plaxit®
DRY MIX COMPANY L.L.C

ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025 and EN 15804:2012+A2:2019 for
Cement Render/Plasters from PLAXIT Dry Mix Company L.L.C

Programme:	The International EPD® System, www.environdec.com
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An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com

ECO PLATFORM EPD EN 15804 VERIFIED

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Programme Operator:	The International EPD® System EPD International AB Box 210 60 SE-100 31 Stockholm Sweden www.environdec.com info@environdec.com
Geographical Scope:	Middle East
UN CPC Code:	37410 (Plasters)

EPD OWNER

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Programme Information

Programme:	EPD International AB Box 210 60 SE-100 31 Stockholm Sweden www.environdec.com info@environdec.com

Product Category Rules (PCR): Construction Products, 2019:14, Version 1.11

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

EPD process certification ✔ EPD verification

Third party verifier: Professor Vladimír Kocí

Approved by: The International EPD® System

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

Yes ✔ No

The EPD owner has the sole ownership, liability, and responsibility for the EPD. EPDs for construction products are primarily intended for use in B2B communication, but their use in B2C communication under certain conditions is not precluded. For EPDs intended for B2C communication, refer to ISO 14025. EPDs of construction products may not be comparable if they do not comply with EN 15804.

About Company

“PLAXIT“ Is One Of The Largest Manufacturer Of Dry Mix Products Based On Cement, Lime And Gypsum In The Region.

Dry Mix products are defined as factory made quality controlled mixtures of sand, binders and additives which are transported dry to the construction site and applied there after adding water.

In earlier times masonry mortar, render, plaster, screed or adhesive had to be mixed, prepared and processed by hand . These days, modern process technology allows premix of such products in large quantities and consistent quality. Each stage in production is monitored and controlled by visualization, recipe management and various quality control tools.

“PLAXIT” offers 3 types of Delivery systems :

- Paper Bags 25-50 kg

- Jumbo Bags approx. 1 -1.5 ton

- Mini Silos approx. 1 - 2.0 ton

- Silos 12- 20m3, Silos can be refilled by tankers

Based on “Just in Time” management system, “PLAXIT” with its Silo and Silo transport system ensures that Dry mortar is available at the construction site as and when required. The company has unique transport/refilling system in the Middle East to provide mortar on building site at the touch of a button. A team of sales/demonstration engineers is always available for technical assistance and service to the customers on the correct usage of our products.

Product Information

Dry mix plaster/render consisting of OPC, hydrated lime, quality enhancing additives and processed mineral aggregates. Applied with machine on concrete/AAC blocks and concrete background on interiors and exterior walls.

Cementitious plaster as per BS EN 998-1 & ASTM C 926.

Product UN CPC code is 37410 (Plasters).

Cement Render/Plasters

PLAXIT 150	Machine Applied Dry Mix Plaster for Internal and External Walls. Consists of Ordinary Portland Cement, Lime, Chemical Additives and Processed Mineral Aggregates.
PLAXIT 150/1	Machine Applied Lime Free Dry Mix Plaster for Internal and External Walls. Consist of Ordinary Portland Cement, Chemical Additives and Processed Mineral Aggregates.
PLAXIT 152	Machine Applied Dry Mix Plaster for Internal and External Walls. Consists of Ordinary Portland Cement, Lime, Chemical Additives and Processed Mineral Aggregates.
PLAXIT 154	Machine Applied Dry Mix Plaster for Low Strength and Highly Absorbent Substrates. Consist of Ordinary Portland Cement, Chemical Additives and Processed Mineral Aggregates.
PLAXIT 154/1	Machine Applied Lime Free Dry Mix Plaster for Low Strength and Highly Absorbent Substates. Consist of Ordinary Portland Cement, Chemical Additives and Processed Mineral Aggregates.
PLAXIT 159	High Strength Plaster for Rock Work and Landscape Features. Machine Applied or by Hand in Desired Thickness. Consist of Ordinary Portland Cement, Chemical Additives and Processed Mineral Aggregates.
PLAXIT 172	Finishing Thic Coat Plaster for Walls and Ceilings, to Provide Smooth and Uniform Plaster Surface. Consist of Ordinary Portland Cement, Special Chemical Additives and Processed Mineral Aggregates.
PLAXIT 176	Finishing Thin Coat Plaster for Ceilings, to Provide Smooth and Uniform Surface. Consists of Ordinary Portland Cement, Special Chemical Additives and Processed Mineral Aggregates.

Cement Render/Plasters is free from substances of very high concern (SVHC). The product contains no substances from the REACH Candidate list of 19.01.2021.

LCA Information

Declared Unit: 1 kg of Cement Render Plasters

Time Representativeness: 2021

Database(s) and LCA Software Used: Ecoinvent 3.6, SimaPro 9.1

The inventory for the LCA study is based on the 2020 production figures for PLAXIT production plant in United Arab Emirates.

