

Environmental Product Declaration

Information Disclosure Summary

In accordance with ISO 14025 and EN 15804 for

dassoXTR and **dassoCTECH**



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EPD programme	The International EPD® System
Programme operator	EPD International AB
Third-Party Verifier	Bill Kung, Ecovane Environmental
EPD Owner	Zhejiang Daocheng Bamboo Industry Co., Ltd
Product Name	dassoXTR and dassoCTECH
EPD registration number	S-P-01928
Publication date	2020-4-1
Valid until	2025-4-1 (5 years)

SCOPE AND GOAL

EPD Scope: “cradle-to-gate with options”, including transport to building site and end of Life stage.

Geographical scope: Global

Declared Unit: the declared unit aims at providing a reference to which the data inputs and outputs are normalized in such a way that the same level of service is represented. The declared unit for this study is 1 kilogram (kg) of dassoXTR and dassoCTECH boards (decking, cladding, soffit, lumber & panel) for exterior use.

EPD Goal: according to the data analysis, it indicates the potential environmental impact of dassoXTR and dassoCTECH during the whole lifespan (40 years).

PRODUCT & APPLICATION

Through dasso’s patented “heat treatment” technology, dasso processes fused bamboo into dassoXTR for exterior use in classic “Espresso” color; With the application of Ceramix Technology, dassoCTECH exterior materials have wonderful performance outdoor while retaining the original color- Cognac.

dassoXTR and dassoCTECH fused bamboo are both extremely durable and stable to use in exterior field of commercial, residential and public projects. They can be processed into decking, cladding, soffit, fence, lumber and panel. Applications in Scenarios like walkway in garden/sea side/ public area, pool decking, rest area of hotel/ resort, gallery frame, pergola barrier, outdoor furnishings, street bench, facade decorative, etc.

LCA DESCRIPTION

LCA refers to life cycle assessment, it assesses environmental impacts associated with all the stages of the life-cycle of dasso bamboo product. The goal of LCA is to analyze the environmental effects of products by quantifying all inputs and outputs of material flows and assessing how these material flows affect the environment.

LCA-MODULES

Description of the System Boundary (X=INCLUDED IN LCA/MND=MODULE NOT DECLARED)																
Product Stage			Construction process stage		Use Stage							End of life stage				Resource recovery stage
Raw Material	Transport	Manufacturing	Transport	Assembly/Install	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction and 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	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X

The life cycle stages below have been covered:

A1-A3: Product stage (raw material acquisition, transport to manufacturing site and manufacturing)

A4: Construction stage (transport to user site)

C1-C4: End-of-life stage (deconstruction, transport, waste processing and disposal)

D: Resource recovery stage (reuse, recovery, recycling)

Excluded lifecycle stages:

The installation stage on the construction site and the usage stage of the product are excluded from this study.

LCA RESULT

dassoXTR - Potential Environmental Impacts: The results presented below are for the listed environmental categories for 1 kg of dassoXTR bamboo board and are aggregated for A1-A4, C1-C4 and D stages. The results are presented for dassoXTR decking, cladding, soffit, lumber & panel.

PARAMETER	UNIT	Product stage			Costruction process stage	End of life stage			
		A1	A2	A3	A4	C2	C3-CN	C3-EU	
Global warming potential (GWP)	kg CO ₂ eq.	7.80E-01	4.90E-02	1.90E-01	2.20E-01	2.29E-02	-2.22E+00	-7.44E-01	
Depletion potential of the stratospheric ozone layer (ODP)	kg CFC 11 eq.	1.50E-08	5.80E-09	7.90E-09	3.90E-08	3.78E-09	4.82E-07	3.84E-07	
Acidification potential (AP)	kg SO ₂ eq.	5.20E-03	2.00E-04	7.50E-04	1.90E-03	8.84E-05	-1.78E-02	9.04E-04	
Eutrophication potential (EP)	kg PO ₄ ³⁻ eq.	8.10E-04	5.90E-05	1.90E-04	2.90E-04	3.39E-05	4.89E-04	-8.90E-04	
Formation potential of tropospheric ozone (POCP)	kg C ₂ H ₄ eq.	3.40E-04	8.10E-06	3.00E-05	6.70E-05	4.02E-06	-5.60E-04	1.48E-04	
Abiotic depletion potential – Elements	kg Sb eq.	1.20E-06	7.00E-08	8.40E-08	4.70E-07	1.59E-08	2.47E-05	2.45E-05	
Abiotic depletion potential – Fossil resources	MJ, net calorific value	1.70E+01	7.50E-01	1.90E+00	3.50E+00	3.62E-01	-8.53E+00	4.25E-01	
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value	8.60E-02	2.40E-02	3.50E-01	8.50E-02	1.90E-02	3.60E+00	1.70E+00
	Used as raw materials	MJ, net calorific value	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	TOTAL	MJ, net calorific value	8.60E-02	2.40E-02	3.50E-01	8.50E-02	1.90E-02	3.60E+00	1.70E+00
Primary energy resources – Non-renewable	Use as energy carrier	MJ, net calorific value	4.50E-02	1.60E-03	3.30E-02	3.80E-03	8.20E-04	-1.50E-01	1.80E-01
	Used as raw materials	MJ, net calorific value	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	TOTAL	MJ, net calorific value	4.50E-02	1.60E-03	3.30E-02	3.80E-03	8.20E-04	-1.50E-01	1.80E-01
Secondary material	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Renewable secondary fuels	MJ, net calorific value	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Non-renewable secondary fuels	MJ, net calorific value	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Net use of fresh water	m ³	1.50E-04	0.00E+00	9.30E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	

