

# ENVIRONMENTAL PRODUCT DECLARATION

According to ISO 14025 and EN 15804

## kvadrat shade

### MERU

#### COMPANY INFORMATION / DECLARATION OWNER

**Manufacturer:** Kvadrat Shade  
**Production Location:** Kvadrat Shade  
**Address:** Vonderweg 48  
7468DC Enter  
**E-mail:** contact@kvadratshade.com  
**Website:** www.kvadratshade.com

#### EPD INFORMATION

**Calculation number:** EPD-NIBE-20201210-15424  
**Date of issue:** 30-12-2020  
**End of validity:** 30-12-2025  
**Version NIBE's EPD Application:** v2.0  
**Version database:** v2.95 (2020-12-03)  
**PCR:** EN15804:2012+A1

#### VERIFICATION OF THE DECLARATION

CEN standard EN 15804:2012 serves as the core PCR  
Independent verification of the declaration. according to EN ISO 14025:2010.  Internal  External

Verklaring van de toetsers, MSc P.F. Stadhouders, 30-12-2020:

"De methodologie en dataverzameling zoals beschreven in dit rapport voldoet aan de eisen van de "Bepalingsmethode Milieuprestatie Gebouwen en GWW-werken" versie 3.0 van november 2019 en de onderliggende normen ISO 14040, ISO 14044 en NEN-EN 15804."

Third party verifier: Msc. P.F. Stadhouders, EcoReview V.O.F.

#### DECLARED UNIT

##### m2 fabric

m2 of canvass for roller blinds applied to the inside of a window. During its technical life time of 15 years., the canvass meets fire resistance norms EN 13 773, Class 1, BS 5867, part 2, DIN 4102 class B1, NPF P 92 507 class M1, NFPA 701 #1 and IMO. Bar, attachment material and latch are excluded. The production stage (A1-A3), Construction stage (A4-A5), Use stage (B1-B3) and end of life stage (C1-D). In compliance with the Horizontal PCR INSIDE/INSIDE, A4 is considered 1km.

#### SCOPE OF DECLARATION

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	MND	MND	MND	MND	X	X	X	X	X

(X = included, MND = module not declared)

#### PRODUCT DESCRIPTION

The Meru textile is a roller blind fabric. The aim of the roller blind system is to control light and provide acoustic and thermal comfort. The product is made out of Trevira CS polyester that has been treated with several finishes.

The Meru textile has a tactile texture weave and is semi-transparent.

The textile has a lightfastness of 5-6 and a glare control rating of 2. It has 5% visual light transmission, 33% solar reflection, 24% solar transmission, 43% solar absorption, 2% openness factor, 25% GTOT/SHGC, 2% visual light transmission, and a U-value of 0.95.

Furthermore, the textile has passed multiple fire 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 system has a width of 300 cm, weighs 150 g/m2, and has a reference service life of 15 years.

#### DESCRIPTION OF THE MANUFACTURING PROCESS

The raw cloths made of 100% Trevira CS polyester enter the factory ready for production. The raw cloths are treated with dyes and different washing/finishing auxiliaries.

The first step of the process is the washing of the raw cloths in order to degrease the fabric. Washing auxiliaries are diluted with water, with a ratio of 1:10. The textile passes through the bath on rollers, continuously moving through the bath. After the textile is washed it is dyed in the desired color.

After the dyeing process a finish is applied to the textile. For the Meru blind the stiffening finishing process is applied. The stiffening will ensure that the textile 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 textile less flexible and less scratch sensitive. This will prevent the textile for example from cupping of v-shaping once assembled.

For the most part, the energy use can be attributed to the dyeing process. Furthermore energy is used for the finishing 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 installed.

