Environmental Product Declaration for:

DIRTT NAF MDF Solid Wall (Phoenix plant)

This Environmental Product Declaration (EPD), covering all life cycle stages, was prepared in conformity with ISO 14025, ISO 14044, and ISO 21930, and in accordance with the Earthsure Product Category Rule 30162403:2014 for Interior Wall Systems. EPDs prepared under other programs may not be comparable.

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Dates of Validity: 11/24/2014 to 11/24/2019

DIRTT

Product

These interior walls are designed and manufactured offsite, then installed in the building with a floor-to-ceiling vertical span. They meet the requirements of the International Building Code. They provide a sight, sound, and air barrier; enable the integration of utilities and technology; and are capable of including multiple materials. They can be disassembled and moved without losing any performance characteristics.

Producer

DIRTT Environmental Solutions, the manufacturer of this product, is a leading technology-enabled designer, manufacturer, and installer of fully customized, prefabricated interiors. This EPD is for a NAF (no added formaldehyde) MDF (medium density fiberboard) solid wall unit manufactured in the Phoenix plant, located at: 836 E University Dr, Phoenix, AZ 85034 USA.

Independent Verification

Independent verification of the declaration and data, according to ISO 14025: ☐ internal ☒ external

Verifier: Rita Schenck, rita@iere.org

Summary of Life Cycle Impacts and Inventory per m^2-30 yr, meeting IBC requirements for interior walls		
Climate Change	**220**	kg CO_2-eq
Acidification	**1.6**	kg SO_2-eq
Eutrophication	**0.88**	kg N-eq
Ozone Depletion	**8.4E−6**	kg CFC-11-eq
Photochemical Smog	**16**	kg O_3-eq
Ecotoxicity	**4000**	CTUe
Human Health – Air	**0.24**	kg $PM_{2.5}$-eq
Primary Energy Consumption	**2700**	MJ non-renewable
	11	MJ renewable
Waste Production	**0.017**	kg hazardous
	41	kg non-hazardous
Material Resource Consumption	**180**	kg non-renewable
	35	kg renewable
Freshwater Consumption	**1.3E+6**	L
Land Use	**120**	m^2-yr

Life cycle impact assessment results

For one square meter of interior wall conforming to the International Building Code for thirty years (1 m^2-30 yr), using TRACI 2.1 Life Cycle Indicators:

Life cycle impact	Total	Stage I: Production	Stage II: Installation	Stage III: Use	Stage IV: End of Life	Units
Climate Change	**220**	190	21	0	5.0	kg CO_2-eq
Acidification	**1.6**	1.4	0.13	0	0.020	kg SO_2-eq
Eutrophication	**0.88**	0.84	7.3E−3	0	0.035	kg N-eq
Ozone Depletion	**8.4E−6**	8.3E−6	8.3E−10	0	1.8E−7	kg CFC-11-eq
Photochemical Smog	**16**	12	3.6	0	0.52	kg O_3-eq
Ecotoxicity	**4100**	2200	56	0	1800	CTUe
Human Health – Air	**0.24**	0.24	2.3E−3	0	1.5E−3	kg $PM_{2.5}$-eq

Note: Results are reported to two significant figures. Impacts by stage may not sum to total due to rounding.

Life cycle inventory information

For one square meter of interior wall conforming to the International Building Code for thirty years:

Inventory Item	Amount	Units
Primary Energy Consumption	2700	MJ renewable
	11	MJ non-renewable
Waste Production	0.017	kg hazardous
	41	kg non-hazardous
Material Resource Consumption	180	kg non-renewable
	35	kg renewable
Freshwater Consumption	1.3E+6	L
Land Use	120	m^2-yr

Hazardous material content

For one square meter of interior wall conforming to the International Building Code for thirty years (at least 0.1% using California DTSC Candidate Chemical List):

Hazardous material	CAS number	Amount (percent)
Aluminum	7429-90-5	23.61%

Additional environmental information

VOC emissions per BIFMA X7.1	passed
Recycled content	73.7% (pre-consumer) 2.3% (post-consumer)