This EPD's system boundary is cradle to gate. The system boundary covers A1 - A4 product stages.

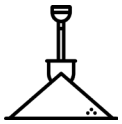
Upstream	Core		Downstream												Otther Environmental Information
Raw Material Supply	Transport	Manufacturing	Transport to Site	Construction Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational Energy Use	Operational Water Use	Deconstruction, demolition	Transport	Waste Processing	Disposal	Future reuse, recycling or energy recovery potentials
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

*ND: Not declared.

System Boundary

A1 . Raw Material Supply

Portland cement



Crushed and graded lime stone aggregate

Hydrated lime

Additives

A2. Transport

Transport of raw materials

A3. Manufacturing

Manufacturing

A4. Transport to Site

Transport of product

System boundary — — —

System Description

A1: Raw Material Supply

PLAXIT uses four main raw materials; portland cement, hydrated Lime, crushed and graded lime stone aggregate and additives. Each raw material consist of several production steps include raw material extraction/preparation and industrial production processes.

A2: Transportation

Additives are supplied from Europe. Except additives, all of other raw materials are supplied from U.A.E.

Transport Data (A2)	
Vehicle Types	Transport, freight, lorry 16-32 metric ton, euro5 {RoW}| market for transport, freight, lorry 16-32 metric ton, EURO5 | Cut-off, S Transport, freight, sea, transoceanic ship
Data Type	Related transport data from Ecoivent 3.6

A3: Manufacturing

PLAXIT produces Cement Renders/Plasters from raw materials and package with paper bags shrink wrapped with PE film and stacked over the wooden pallets. The Cement Render/Plasters are also available in silos (21 m^3), which can be refilled at site using the refilling tankers. While manufacturing there is no raw material waste occurs.

A4: Transport to Site

Cement Renders/Plasters that produced by PLAXIT is transported to site by truck. The average distance from manufacturing facility to site is calculated as 100 km.

Transport Data (A4)	
Vehicle Types	Transport, freight, lorry 16-32 metric ton, euro5 {RoW}| market for transport, freight, lorry 16-32 metric ton, EURO5 | Cut-off, S
Data Type	Related transport data from Ecoivent 3.6

LCA RESULTS

Cement Render Plasters

Environmental Impacts for 1 kg Cement Render Plasters						
Impact category	Unit	A1	A2	A3	A1-A3	A4
GWP - Fossil	kg CO_2 eq	2.84E-01	5.85E-03	2.37E-02	3.13E-01	1.67E-02
GWP - Biogenic	kg CO_2 eq	3.66E-03	1.22E-06	-7.99E-02	-7.63E-02	3.49E-06
GWP - Luluc	kg CO_2 eq	5.69E-05	1.72E-06	4.13E-05	1.00E-04	4.90E-06
GWP - Total	kg CO_2 eq	2.87E-01	5.85E-03	-5.62E-02	2.37E-01	1.67E-02
ODP	kg CFC11 eq	1.21E-08	1.34E-09	2.04E-09	1.55E-08	3.82E-09
AP	mol H+ eq	7.26E-04	2.40E-05	8.59E-05	8.35E-04	6.87E-05
EP - Freshwater	kg P eq	2.23E-05	4.62E-07	4.75E-06	2.75E-05	1.32E-06
EP - Freshwater*	kg PO_4 eq	6.8E-05	14.14E-07	14.54E-06	7.86E-05	4.04E-06
EP - Marine	kg N eq	1.88E-04	7.00E-06	2.37E-05	2.18E-04	2.00E-05
EP - Terrestrial	mol N eq	2.16E-03	7.69E-05	2.65E-04	2.51E-03	2.20E-04
POCP	kg NMVOC eq	5.63E-04	2.34E-05	7.70E-05	6.63E-04	6.69E-05
ADPE	kg Sb eq	1.06E-07	1.73E-08	4.40E-08	1.68E-07	4.93E-08
ADPF	MJ	1.23E+00	8.88E-02	3.78E-01	1.70E+00	2.54E-01
WDP	m^3 depriv.	2.04E-02	6.04E-04	7.69E-03	2.87E-02	1.73E-03
PM	disease inc.	5.87E-09	4.10E-10	2.27E-09	8.55E-09	1.17E-09
IR	kBq U-235 eq	5.23E-03	4.19E-04	1.27E-03	6.92E-03	1.20E-03
ETP - FW	CTUe	4.02E+00	6.35E-02	3.33E-01	4.41E+00	1.81E-01
HTTP - C	CTUh	4.06E-11	1.85E-12	1.37E-11	5.61E-11	5.29E-12
HTTP - NC	CTUh	2.10E-09	7.27E-11	2.49E-10	2.43E-09	2.08E-10
SQP	Pt	3.88E-01	5.96E-02	7.02E+00	7.46E+00	1.70E-01

Acronyms: GWP-total: Climate change, GWP-fossil: Climate change- fossil, GWP-biogenic: Climate change - biogenic, GWP-luluc: Climate change - land use and transformation, ODP: Ozone layer depletion, AP: Acidification terrestrial and freshwater, EP-freshwater: Eutrophication freshwater, EP-marine: Eutrophication marine, EP-terrestrial: Eutrophication terrestrial, POCP: Photochemical oxidation, ADPE: Abiotic depletion - elements, ADPF: Abiotic depletion - fossil resources, WDP: Water scarcity, PM: Respiratory inorganics - particulate matter, IR: Ionising radiation, ETP-FW: Ecotoxicity freshwater, HTP-c: Cancer human health effects, HTP-nc: Non-cancer human health effects, SQP: Land use related impacts, soil quality.

