

Environmental Product Declaration

In accordance with ISO 14025:2006 for:

Olefin Upholstery Fabric

From

DESIGNTEX



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GENERAL INFORMATION

Programme Information

Programme:	The International EPD® System
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Product Category Rules (PCR)

Product Category Rules (PCR): PCR 2022:04, Fabrics version 1.0.4

PCR review was conducted by: The Technical Committee of the International EPD® System. A full list of members is available at www.environdec.com. The review panel may be contacted via info@environdec.com.

Members of the Technical Committee were requested to state any potential conflict of interest with the PCR Committee, and if there were conflicts of interest they were excused from the review

Third party verification

Independent third-party verification of the declaration and data, according to ISO 14025:2006, via:

☒ Individual EPD verification without a pre-verified LCA/EPD tool

Third party verifier

İpek Göktaş Kalkan
Independent EPD Verifier, EPDlogy

Approved by

The International EPD® System Technical
Committee, supported by the Secretariat

Procedure for follow-up of data during EPD validity involves third party verifier:

☐ Yes

☒ No

EPD Owner

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The EPD owner has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but published in different EPD programmes, may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same first-digit version number) or be based on fully aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have identical scope in terms of included life-cycle stages (unless the excluded life-cycle stage is demonstrated to be insignificant); apply identical impact assessment methods (including the same version of characterisation factors); and be valid at the time of comparison.

INFORMATION ABOUT EPD OWNER

Company Description

DesignTex is the leading company in the development, design, and manufacturing of applied materials for the built environment. DesignTex is a recognized innovator in the research and development of textiles, wallcoverings, and digitally imaged materials with reduced environmental impact.

As a Steelcase company, DesignTex is guided by their ISO 14001 Environmental Management System certification and encourages its manufacturing partners to implement similar environmental practices through a strong Supplier Code of Conduct policy. The company also reports progress on metrics for the UN Global Compact, Carbon Disclosure Project, and ISO 26000 Social Responsibility guidelines, and certifies products against several third-party sustainability certifications. DesignTex is headquartered in New York City with over 100 sales offices around the world. For more information visit: designtex.com

PRODUCT INFORMATION

Product name:

Olefin upholstery fabric

Product description:

This Olefin upholstery fabric is intended for contract grade performance, for use in commercial interiors. Composed of olefin with some blending of polyester, the patterns are offered in a broad palette of colorways for interior furnishings with some applicability for outdoor use. This product falls under UN CPC Code: 267.

Manufacturing location: Istanbul, Türkiye

The location of the final process in direct control of the trader: New York, USA

Product identification:

Technical Data	Value	Reference Standard
Standard width	54-55 inches	EN 1773:1998
Surface Pilling	Class 4	ISO 12945-2:2002
Tear Strength	Warp: 123 lbs Weft: 252 lbs	ISO 13937-3
Colour fastness to light	Class 5, 40 hrs	AATCC 16.3-option 3. Xenon arc lamp test
Colour fastness to water	Class 5	AATCC 8-2016 - wet crocking
Colour fastness to rubbing	Class 5	AATCC 8-2016 - dry crocking

CONTENT DECLARATION

The total mass of 1 m² of fabric is 0.4928 kg. The content of the product and packaging material are presented.

Product content	Mass, kg	Mass-% of product	Post-consumer recycled material, mass-% of product	Biogenic material, mass-% of product	Biogenic material, kg C/product or declared unit
Dyes	0.0191	3.9%	0	0	0
UV Additive	0.0143	2.9%	0	0	0
Recycled Polypropylene (PP) Granules (derived from industrial-sourced pre-consumer scrap)	0.2222	45.1%	0	0	0
Polypropylene (PP) Granules	0.2222	45.1%	0	0	0
Polyester Texturized Yarn (raw white)	0.0150	3.0%	0	0	0
TOTAL	0.4928	100.00%	0	0	0

The product does not contain any substances that can be identified as Substances of Very High Concern (SVHC) according to the Regulation (EC) No 1907/2006 of the European parliament and of the council of 18 December 2006 concerning the Registration, Evaluation, Authorisation, and Restriction of Chemicals (REACH). The product and content materials are not classified as hazardous according to the Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling, and packaging of substances and mixtures.

