Environmental Product Declaration

Suri Pouf

CPC Code | 3812
Declaration Number | S-P-01202
EPD Valid from | 14.05.2018
EPD Expire on | 13.05.2021
Market Coverage | Worldwide

EPD TURKEY
ENVIRONMENTAL PRODUCT DECLARATIONS

By EFTCG NORDIC FURNITURE CONTRACT

In accordance with ISO14025 for Suri Pouf

The visual of the product may not be compatible with the product information which is registered.

The environmental impacts of this product have been assessed from cradle to grave.
Environmental Product Declaration has been verified by an ind ependent third party.

Information

The LCA for this EPD is conducted according to the guidelines of ISO 14040/44 and the requirements given in the Product Category Rules (PCR) document for Seats, (ver. 2.0, 2015 11 03) and the general program guidelines by The International EPD System in accordance with ISO 14025 standards.

The inventory for the LCA study is based on the 2017 production figures for Suri Poufs manufactured by **NORDIC FURNITURE CONTRACT** Mobilya San. A.Ş. (**NORDIC FURNITURE CONTRACT**) in their production plants located in Tekirdağ,Turkey.

This LCA was modelled with SimaPro 8.5 LCA software using the impact factors and Ecoinvent database (ver. 3.4) for secondary data and Turkish Life Cycle Inventory Database - TLCID (ver.1.0) developed by Turkish Centre for Sustainable Production Research and Design - SÜRATAM for local data in Turkey.

EPD PROGRAMME	The International EPD® System www.environdec.com
EPD PROGRAMME OPERATOR	EPD Turkey, Istanbul - Turkey www.epdturkey.org
EPD OWNER	NORDIC FURNITURE CONTRACT A.S Istanbul - Turkey
EPD BASED ON PRODUCT CATEGORY RULES (PCR)	PCR 2009:02 Seats, ver. 2.0, 2015-11-03 The International EPD® System
PCR REVIEW CONDUCTED BY	Technical Committee of the International EPD®System Review chair: Leo Breedveld www.environdec.com info@environdec.com
INDEPENDENT VERIFICATION AND DATA, ACCORDING TO ISO 14025:2006	☐ Internal ☐ External ☑ EPD® Process Certification
SYSTEM BOUNDARIES	☐ Cradle to Gate ☐ Cradle to Gate with Option ☑ Cradle to Grave
APPROVED AND VERIFIED BY	Certiquality S.r.l. www.certiquality.com
LCA REPORT AND EPD PREPARED BY	Metsims Sustainability Consulting www.metsims.com

EPDs within the same product category but from different programmes may not be comparable.

Company

Competitive in the global marketplace,**NORDIC FURNITURE CONTRACT** holds to global standards and has internalized the protection principles ofnatural resources, the environment and the provision of healthy and safe environments for all his employees, partnersin all business processes.

The company continuously improves his processes with the integrated management system to ensure the fair balance between efficiency, productivity and safety.

NORDIC FURNITURE CONTRACT puts emphasis on internal waste management and facilitating a high level of recycling in all processes with a commitment to continuous improvement.

Using technology, environmentally friendly and recyclable materials when designing products and services,**NORDIC FURNITURE CONTRACT** always aims at protecting the environment as well as human safety. The brand is also willing to ensure that each employeetruly knows the importance of his/her contribution towards the green and sustainable environment.

NORDIC FURNITURE CONTRACT has a recognized reputation for delivering design and service excellence both in its homeland of Turkey and around the world. The brand is known for its clean and understated intelligent design, for its quality of manufacture and forits insight into the needs and concerns of customers.

Based on its key guiding principles and forty years' experience **NORDIC FURNITURE CONTRACT** designs are based on a profound knowledge of culture, history and geography. Its solutions reclaim the past that we know with colors, sounds and shapes. At the same time,**NORDIC FURNITURE CONTRACT** product designs anticipate the future we do not yet know. The aim is always to pursue excellence and to hold true to certain values.**NORDIC FURNITURE CONTRACT** knows that there is always a line that runs from the past to the future, that as well as local cultures and ideals, there are eternal and universal values that we all share and that what is essential is understanding the art and craft as it is tied up in a particular time and place.

NORDIC FURNITURE CONTRACT is compliant to following international standards:ISO 14001 EMS, OHSAS 18001, ISO 9001 QMS, ISO 10002 QM-CS, ISO 50001 EnMS, ISO/IEC 27001 ISMS.