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## RESULTS

Impact category	Unit	A1	A2	A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	D	Total
ADPE	Kg Sb	2.34E-6	0.00E+0	4.42E-7	7.33E-11	1.48E-7	0.00E+0	0.00E+0	0.00E+0	0.00E+0	7.81E-9	1.01E-7	0.00E+0	-4.55E-9	3.04E-6
ADPF	MJ	1.42E+1	0.00E+0	1.12E+1	4.01E-4	1.31E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	4.27E-2	3.42E-1	0.00E+0	-7.53E-1	2.64E+1
AP	Kg SO2 Equiv.	2.81E-3	0.00E+0	8.10E-4	1.12E-7	2.02E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.19E-5	1.36E-4	0.00E+0	-1.18E-4	3.85E-3
ODP	Kg CFC-11 Equiv.	8.85E-8	0.00E+0	7.72E-8	4.81E-12	9.11E-9	0.00E+0	0.00E+0	0.00E+0	0.00E+0	5.12E-10	1.13E-8	0.00E+0	-6.23E-10	1.86E-7
GWP	Kg CO2 Equiv.	7.87E-1	0.00E+0	6.68E-1	2.57E-5	9.31E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.74E-3	3.64E-1	0.00E+0	-2.31E-2	1.89E+0
EP	Kg PO43- Equiv.	1.26E-3	0.00E+0	2.27E-4	2.25E-8	7.91E-5	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.40E-6	2.41E-5	0.00E+0	-2.05E-5	1.57E-3
POCP	Kg Ethene Equiv.	3.36E-3	0.00E+0	4.29E-4	1.53E-8	1.93E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.63E-6	1.38E-5	0.00E+0	-3.61E-5	3.96E-3
Parameter	Unit	A1	A2	A3	A4	A5	B1	B2	B3	C1	C2	C3	C4	D	Total
PERE	MJ	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
PERM	MJ	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
PERT	MJ	1.71E+0	0.00E+0	1.28E+0	4.21E-6	1.51E-1	0.00E+0	0.00E+0	0.00E+0	0.00E+0	4.49E-4	2.81E-2	0.00E+0	-6.66E-1	2.51E+0
PENRE	MJ	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
PENRM	MJ	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
PENRT	MJ	1.45E+1	0.00E+0	1.12E+1	4.27E-4	1.33E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	4.55E-2	3.35E-1	0.00E+0	-8.34E-1	2.66E+1
SM	Kg	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
RSF	MJ	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
NRSF	MJ	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
FW	M3	9.38E-3	0.00E+0	1.29E-3	6.82E-8	5.84E-4	0.00E+0	0.00E+0	0.00E+0	0.00E+0	7.27E-6	5.33E-4	0.00E+0	-1.50E-4	1.16E-2
HWD	Kg	3.21E-5	0.00E+0	1.47E-5	2.56E-10	2.40E-6	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.72E-8	7.17E-7	0.00E+0	-1.23E-6	4.87E-5
NHWD	Kg	5.75E-2	0.00E+0	2.09E-2	2.45E-5	1.05E-2	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.61E-3	7.69E-3	0.00E+0	-8.24E-4	9.83E-2
RWD	Kg	2.25E-5	0.00E+0	9.12E-6	2.71E-9	1.77E-6	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.88E-7	1.16E-6	0.00E+0	-1.44E-7	3.47E-5
CRU	Kg	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
MFR	Kg	0.00E+0	0.00E+0	1.50E-3	0.00E+0	3.29E-3	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.50E-2	0.00E+0	0.00E+0	1.98E-2
MER	Kg	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0
EE	MJ	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	2.88E-1	2.88E-1
EET	MJ	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.82E-1	1.82E-1
EEE	MJ	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	0.00E+0	1.06E-1	1.06E-1
SP	s€	s€ 0,07	s€ 0,00	s€ 0,04	s€ 0,00	s€ 0,01	s€ 0,00	s€ 0,00	s€ 0,00	s€ 0,00	s€ 0,00	s€ 0,02	s€ 0,00	s€ 0,00	s€ 0,13

Impact categories: ADPE=Depletion of abiotic resources-elements | ADPF=abiotic depletion of fossil resources | AP=Acidification of soil and water | ODP=Ozone layer depletion | GWP=Global warming | EP=Eutrophication | POCP=Photochemical oxidants creation

Parameters: PERE=renewable primary energy ex. raw materials | PERM=renewable primary energy used as raw materials | PERT=renewable primary energy total | PENRE=non-renewable primary energy ex. raw materials | PENRM=non-renewable primary energy used as raw materials | PENRT=non-renewable primary energy total | SM=use of secondary material | RSF=use of renewable secondary fuels | NRSF=use of non-renewable secondary fuels | FW=use of net fresh water | HWD=hazardous waste disposed | NHWD=non hazardous waste disposed | RWD=radioactive waste disposed | CRU=Components for re-use | MFR=Materials for recycling | MER=Materials for energy recovery | EE=Exported energy | EET=Exported Energy Thermic | EEE=Exported Energy Electric

## ADDITIONAL INFORMATION

### Allocation

There is no allocation applied for the environmental profiles / datasets used in this LCA.