Packaging materials	Mass, kg	Mass-% (versus the product)	Biogenic material, kg C/product or declared unit	Packaging type
Polyethylene	0.0035	0.6%	0	Distribution packaging
TOTAL	0.0035			

LCA INFORMATION

Functional unit

1 m² of Olefin upholstery fabric

Database and LCA software

Ecoinvent Database 3.9.1 & U.S Life Cycle Inventory (LCI) Database & SimaPro 9.5 software.

Time representativeness

Calendar year 2025

Geographical scope

Raw material supply is sourced from Türkiye (TR) and the Kingdom of Saudi Arabia (KSA). Manufacturing is conducted in Türkiye (TR). The final product is distributed and marketed in the United States (US).

Description of system boundaries

The EPD system boundary is cradle-to-gate with module A4, C1– C3. For Module A4 (Transportation of the fabric to retailer), transportation of the manufactured products to the Designtex Company is considered.

- A1: Extraction and pretreatment processes of the raw materials supplied and used for the production of warp and weft. The recycled polypropylene (PP) granule was modelled based on the study by Yin et al. (2016) Polyester texturized yarn was modelled based on relevant reference studies, considering that the texturization process is applied to polyester fibre during polyester yarn production (Koc and Kaplan, 2007; Roth et al., 2023).
- A2: Transport data of the raw materials from suppliers to the plant. There is no transport within the plant. Transportation data was obtained by considering product weight and distance.
- A3: The production process begins with the manufacture of polypropylene yarn using raw materials. The warp and weft yarns produced are refined and prepared in the air-texturing process. The yarn is then sent to the yarn stockroom, ready to produce upholstery fabrics. In the warp stage, the yarn is wound and sent for weaving. Following weaving, the production is completed with the finishing process. The products go through quality control before being transported.
- A4: This stage refers to the transportation of the products to Designtex. A transport distance consisting of 26 km by lorry from the manufacturing facility to the port in Türkiye, 10,141 km by sea from İstanbul to New York, and 1,289 km by 16–32 metric ton lorry from the Port of New York to Designtex's facility was assumed.
- C1: This stage refers to the disassembling of the product from the furnishing at the end of its life. The fabric is removed from the furnishing manually, equipment and energy are not required.
- C2: This stage refers to the transport of waste to the recycling and landfill sites. The average distance the disposal facility was considered to be 32 km, the transportation vehicle is assumed as lorry (United States Environmental Protection Agency [EPA], 2020).
- C3: According to the disposal scenario, 85% of the product is sent to landfill and 15% is sent for recycling. (Chowdhury et al., 2022).

Cut-Off Criteria

Cut-off criteria were applied in accordance with the relevant PCR requirements. Due to their expected insignificant contribution to the overall environmental impacts, fuels used for internal transportation within the facility, forklift fuel consumption, capital goods, infrastructure, waste generated from supplied materials, and impacts related to dismantling processes were excluded from the system boundary. In line with the PCR requirements, no excluded flow was found to exceed 1% of the total mass or energy input of the system, and the sum of neglected input flows did not exceed 1% of the total mass and energy inputs.



Allocation

General principles of allocation were based on ISO 14040/44. There are no products other than the products under study that are produced as part of the manufacturing processes. Since there are no co-