Product Information

Suri, designed by Sezgin Aksu and Silvia Suardi, is a playful pouf inspired by the traditional "Ottoman fez" as the muse for its formal aesthetics. It is a complementary article for living and working areas. It can be used as a pouf or even as an ad hoc solution for a coffee table. The design is presented with various upholstery alternatives.

LIST OF MATERIALS FOR SURI POUF

MATERIALS		CONTENTS (kg)
Main Body	PU	4.96
	Textile	0.704
Auxiliary Materials	PP	0.920
Main or Auxiliary	Leather	0.013
	Synthetic Leather	0.009
Fittings	Steel	0.008
Packaging Materials	Corrugated Board	1.25
	Polyester	0.046

System Boundary

Upstream Process

Upstream processes include raw material extraction and production processes and manufacturing of auxiliary materials, chemicals and packaging materials.

Core Process

Core processes include transport of materials to the manufacturer and operations for manufacturing.

Manufacturing includes sizing and painting of product parts and assembly. The end products are then packaged to be sold. Electric energy and natural gas are consumed during manufacturing.

Downstream Processes

Downstream processes include transportation from manufacturer to consumer, product use and disposal of both product and packaging.

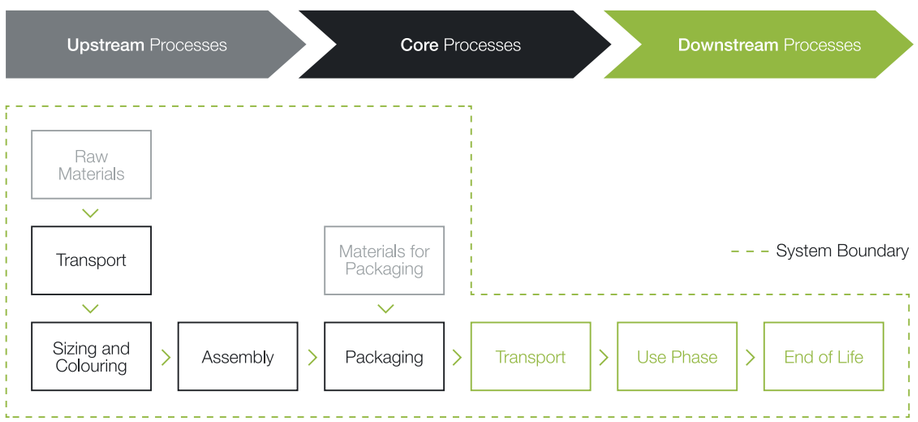
Distribution of final product to customer is assumed to be a default long distance transport of 1000 km by lorry defined by the PCR.

During use phase of the product, no energy or water is consumed. The product can be cleaned with a dry or damp cloth and do not require maintenance during its lifetime.

At the end of its life, it is expected from customers to dispose the product in accordance with the legal regulations of the country where they reside. The product is easy to disassemble and recycle. For the disposal scenario of the product European average recycling values were taken for steel, aluminium and plastic parts as 83%, 90% and 69.2% respectively. Other materials assumed to end up at landfill.

Packaging waste is assumed to end up at packaging recycling streams due to the relevant national law in Turkey in 2017, which requires manufacturers to have certain percentage of their packaging waste to be recovered.

SYSTEM BOUNDARY OF THE LCA STUDY CONDUCTED



Environmental Performance Related Information

FUNCTIONAL UNIT / DECLARED UNIT	The declared unit is the production of one unit of furniture with a minimum 15 years lifetime.
GOAL AND SCOPE	This EPD evaluates the environmental impacts of one unit of furniture from cradle to grave life cycle perspective.
SYSTEM BOUNDARY	The system boundary covers upstream, core and downstream processes within the life cycle.
ESTIMATES AND ASSUMPTIONS	There are no additional product scenarios developed for this EPD. Distribution of final product to customer is assumed to be 1000 km by lorry. During use phase of the product, no energy or water consumption is assumed. At the end of its life, it was assumed that the metal parts of the product were recycled according to the European average recycling rates and the rest of the materials end up at landfill. Packaging waste for declared products are modelled based on the collection rates enforced by Packaging Waste Control Regulations of 27.12.2017 and No. 30283.
CUT-OFF RULES	For this LCA study, 1% cut-off criteria was not applied.
BACKGROUND DATA	TLCID, ver 1.0, Turkey. Ecoinvent, ver. 3.4, Switzerland
DATA QUALITY	Raw materials, electricity, natural gas, water use and waste data collected from **NORDIC FURNITURE CONTRACT**. Localized data especially or energy and other relevant processeswere taken from TLCID Database.
PERIOD UNDER REVIEW	All primary data collected from **NORDIC FURNITURE CONTRACT** plant is for the period year of 2017.
ALLOCATIONS	There are no co-products in the production of Suri Poufs manufactured by **NORDIC FURNITURE CONTRACT**. Hence, there was no need for co-product allocation. Use of energy per unit of furniture is allocated based on the time spent in the manufactoringline from yearly energy comsumption of each workshop. **NORDIC FURNITURE CONTRACT** sources raw materials and goods from different locations across Turkey and other parts of the world and by different means of transport (truck, ship and train). For this reason, **transport was** allocated according to tonnages.

