Environmental Product Declaration
according to ISO 14025 and EN 15804

MRPi
milieu relevante product informatie

This declaration is for:
Stanley

Provided by:
Kvadrat Shade

kvadrat shade

program operator
Stichting MRPI®
publisher
Stichting MRPI®
www.mrpi.nl

MRPI® registration
1.1.00141.2020
EPD registration
00001306
date of first issue
10-08-2020
date of this issue
10-08-2020
expiry date
10-08-2025

ECO PLATFORM
EPD
EN 15804 VERIFIED

COMPANY INFORMATION

kvadrat shade

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MRPI® REGISTRATION
1.1.00141.2020

EPD REGISTRATION
00001306

DATE OF ISSUE
10-08-2020

EXPIRY DATE
10-08-2025

SCOPE OF DECLARATION

This MRPI®-EPD certificate is verified by **Pieter Stadhouders, Ecoreview.**
The LCA study has been done by **Pien van den Heuvel, NIBE.**

The certificate is based on an LCA-dossier according to ISO14025 and NEN-EN15804+A1. It is verified according to the 'EPD-MRPI® verification protocol May 2017.v3.1'. EPDs of construction products may not be comparable if they do not comply with NEN-EN15804+A1. Declaration of SVHC that are listed on the 'Candidate List of Substances of Very High Concern for authorisation' when content exceeds the limits for registration with ECHA.

PROGRAM OPERATOR

Stichting MRPI®
Kingsfordweg 151
1043GR
Amsterdam

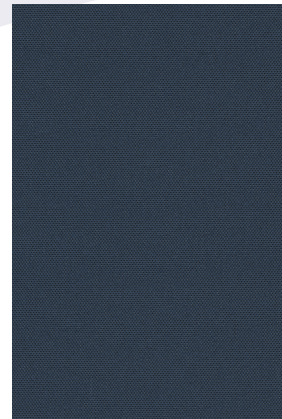ir. J-P den Hollander, Managing director MRPI®

PRODUCT
Stanley

DECLARED UNIT/FUNCTIONAL UNIT
m²

DESCRIPTION OF PRODUCT
Fabrics for roller blinds applied to the inside of a window, with a technical life time of 15 years. The textile meets multiple fire resistance standards. Attached materials are excluded.

VISUAL PRODUCT

MORE INFORMATION
https://kvadratshop.com/en/shade/products/textiles/1331-gonzen

DEMONSTRATION OF VERIFICATION
CEN standard EN15804 serves as the core PCR[a]
Independent verification of the declaration and data, according to EN ISO 14025:2010:
internal: external: X
Third party verifier:
Pieter Stadhouders, Ecoreview
[a] PCR = Product Category Rules

DETAILED PRODUCT DESCRIPTION

The Stanley textile is a roller blind fabric. The aim of the complete blind system is to control light and provide acoustic and thermal comfort. The product is made out of polyester that has been treated with a finish. The Stanley textile has a fine texture weave and is semi-transparent. The textile has a lightfastness of 5 according to ISO 105-b02 and a glare control rating of 2 out of 4.The visual light transmission, solar reflection and absorption are dependent on the chosen color. In addition, the textile has a 5% openness factor, 26% GTOT/SHGC and a U-value of 0.95. Furthermore, the textile has passed multiple flame retardancy tests; BS 5867 part 2 type B, DIN 4102 B1, EN 13 773 class 1, IMO FTP Code 2010 Part 7, NF P 92 507 M1, and NFPA 701. The textile has a width of 300 cm, weighs 155 g/m², and has an estimated reference service life of 15 years.

Production process

Raw cloths made of 100% polyester are purchased ready to use. The raw cloths are treated in the factory with dyes and different washing/finishing auxiliaries. The first step of the process is the washing of the raw cloth in order to degrease the fabric. Washing auxiliaries are diluted with water, with a 1:10 ratio. The raw cloth passes through the bath on rollers, continuously moving through the bath. After the raw cloth is washed it is dyed in the desired color. After the dyeing process a finish is applied to the fabric. In the diagram on the following page the processes that occur in the factory are depicted in the white boxes. There are four finish possibilities, not all of them are applied on every textile. For the Stanley fabric the stiffening finishing process is applied. The stiffening will ensure that the fabric will hang more straight once assembled and won't crease. The stiffening finish is a thin and clear finish, which is applied to make the fabric less flexible and less scratch sensitive. This will prevent the fabric for example from cupping of v-shaping once assembled.