dassoCTECH - Potential Environmental Impacts: The results presented below are for the listed environmental categories for 1 kg of dassoCTECH bamboo board and are aggregated for A1-A4, C1-C4 and D stages. The results are presented for dassoCTECH decking, cladding, soffit, lumber & panel.

PARAMETER	UNIT	Product stage			Costruction process stage	End of life stage			
		A1	A2	A3	A4	C2	C3-CN	C3-EU	
Global warming potential (GWP)	kg CO ₂ eq.	7.80E-01	4.90E-02	1.90E-01	2.20E-01	2.29E-02	-2.22E+00	-7.44E-01	
Depletion potential of the stratospheric ozone layer (ODP)	kg CFC 11 eq.	1.50E-08	5.80E-09	7.90E-09	3.90E-08	3.78E-09	4.82E-07	3.84E-07	
Acidification potential (AP)	kg SO ₂ eq.	5.20E-03	2.00E-04	7.50E-04	1.90E-03	8.84E-05	-1.78E-02	9.04E-04	
Eutrophication potential (EP)	kg PO ₄ ³⁻ eq.	8.10E-04	5.90E-05	1.90E-04	2.90E-04	3.39E-05	4.89E-04	-8.90E-04	
Formation potential of tropospheric ozone (POCP)	kg C ₂ H ₄ eq.	3.40E-04	8.10E-06	3.00E-05	6.70E-05	4.02E-06	-5.60E-04	1.48E-04	
Abiotic depletion potential – Elements	kg Sb eq.	1.20E-06	7.00E-08	8.40E-08	4.70E-07	1.59E-08	2.47E-05	2.45E-05	
Abiotic depletion potential – Fossil resources	MJ, net calorific value	1.70E+01	7.50E-01	1.90E+00	3.50E+00	3.62E-01	-8.53E+00	4.25E-01	
Primary energy resources – Renewable	Use as energy carrier	MJ, net calorific value	8.60E-02	2.40E-02	3.50E-01	8.50E-02	1.90E-02	3.60E+00	1.70E+00
	Used as raw materials	MJ, net calorific value	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	TOTAL	MJ, net calorific value	8.60E-02	2.40E-02	3.50E-01	8.50E-02	1.90E-02	3.60E+00	1.70E+00
Primary energy resources – Non-renewable	Use as energy carrier	MJ, net calorific value	4.50E-02	1.60E-03	3.30E-02	3.80E-03	8.20E-04	-1.50E-01	1.80E-01
	Used as raw materials	MJ, net calorific value	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	TOTAL	MJ, net calorific value	4.50E-02	1.60E-03	3.30E-02	3.80E-03	8.20E-04	-1.50E-01	1.80E-01
Secondary material	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Renewable secondary fuels	MJ, net calorific value	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Non-renewable secondary fuels	MJ, net calorific value	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	
Net use of fresh water	m ³	1.50E-04	0.00E+00	9.30E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	

Additional environmental information

The formaldehyde emission of dassoXTR and dassoCTECH is no more than 0.1 mg/m²h and the products reach therefore the emission class E1 according to GB/T 17657-2013 (Test methods of evaluating the properties of wood-based panels and surface decorated wood-based panels).

Please notice this is the information disclosure summary, contact info@dassogroup.com or visit www.environdec.com to get the official EPD report.