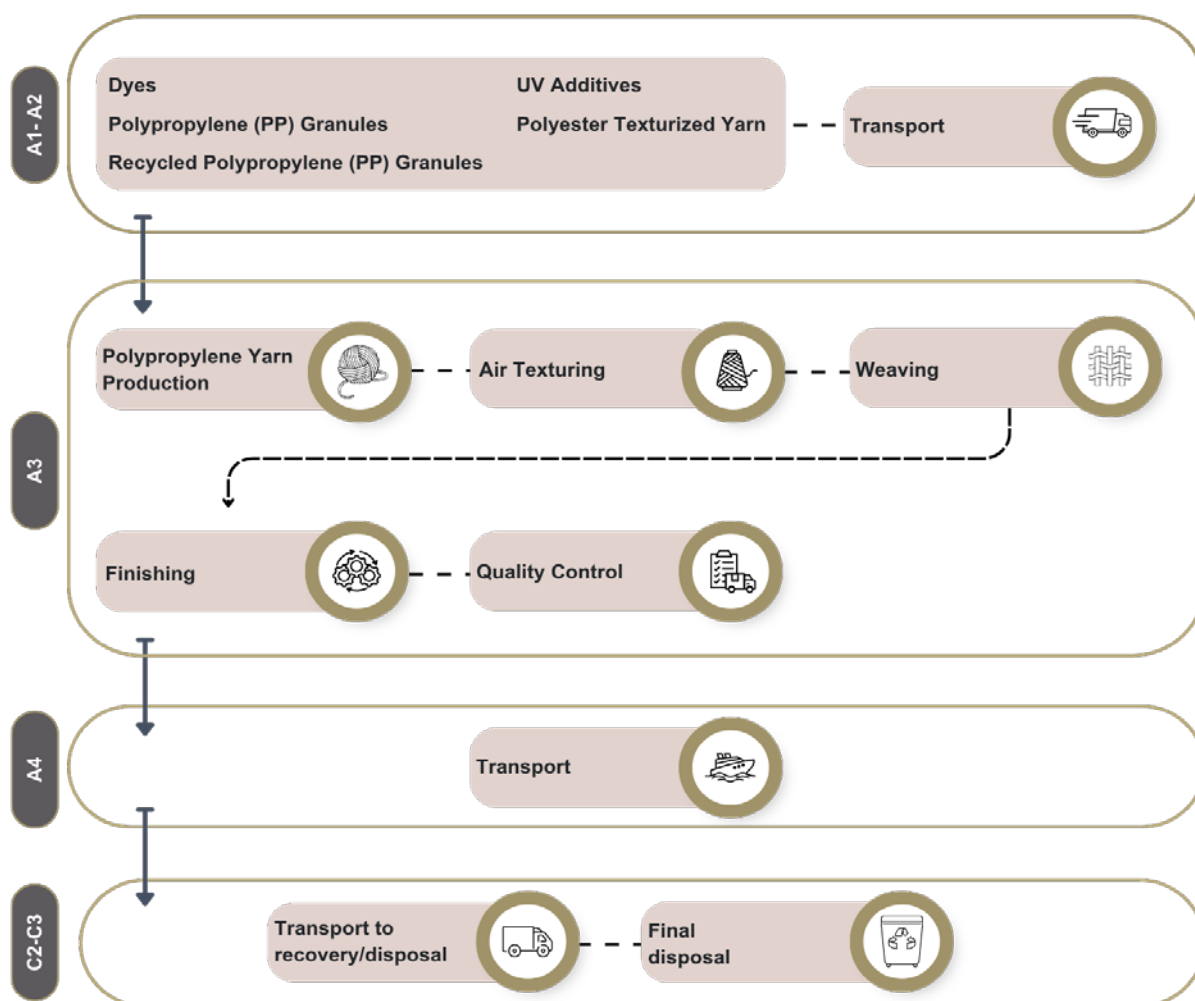
products, no allocation based on co-products is required. In calculating inventory data, actual consumption values recorded in production cost accounting records were used as the basis. In accordance with the data from the "Product Content Cards" used at the facility, weft and warp consumption in fabric production was defined in terms of linear meters and square meters. When considering the shrinkage and weight gain that occur during the final finishing process applied to the product, the input quantities are proportionally allocated on a mass basis relative to the final control weight of the product. Waste quantities generated during the yarn and weaving processes were included in the input quantities in proportion to their weights to ensure mass balance. Electricity and natural gas consumption in yarn production is recorded in kilograms, while consumption in the finishing process is recorded in meters; conversions have been made based on the dimensions of 1 square meter of product. In the weaving process, electricity consumption data determined according to weft density has been used. Packaging materials were modelled based on actual consumption records.

More information

All the data required for conducting this Life Cycle Assessment (LCA) assessment was directly provided by the manufacturer. Therefore, there was no need for missing data treatment. The information requested included details on the physical and chemical structure of raw materials, transport data, energy and natural gas consumption data, and product packaging. For reporting purposes, the life cycle stages were grouped into three main categories: Upstream, Core, and Downstream. The Upstream stage includes Module A1. The Core stage corresponds to Module A2 and Module A3. The Downstream stage includes Module A4, Module C1, Module C2, and Module C3.