For most of the part, the energy use can be attributed to the dyeing process which occurs at a high temperature. Furthermore energy is used for the coating process and the cutting process. The latter of which is a hot process. The emissions that occur during the production process are related to the burning of gas. After the textiles are treated they are packaged and transported to the location where the system will be assembled.

COMPONENT (> 1%)	[kg / %]
Polyester resin	0.155

(*) > 1% of total mass

SCOPE AND TYPE

A specific EPD is made for the Stanley fabric, which is produced for Kvadrat Shade. The actual names of the producers are not disclosed by Kvadrat Shade because of the competitively sensitive nature of the information. The methodology complies with the MPRI+ EPD and therefore the SBK Bepalingsmethode Milieuprestatie Gebouwen en GWW-werken" version 3.0. and the underlying standards ISO 14040, ISO 14044 and EN 15804+A1. Used background processes are taken from EcoInvent v3.4.

kvadrat shade

PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES
Raw material supply	Transport	Manufacturing	Transport gate to site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
x	x	x	x	x	x	x	x	MNA	MNA	MNA	MNA	x	x	x	x	x

X = Module assessed

MNA = Module not assessed
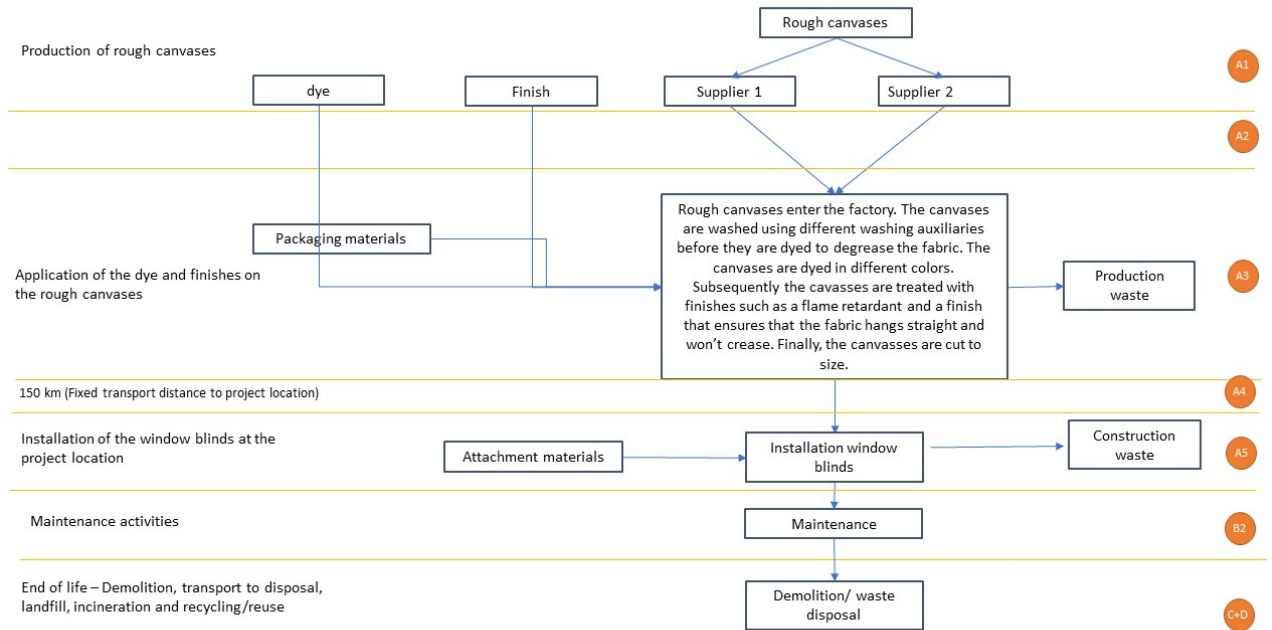
REPRESENTATIVENESS

The representative product consists of a weighted average based on annual production. The data is representative for a range of 7 roller blind fabrics in a variety of different colors. The fabrics are produced in two production sites: Hamminkeln, Germany and Istanbul, Turkey.

