4.3 Field of application

The classification is valid for the product parameters and end use applications as stated in Tables 4.1 and 4.2.

t4.1 Product parameters

parameter	
thickness	0.44 mm
surface weight	250 g/m ²
density	570 kg/m ³
fire retardant utilised	yes
Amount of fire retardants (%)	Amount of fire retardants (%)
colours	See appendix 1
other	no changes in composition

t4.2 End use parameters

parameter	
substrate	free standing and with a ventilated cavity
cavity	ventilated
joints	no joints
orientation	warp direction upwards (machine direction)
other	use as freehanging blinds for internal applications

5 Limitations

There are no limits in time on the validity of this classification document.

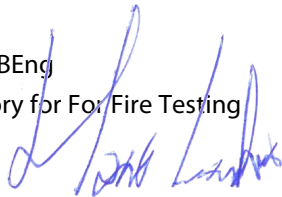
This classification document does not represent type approval or certification of the product.

Mook,



D.J. Den Boer, BEng
Management

H.H.A. Leenders, BEng
Head of Laboratory for Fire Testing



This report contains 12 pages and 1 appendix:
Appendix 1 Available colours (1 page)

Appendix 1 Available colours



t5.1 Available colours

