



Tretford Carpet

Tretford Cord Carpet Roll

By Tretford Ltd., at IDA Industrial Park, Cork, Road, Waterford, Ireland

tretford INTERLIFE Roll, Tile and Floorboard

By Weseler Teppich GmbH & Co. KG, Emmelsumer Str 218, Wesel, Germany






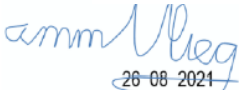

EPD Verification and LCA Details

EPD Scope	Cradle to Gate	
EPD Number	TRD C01 2021EP	
Issue Date	28 th August 2021	
Valid Until	28 th August 2026	

Demonstration of Verification

Standard EN 15804 serves as the core Product Category Rules (PCR)

Independent external verification of the declaration and data according to ISO 14025:2010

- External  26-08-2021 Third Party Verifier^a Murray Jones, Ecquate Pty Ltd
- Internal  26-08-2021 LCA Reviewed by Mathilde Vlieg, VliegLCA
- Internal  29-11-21 EPD Reviewed by David Baggs, Global GreenTag Pty Ltd

a: Optional for business-to-business communication; mandatory for business-to-consumer communication according to EN ISO 14025:2010, 9.4

The EPD is property of declared manufacturer. Different program EPDs may not be comparable as e.g., Australian transport is often more than elsewhere. Comparability is further dependent on the product category rules used and the source of the data. Further explanatory information is found at info@globalgreentag.com or contact: certification1@globalgreentag.com.

This EPD discloses potential environmental outcomes compliant with EN 15804:2012+A2 2019 for business-to-business communication. LCIA results are relative expressions that do not predict impacts on category endpoints, exceeding of thresholds, safety margins or risks.

EPD Program Operator	LCA and EPD Producer	Declaration Owner
Global GreenTag Pty Ltd PO Box 311 Cannon Hill, QLD 4170 Phone: +61 (0)7 33 999 686 http://www.globalgreentag.com	The Evah Institute, Ecquate Pty Ltd PO Box 123 Thirroul NSW Phone: +61 (0)7 5545 0998 http://www.ecquate.com	Weseler Teppich GmbH & Co. KG Emmelsumer Str 218, Wesel, Germany Phone +49 2 818 1910 AUS: +61 7 3881 1777 http://www.tretford.com





Product Information

Product Name	Tretford Cord Carpet																														
Product code	INTERLIFE Roll, INTERLIFE Tile, INTERLIFE Floorboards, Tretford																														
Declared Unit	Declared product per kilogram per square metre																														
Factory warranty	10 years																														
Manufacturing Sites	INTERLIFE carpet is made by Weseler Teppich GmbH & Co. KG, at Emmelsumer Str 218, Wesel, Germany. Tretford Carpet Roll is made by Tretford Ltd at IDA Industrial Park, Cork Road, Waterford, Ireland.																														
Site Representation and Geography	Europe, Australasia, and the Pacific Rim																														
Cut-off criteria and Data quality	Complies with EN 15804:2012+A2 2019																														
Standards	ASISO 9239.1-2003 Reaction to fire tests for floorings Part 1: Determination of the burning behaviour using a radiant heat source																														
Product Specifications	Tretford® fusion bonded corded carpet rolls, and INTERLIFE rolls, tiles and floorboards for commercial, education, residential, multi-residential, retail, hospitality and government interiors																														
Functional & Technical Performance	<table border="1"> <thead> <tr> <th>Product name</th> <th>Cover kg/m²</th> <th>Total height</th> <th>Antis-static rating kV</th> <th>Impact Noise</th> <th>Size cm</th> </tr> </thead> <tbody> <tr> <td>INTERLIFE Tile</td> <td>3.70</td> <td>8mm</td> <td>-1.3</td> <td>24 dB</td> <td>50*50</td> </tr> <tr> <td>INTERLIFE Floorboard</td> <td>3.70</td> <td>8mm</td> <td>-1.3</td> <td>24 dB</td> <td>25*100</td> </tr> <tr> <td>INTERLIFE Roll</td> <td>3.70</td> <td>8mm</td> <td>-1.3</td> <td>22 dB</td> <td>200</td> </tr> <tr> <td>Carpet Roll</td> <td>2.95</td> <td>7.2mm</td> <td>-1.3</td> <td>22 dB</td> <td>200</td> </tr> </tbody> </table>	Product name	Cover kg/m ²	Total height	Antis-static rating kV	Impact Noise	Size cm	INTERLIFE Tile	3.70	8mm	-1.3	24 dB	50*50	INTERLIFE Floorboard	3.70	8mm	-1.3	24 dB	25*100	INTERLIFE Roll	3.70	8mm	-1.3	22 dB	200	Carpet Roll	2.95	7.2mm	-1.3	22 dB	200
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INTERLIFE Roll	3.70	8mm	-1.3	22 dB	200																										
Carpet Roll	2.95	7.2mm	-1.3	22 dB	200																										
Functional Performance in Building	Tretford natural goat hair face fibre cord carpet floorcovering provides physical, thermal and acoustic comfort to occupants. Contract quality has proven performance over 50 years with excellent appearance retention.																														
Range and variability	Significant differences of average LCIA results are declared.																														
Primary Data	Data was collected in accordance with EN ISO 14044:2006, 4.3.2, from primary sources including the manufacturer, suppliers and their publications on standards, locations, logistics, technology, market share, management system and commitment to improved environmental performance.																														
No Chemicals of Very High Concern	Contains no substances in the “Authorised or Candidate Lists of Substances of Very High Concern (SVHCs)” with the European Chemicals Agency.																														