kvadrat shade

ENVIRONMENTAL IMPACT per functional unit or declared unit

	UNIT	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	D
ADPE	kg Sb-eq.	2.42 E-6	0.00	4.48 E-7	2.87 E-6	7.57 E-11	1.47 E-7	0.00	0.00	0.00	0.00	8.13 E-9	8.30 E-8	0.00	-3.24 E-10
ADPF	MJ	1.47 E+1	0.00	1.12 E+1	2.59 E+1	4.09 E-4	1.32 E+0	0.00	0.00	0.00	0.00	4.39 E-2	2.92 E-1	0.00	-7.16 E-1
GWP	kg CO2-eq.	8.14 E-1	0.00	6.74 E-1	1.49 E+0	2.66 E-5	9.32 E-2	0.00	0.00	0.00	0.00	2.86 E-3	3.71 E-1	0.00	-2.08 E-2
ODP	kg CFC11-eq.	9.14 E-8	0.00	7.67 E-8	1.68 E-7	4.90 E-12	8.56 E-9	0.00	0.00	0.00	0.00	5.27 E-10	1.03 E-8	0.00	-1.15 E-11
POCP	kg ethene-eq.	3.47 E-3	0.00	4.40 E-4	3.91 E-3	1.57 E-8	1.91 E-4	0.00	0.00	0.00	0.00	1.69 E-6	1.18 E-5	0.00	2.78 E-5
AP	kg SO2-eq.	2.90 E-3	0.00	8.13 E-4	3.71 E-3	1.15 E-7	1.58 E-4	0.00	0.00	0.00	0.00	1.24 E-5	1.29 E-4	0.00	-6.80 E-5
EP	kg (PO4)3--eq.	1.30 E-3	0.00	2.32 E-4	1.53 E-3	2.31 E-8	6.55 E-5	0.00	0.00	0.00	0.00	2.48 E-6	2.20 E-5	0.00	-4.50 E-6
Toxicity indicators (Dutch market)															
HTP	kg DCB-eq.	9.73 E-1	0.00	1.46 E-1	1.12 E+0	1.08 E-5	5.45 E-2	0.00	0.00	0.00	0.00	1.16 E-3	2.35 E-2	0.00	-4.22 E-4
FAETP	kg DCB-eq.	2.53 E-2	0.00	4.48 E-3	2.98 E-2	3.14 E-7	1.48 E-3	0.00	0.00	0.00	0.00	3.37 E-5	1.35 E-3	0.00	-3.07 E-5
MAETP	kg DCB-eq.	1.83 E+1	0.00	6.19 E+0	2.45 E+1	1.12 E-3	1.39 E+0	0.00	0.00	0.00	0.00	1.20 E-1	3.94 E+0	0.00	-5.49 E-2
TETP	kg DCB-eq.	7.86 E-3	0.00	1.69 E-3	9.55 E-3	3.73 E-8	4.55 E-4	0.00	0.00	0.00	0.00	4.01 E-6	5.86 E-5	0.00	-8.92 E-7
Environmental Cost Indicator (Dutch market)															
ECI	Euro	1.60 E-1	0.00	5.00 E-2	2.10 E-1	0.00	1.00 E-2	0.00	0.00	0.00	0.00	0.00	2.00 E-2	0.00	0.00

ADPE = Abiotic Depletion Potential for non-fossil resources

ADPF = Abiotic Depletion Potential for fossil resources

GWP = Global Warming Potential

ODP = Depletion potential of the stratospheric ozone layer

POCP = Formation potential of tropospheric ozone photochemical oxidants

AP = Acidification Potential of land and water

EP = Eutrophication Potential

HTP = Human Toxicity Potential

FAETP = Fresh water aquatic ecotoxicity potential

MAETP = Marine aquatic ecotoxicity potential

TETP = Terrestrial ecotoxicity potential

ECI = Environmental Cost Indicator

RESOURCE USE per functional unit or declared unit

	UNIT	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	D
PERE	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PERM	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PERT	MJ	1.77 E+0	0.00	1.29 E+0	3.06 E+0	5.60 E-6	-5.02 E-1	0.00	0.00	0.00	0.00	6.02 E-4	2.57 E-2	0.00	-9.60 E-3
PENRE	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PENRM	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
PENRT	MJ	1.50 E+1	0.00	1.17 E+1	2.67 E+1	4.38 E-4	1.36 E+0	0.00	0.00	0.00	0.00	4.70 E-2	2.80 E-1	0.00	-8.08 E-1
SM	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
RSF	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
NRSF	MJ	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
FW	m3	9.69 E-3	0.00	2.04 E-3	1.17 E-2	7.88 E-8	6.42 E-4	0.00	0.00	0.00	0.00	8.46 E-6	2.83 E-4	0.00	-3.44 E-5