All the waste resulting from the main production and related processes of NORDIC FURNITURE CONTRACT is managed in accordance with valid legal requirements.

The results of the LCA with the indicators as per EPD requirement are given in the following tables for upstream, core and downstream processes shown in the system boundary section.

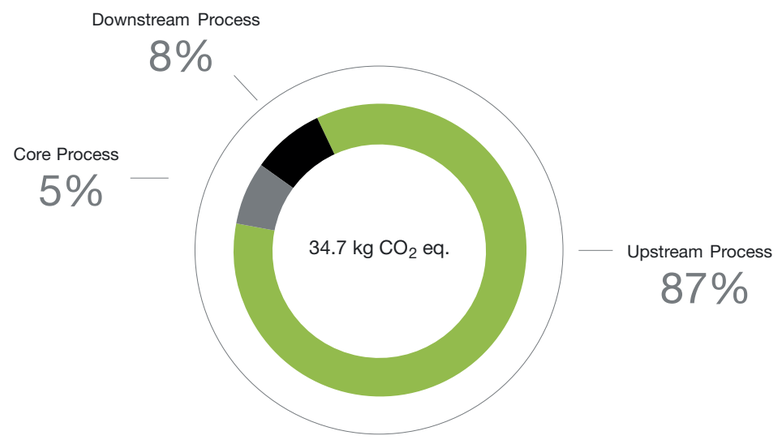
All resource use values are determined from Cumulative Energy Demand V1.10 and life cycle inventory of products, while environmental impacts are calculated with the CML-IA baseline V4.8 except AP with CML 2001 non-baseline methodology Recipe 2016 Endpoint (H) V1.01 and USEtox (recommended + interim) V1.04 and AWARE V1.01 methods available with SimaPro LCA Software. For POCP in CML-IA baseline V4.8 NOx emission factor is taken from CML V4.8 (August 2016).

ENVIRONMENTAL INDICATORS

RESOURCE USE						
Parameter		Unit	Upstream Processes	Core Processes	Downstream Processes	Total
NON-RENEWABLE RESOURCES						
Material	Calcite	[kg]	1.54	0.011	0.028	1.58
	Bauxite	[kg]	4.47	0.002	0.010	4.48
	Dolomite	[kg]	0.007	0.000	2.044	2.05
	Gravel	[kg]	3.12	0.224	2.044	5.39
	Iron	[kg]	0.193	0.008	0.034	0.235
	Sodium Chloride	[kg]	5.42	0.001	0.001	5.42
Energy	Hard Coal	[kg]	5.11	0.145	0.091	5.35
	Lignite	[kg]	1.18	0.198	0.024	1.40
	Oil, crude	[kg]	4.62	0.479	0.490	5.59
	Natural gas	[kg]	10.8	0.183	0.072	11.1
	Uranium	[MJ]	0.000	0.000	0.000	0.000
RENEWABLE RESOURCES						
Material	Water	[kg]	0.487	0.005	0.006	0.498
	Wood	[kg]	0.001	0.000	0.000	0.001
Energy	Geothermal	[MJ]	0.127	0.134	0.005	0.267
	Wind power	[MJ]	0.897	0.266	0.033	1.20
	Hydropower	[MJ]	15.9	1.16	0.226	17.3
	Biomass	[MJ]	25.8	0.051	0.145	26.0
	Solar	[MJ]	0.058	0.013	0.002	0.073
WATER USE						
Total amount of water		[m^3]	0.487	0.005	0.006	0.498
Direct amount of water used by the core process		[m^3]	-	0.000	-	0.000

OUTPUT FLOWS AND WASTE CATEGORIES					
Parameter	Unit	Upstream Processes	Core Processes	Downstream Processes	Total
HWD	[kg]	-	0.000	0.000	0.000
NHWD	[kg]	-	0.000	8.49	8.49
RWD	[kg]	-	0.000	0.000	0.000
Legend	HWD: Hazardous Waste Disposed,NHWD: Non-Hazardous Waste Disposed,RWD: Radioactive Waste Disposed				