Base Material Origin and Detail

Table 1 lists composition by component, function, source and percentage mass share.

Table 1 Base Material Chemical Analysis

Function	Component	Source	INTERLIFE Tile & Floorboard	Tretford Carpet Roll	INTERLIFE Roll
Adhesive	Polyvinylchloride	UK	>25 <28	>32 <36	>25 <28
Face fibre	Goat hair	China	>21 <22	>24 <26	>21 <22
Adhesive plasticiser	Diocetyl terephthalate	UK	>18 <22	>24 <28	>18 <22
	Epoxidised soybean oil	Global	>1.0<2.0	>1.5 <2.0	>1.0<2.0
Coating	Ethylene vinyl acetate	EU	>14 <15		>14 <15
Face fibre	Solution dyed nylon 6	EU	>10 <11	>4.5 <5.0	>10 <11
Carrier	PCR polyester fleece	EU	>5.5 <6.0		>5.5 <6.0
Backing	Fibreglass fleece	EU	>2.2 <3.0		>2.2 <3.0
	Jute Hessian	India		>9 <10	
Yarn	Rayon viscose	EU	>1.7 <2.0	>1.8 <2.0	>1.7 <2.0
Clay	Basic aluminosilicates	UK	>0.3 <0.4	>0.3 <0.4	>0.3 <0.4
Minor material	Biocide, Dye, Stabiliser	Global	>0.01<1.0	>0.1 <1.0	>0.01<1.0

Program Description

EPD type	Cradle to gate (A1 to A3) as defined by EN 15804 and depicted in Figure 1
System boundary	The system boundary with nature includes material and energy system input processing plus manufacture and transport to factory gate plus waste arising.
Service Life	The reference service life is unspecified for cradle to gate scope.
Comparability	Construction product EPDs may not be comparable if not EN15804 compliant.
Stages included	A1, A2, A3 as depicted and denoted by x in Figure 2
Stages excluded	A4-5, B1-7, C1-1& D as depicted and denoted by MND in Figure 2
Product stages included	Stages are included from A1 raw material acquisition, extraction, refining and processing plus scrap or reuse from prior systems; electricity generated from all sources with extraction, refining & transport plus secondary fuel energy and recovery processes. Also, A2 transport internal and to the factory gate as well as A3 manufacture of product packaging, inputs and ancillary material and system flows leaving at end-of-waste boundary allocated as coproducts.

Information Modules

As Figure 1 shows an x marking LCA and EPD results to be shown for modules A1-3. Modules A4 to C4 and D are marked not declared (MND). This does not indicate zero inventory or impact.

Model Phase	Actual		Scenarios												Potential				
	Produce			Construct		Building Fabric					Building Use		End of life					Beyond Boundary	
Module	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D1, D2	D3	
Unit Operations	Resource supply	Transport	Manufacturing	Transport	Construction	Use	Maintain	Repair	Replace	Refurbish	Operating Energy	Operating Water	Demolish	Transport	Process Waste	Disposal	Reuse	Recovery	Recycling
Cradle to Gate	x	x	x	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

Figure 1 EPD Life Cycle Phases and Stages Cradle to Gate or Grave

System Analysis Scope and Boundaries

Figure 2 shows included processes in a cradle to gate system boundary and excluded scenarios in dashed lines to end of life fate to recycling or to landfill grave.