PERE = Use of renewable energy excluding renewable primary energy resources

PERM = Use of renewable energy resources used as raw materials

PERT = Total use of renewable primary energy resources

PENRE = Use of non-renewable primary energy resources excluding non-renewable energy resources used as raw materials

PENRM = Use of non-renewable primary energy resources used as raw materials

PENRT = Total use of non-renewable primary energy resources

SM = Use of secondary materials

RSF = Use of renewable secondary fuels

NRSF = Use of non renewable secondary fuels

FW = Use of net fresh water

OUTPUT FLOWS AND WASTE CATEGORIES per functional unit or declared unit

	UNIT	A1	A2	A3	A1-A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	D
HWD	kg	3.31 E-5	0.00	2.16 E-5	5.47 E-5	3.02 E-9	1.75 E-6	0.00	0.00	0.00	0.00	3.25 E-7	1.93 E-6	0.00	-4.68 E-9
NHWD	kg	5.94 E-2	0.00	2.15 E-2	8.09 E-2	2.52 E-5	1.03 E-2	0.00	0.00	0.00	0.00	2.70 E-3	8.45 E-3	0.00	-2.48 E-4
RWD	kg	2.32 E-5	0.00	9.24 E-6	3.244 E-5	2.77 E-9	1.66 E-6	0.00	0.00	0.00	0.00	2.98 E-7	9.38 E-7	0.00	-2.68 E-9
CRU	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MFR	kg	0.00	0.00	0.00	0.00	0.00	2.47 E-3	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MER	kg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
EEE	MJ	0.00	0.00	0.00	0.00	0.00	1.06 E-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
ETE	MJ	0.00	0.00	0.00	0.00	0.00	1.82 E-1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

HWD = Hazardous Waste Disposed
NHWD = Non Hazardous Waste Disposed
RWD = Radioactive Waste Disposed
CRU = Components for reuse
MFR = Materials for recycling
MER = Materials for energy recovery
EEE = Exported Electrical Energy
ETE = Exported Thermal Energy

CALCULATION RULES

No materials, processes or emissions have been excluded from the study, the LCA is based data for the year 2018. Infrastructure processes as available in the EcoInvent processes are included, longterm emissions have been excluded.

SCENARIOS AND ADDITIONAL TECHNICAL INFORMATION

A4: Transport to Regional Distribution Centre and customer. A distance of 1 km is used so that it can be converted to the desired distance.

Transport conveyance	Distance (km)	Weight x distance [TKM]
Lorry (Truck), unspecified (default)	1	0

C2: Transport end of life stage

End of life scenario	Transport type	To be left [km]	Landfill [km]	Incineration [km]	Recycling [km]	Reuse [km]
Wood 'clean', via residue	Lorry*	0	100	150	50	0
Finishes (adhered to wood, plastic, metal)	Lorry*	0	100	150	50	0
Plastics, other (i.a. profiles, sheets, pipes)	Lorry*	0	100	150	50	0

= Lorry (Truck), unspecified (default)

C3: Waste processing

End of life scenario	Region	To be left [%]	Landfill [%]	Incineration [%]	Recycling [%]	Reuse [%]
Wood 'clean', via residue	NL	0	10	85	5	0
Finishes (adhered to wood, plastic, metal)	NL	0	0	100	0	0
Plastics, other (i.a. profiles, sheets, pipes)	NL	0	0	90	10	0

DECLARATION OF SVHC

None of the substances contained in the product are listed in the "Candidate List of Substances of Very High Concern for authorizaton", or they do not exceed the threshold wit the European Chemicals Agency.

REFERENCES

SBK Bepalingsmethode Milieuprestatie Gebouwen en GWW-werken" version 3.0. ISO 14040, ISO 14044 and EN 15804+A1.

REMARKS

None