Legend: A1: Raw Material Supply, A2: Transport, A3: Manufacturing, A1-A3: Sum of A1, A2, and A3, A4: Transport to Site, A5: Installation, C1: De-Construction, C2: Waste Transport, C3: Waste Processing, C4: Disposal, D: Benefits and Loads Beyond the System Boundary.

Disclaimer 1: This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and from some construction materials is also not measured by this indicator.

Disclaimer 2: The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experienced with the indicator.

**EP-Freshwater: This indicator has been calculated as "kg P eq" as required in the characterization model. (EUTREND model, Struijs et al, 2009b, as implemented in ReCiPe; http://eplca.jrc.ec.europa.eu/LCDN/developerEF.xhtml)*

Resource Use for 1 kg Cement Render Plasters						
Impact Category	Unit	A1	A2	A3	A1+A3	A4
PERE	MJ	7.33E-02	8.76E-04	1.09E+00	1.16E+00	2.50E-03
PERM	MJ	0	0	0	0	0
PERT	MJ	7.33E-02	8.76E-04	1.09E+00	1.16E+00	2.50E-03
PENRE	MJ	1.23E+00	8.88E-02	3.78E-01	1.70E+00	2.54E-01
PENRM	MJ	0	0	0	0	0
PENRT	MJ	1.23E+00	8.88E-02	3.78E-01	1.70E+00	2.54E-01
SM	kg	0	0	0	0	0
RSF	MJ	0	0	0	0	0
NRSF	MJ	0	0	0	0	0
FW	m^3	1.44E-03	1.50E-05	2.87E-04	1.74E-03	4.30E-05

Waste & Output Flows for 1 kg Cement Render Plasters						
Impact Category	Unit	A1	A2	A3	A1+A3	A4
HWD	kg	0	0	0	0	0
NHWD	kg	0	0	1.25E-03	1.25E-03	0
RWD	kg	0	0	0	0	0
CRU	kg	0	0	0	0	0
MFR	kg	0	0	1.25E-03	1.25E-03	0
MER	kg	0	0	0	0	0
EE (Electrical)	MJ	0	0	0	0	0
EE (Thermal)	MJ	0	0	0	0	0

Acronyms : PERE: Use of renewable primary energy excluding resources used as raw materials, PERM: Use of renewable primary energy resources used as raw materials, PERT: Total use of renewable primary energy, PENRE: Use of non-renewable primary energy excluding resources used as raw materials, PENRM: Use of non-renewable primary energy resources used as raw materials, PENRT: Total use of non-renewable primary energy, SM: Secondary material, RSF: Renewable secondary fuels, NRSF: Non-renewable secondary fuels, FW: Net use of fresh water, HWD: Hazardous waste disposed, NHWD: Non-hazardous waste disposed, RWD: Radioactive waste disposed, CRU: Components for reuse, MFR: Material for recycling, MER: Materials for energy recovery, EE (Electrical): Exported energy electrical, EE (Thermal): Exported energy, Thermal.

Result per functional declared unit		
Biogenic Carbon Content	Unit	A1-A3
Biogenic carbon content in product	kg C	0.013
Biogenic carbon content in packaging	kg C	0.29
Note: It was assumed 50% of the wood packaging material is biogenic carbon.		

References

/GPI/ General Programme Instructions of the International EPD® System. Version 3.0.

/EN ISO 9001/ Quality Management Systems - Requirements

/EN ISO 14001/ Environmental Management Systems - Requirements

/ISO 45001/ Occupational Health & Safety Management System - Requirements

/ISO 14020:2000/ Environmental Labels and Declarations — General principles

/EN 15804:2012+A2:2019/ Sustainability of construction works - Environmental Product Declarations — Core rules for the product category of construction products

/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 (ISO14040:2006) and Requirements and guidelines (ISO 14044:2006)

/PCR for Construction Products and CPC 54 Construction Services/ 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, 2019:14 Version 1.1 DATE 2019-12-20

/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.ecoinvent.org

/SimaPro/ SimaPro LCA Software, Pré Consultants, the Netherlands, www.pre-sustainability.com

/Air emissions is taken from Greenhouse gas reporting: conversion factors 2020 / https://www.gov.uk/ Access Date: 19.03.2021

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