	Product stage			Forming stage		Use stage		End-of-life stage		
	Raw material supply	Transport	Manufacturing	Transportation of the fabric to retailer	Further processing of the fabric	Transportation of the fabric to the use phase	Use of the fabric by the consumer	Disassembling / sorting	Transport to recovery/disposal	Final disposal
Module	A1	A2	A3	A4	A5	B1	B2	C1	C2	C3
Modules declared	X	X	X	X	ND	ND	ND	X	X	X
Geography	TR, KSA		TR	US	-			US		
Modules declared = “X”, Modules not declared = “ND”										

Process flow diagram:



Data quality assessment

The data collection period covers the timeframe between 1 January 2025 and 31 December 2025. Primary data for the foreground system was obtained directly from the manufacturer, while impact assessment background datasets were sourced from the SimaPro 9.5 database. The assessment concentrated on the most environmentally relevant datasets, accounting for more than 80% of the total environmental impacts. The following criteria were evaluated for each relevant dataset: temporal representativeness (TiR), geographical representativeness (GeR) and technological representativeness (TeR). The datasets were scored using a scale from 1 (very good) to 4 (poor). Weighted averages were calculated based on the contribution of each dataset to the overall environmental impact results.

The assessment results indicate:

- Temporal representativeness (TiR): Very good
- Geographical representativeness (GeR): Good
- Technological representativeness (TeR): Good to very good

The overall weighted Data Quality Rating (DQR) result was calculated as 1.53, corresponding to a "Good" data quality level according to the applied evaluation criteria. No datasets were classified as "poor". The assessed datasets collectively represent the significant majority of the environmental impacts, ensuring that the LCA results and the EPD are based on robust, representative, and reliable data.

ENVIRONMENTAL PERFORMANCE

Impact category indicators

PARAMETER		UNIT	Upstream (A1)	Core (A2-A3)	Downstream (A4, C1-C3)	TOTAL
Global warming potential (GWP)	Fossil	kg CO ₂ eq.	2.49E+00	4.05E-01	2.76E-01	3.17E+00
	Biogenic	kg CO ₂ eq.	1.49E-02	1.84E-03	1.69E-03	1.85E-02
	Land use and land transformation	kg CO ₂ eq.	1.16E-02	5.99E-04	1.32E-04	1.24E-02
	TOTAL	kg CO ₂ eq.	2.51E+00	4.08E-01	2.77E-01	3.20E+00
Ozone layer depletion (ODP)		kg CFC 11 eq.	2.63E-07	2.16E-08	3.10E-09	2.88E-07
Acidification potential (AP)		mol H ⁺ eq.	1.71E-02	2.15E-03	2.12E-03	2.14E-02
Eutrophication potential (EP)	Aquatic freshwater	kg P eq.	1.35E-04	1.89E-05	2.05E-06	1.56E-04
	Aquatic marine	kg N eq.	2.17E-03	3.96E-04	5.89E-04	3.16E-03
	Aquatic terrestrial	mol N eq.	2.40E-02	4.51E-03	6.29E-03	3.48E-02
Photochemical oxidant creation potential (POCP)		kg NMVOC eq.	8.60E-03	1.70E-03	1.94E-03	1.22E-02
Abiotic depletion potential (ADP)*	Metals and minerals	kg Sb eq.	4.02E-06	1.15E-05	5.75E-07	1.61E-05
	Fossil resources	MJ, net calorific value	5.47E+01	5.46E+00	2.89E+00	6.30E+01
Water deprivation potential (WDP)*		m ³ world eq. deprived	6.98E-01	2.63E-01	2.00E-02	9.81E-01

**Disclaimer: The results of this environmental impact indicator shall be used with care as the uncertainties of these results are high or as there is limited experience with the indicator.*

Environmental impacts were assessed using the EN 15804+A2 indicator framework with EF 3.1 characterization factors in accordance with the International EPD System GPI 4 default indicator list.

The environmental performance results are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins or risks.

The results of the end-of-life stage should be considered when using the results of the production stage.

Considering that the product and packaging components do not contain biogenic carbon, the GWP-GHG results are considered equivalent to the GWP-total results.

Additional impact indicators

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
		(A1)	(A2-A3)	(A4, C1-C3)	
Ionising radiation (IRP)	kBq U235 eq	1.00E-02	8.49E-03	1.08E-03	1.96E-02
Human toxicity, cancer (HTP-c)	CTUh	4.55E-10	4.30E-10	1.33E-10	1.02E-09
Human toxicity, non-cancer (HTP-nc)	CTUh	1.69E-08	1.12E-08	1.96E-09	3.01E-08
Land use	Dimensionless	2.67E+00	4.08E+01	1.73E+00	4.52E+01