ENVIRONMENTAL IMPACTS					
Parameter	Unit	Upstream Processes	Core Processes	Downstream Processes	Total
GWP	[kg CO_2 eq.]	34.9	2.16	3.07	40.1
AP	[kg SO_2 eq.]	0.161	0.010	0.007	0.177
POCP	[kg C_2H_4 eq.]	$7.9x10^{-3}$	$-0.354x10^{-3}$	$0.086x10^{-3}$	$0.008x10^{-3}$
EP	[kg PO_4^{3-} eq.]	0.039	0.003	0.067	0.108
HT (cancer)	[cases]	$2.86x10^{-6}$	$58.1x10^{-9}$	$96.4x10^{-9}$	$3.01x10^{-6}$
HT (non-cancer)	[cases]	$6.04x10^{-6}$	$157x10^{-6}$	$3.51x10^{-6}$	$9.71x10^{-6}$
Ecotoxicity	[PAF.m3.day]	$218x10^{+3}$	$6.19x10^{+3}$	$33.8x10^{+3}$	$258x10^{+3}$
Land use	[species.yr]	$10.5x10^{-9}$	$0.131x110^{-9}$	$0.648x10^{-9}$	$11.2x10^{-9}$
WSI	[m^3]	27.7	0.364	0.219	28.2
Legend	GWP: Global Warming Potential,AP: Acidification Potential, POCP: Formation Potential of Tropospheric Ozone Photochemical Oxidants EP: Eutrophication Potential,HT: Human Toxicity,WSI: Water Scarcity Index (AWARE)				



References

ISO 14001

Environmental Management Systems

OHSAS 18001

Occupational Health and Safety Management

ISO 9001

Quality Management System

ISO 14025

DIN EN ISO 14025:2009-11: Environmental labels and declarations - Type III environmental declarations - Principles and procedures

ISO 14040/44

DIN EN ISO 14040:2006-10, Environmental management - Life cycle assessment - Principles and framework (ISO 14040:2006) and Requirements and guidelines (ISO 14044:2006)

PCR FOR SEAT

Prepared by IVL Swedish Environmental Research Institute, Swedish Environmental Protection Agency, SP Trä, Swedish Wood Preservation Institute, Swedisol, SCDA, Svenskt Limträ AB, SSAB, The International EPD System, ver. 1.2, Date 2015 11 03

THE INTERNATIONAL EPD® SYSTEM

The International EPD® System is a programme for type III environmental declarations, maintaining a system to verify and register EPD®s as well as keeping a library of EPD®s and PCRs in accordance with ISO 14025. www.environdec.com

ECOINVENT

Ecoinvent Centre, www.Eco-invent.org

SIMAPRO

SimaPro LCA Software, Pré Consultants, the Netherlands,

www.pre-sustainability.com

TLCID

Turkish Life Cycle Inventory Database, Turkish Centre for Sustainable Production Research and Design -SÜRATAM

www.suratam.org

RECYCLING RATES

Steel : Post consumer steel product recovery rate by sector, weighted global average, World Steel Association, Sustainable Steel, At the core of a green economy, 2012.

Aluminium : Aluminium Recycling in Europe, European Aluminium Association and Organisation of Aluminium Refiners and Remelters, 2006.

Plastic : Plastics – the Facts 2016, An analysisi of European plastics production, demand and waste data, Plastics Europe, 2016.

Verification & Registration

PROGRAMME	The International EPD® System www.environdec.com EPD registered through the fully aligned regional programme: EPD Turkey www.epdturkey.org
PROGRAMME OPERATOR	EPD International AB Box 210 60 SE-100 31 Stockholm, Sweden EPD Turkey: SÜRATAM-Turkish Centre for Sustainable Production Research & Design Nef 09 B Blok No:7/15, 34415 Kağıthane / İstanbul, Turkey www.suratam.org
THIRD PARTY VERIFIER	Certiquality S.r.l. Via Gaetano Giardino 4, Milan, Italy www.certiquality.com
OWNER OF THE DECLARATION	NORDIC FURNITURE CONTRACT Cumhuriyet Mah. Hacı Osman Bayırı Cad. No:25 Sarıyer 34457 Istanbul - Turkey
LCA AUTHOR AND EPD GRAPHIC DESIGN	Metsims Sustainability Consulting Lalegul Sok. No:7/18 34415 4.Levent Istanbul - Turkey 4 Clear Water Place Oxford OX2 7NL United Kingdom www.metsims.com