TRACI 2.1 V1.08 indicators

PARAMETER	UNIT	Upstream	Core	Downstream	TOTAL
		(A1)	(A2-A3)	(A4, C1-C3)	
Ozone depletion	kg CFC-11 eq	2.43E-07	2.39E-08	3.41E-09	2.70E-07
Global warming	kg CO ₂ eq	2.45E+00	3.98E-01	2.65E-01	3.11E+00
Smog	kg O ₃ eq	1.40E-01	2.39E-02	3.61E-02	2.00E-01
Acidification	kg SO ₂ eq	1.43E-02	1.82E-03	1.83E-03	1.80E-02
Eutrophication	kg N eq	1.30E-03	2.26E-04	1.25E-04	1.65E-03
Carcinogenics	CTUh	2.24E-08	1.83E-08	5.21E-09	4.59E-08
Non carcinogenics	CTUh	1.65E-07	9.48E-08	2.48E-08	2.84E-07
Respiratory effects	kg PM _{2.5} eq	8.02E-03	3.56E-04	1.75E-04	8.55E-03
Ecotoxicity	CTUe	1.42E+00	5.58E-01	5.31E-01	2.51E+00
Fossil fuel depletion	MJ surplus	6.50E+00	5.75E-01	4.05E-01	7.48E+00

Resource use indicators

PARAMETER		UNIT	Upstream	Core	Downstream	TOTAL
			(A1)	(A2-A3)	(A4, C1-C3)	
Primary energy resources – Renewable	Use as energy carrier	MJ	3.60E+00	1.35E+01	4.35E-02	1.72E+01
	Used as raw materials	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	TOTAL	MJ	3.60E+00	1.35E+01	4.35E-02	1.72E+01
Primary energy resources – Non-renewable	Use as energy carrier	MJ	1.32E+02	1.08E+01	3.38E+01	1.77E+02
	Used as raw materials	MJ	1.65E+01	-1.41E+00	-1.51E+01	0.00E+00
	TOTAL	MJ	1.49E+02	9.43E+00	3.51E+00	1.62E+02

The calculation of energy used as raw material was carried out in accordance with the energy balance requirement. Energy flows were balanced within the relevant upstream, core and downstream processes; as module A5 is not declared, the energy balance for packaging was applied in the core processes, and waste outputs were also reflected in the indicators for energy used as energy carriers in the module where the loss occurs.

Waste Parameters

Indicator	Unit	Upstream	Core	Downstream	Total
		(A1)	(A2-A3)	(A4, C1-C3)	
Hazardous waste disposed	kg	2.50E-04	0.00E+00	0.00E+00	2.50E-04
Non-hazardous waste disposed	kg	2.60E-02	0.00E+00	4.19E-01	4.45E-01
Radioactive waste disposed	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Output Flows

Indicator	Unit	Upstream	Core	Downstream	Total
		(A1)	(A2-A3)	(A4, C1-C3)	
Components for re-use	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Material for recycling	kg	0.00E+00	4.57E-02	7.39E-02	1.20E-01
Materials for energy recovery	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, electricity	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Exported energy, thermal	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00

ABBREVIATIONS

Abbreviation	Parameter	Unit
DQR	Data Quality Rating	Dimensionless
GWP-total	Global Warming Potential – total	kg CO ₂ eq
GWP-fossil	Global Warming Potential – fossil	kg CO ₂ eq
GWP-biogenic	Global Warming Potential – biogenic	kg CO ₂ eq
GWP-luluc	Global Warming Potential – land use and land use change	kg CO ₂ eq
ODP	Ozone Depletion Potential	kg CFC 11 eq
AP	Acidification Potential	mole of H ⁺ eq
EP-freshwater	Eutrophication Potential – freshwater	kg P eq
EP-marine	Eutrophication Potential – marine	kg N eq
EP-terrestrial	Eutrophication Potential – terrestrial	mole of N eq
POCP	Photochemical Ozone Creation Potential. human health	kg NMVOC eq
ADP-minerals	Resource use – minerals and metals	kg Sb eq
ADP-fossil	Resource use – fossils	MJ
PM	Particulate matter. Potential incidence of disease due to PM emissions	Disease incidence
IRP	Ionising radiation. human health. Potential Human exposure efficiency relative to U235	kBq U235 eq
ETP-fw	Freshwater ecotoxicity. Potential Comparative Toxic Unit for ecosystems	CTUe
HTP-c	Human toxicity. cancer. Potential Comparative Toxic Unit for humans	CTUh
HTP-nc	Human toxicity. non-cancer. Potential Comparative Toxic Unit for humans	CTUh
WDP	Water use	m ³ world equiv

VERSION HISTORY

Original Version of the EPD, 2026-07-17

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