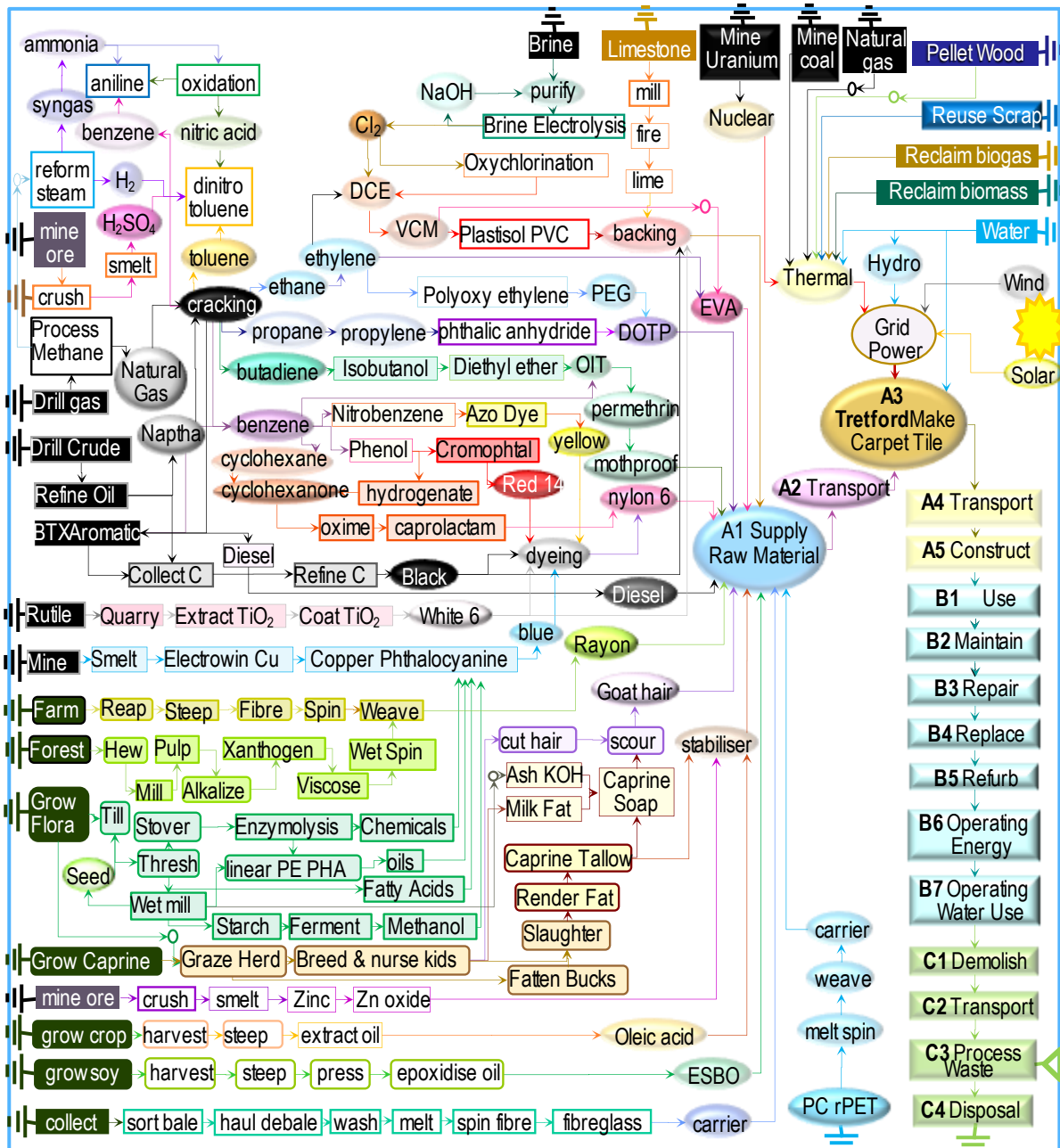


Figure 2 Product Process Flow Chart



Environmental Impact Terminology

Environmental impacts contributing to risks of social and ecological issues and collapse are tabled below with **common names** and remedies given for each indicator.

<p>Global warming potential</p>	<p>Greenhouse gases absorb infra-red radiation. This heat reduces thermal energy differentials, from equator to poles, forcing ocean current and wind circulation to blend and regulate climate. Weakly blended “lumpier” weather has more frequent, extreme heat wave, fire-storm, cyclone, rain-storm, flood and blizzard events. Accumulation of carbon dioxide, natural gas methane, nitrous oxides and volatile organic compounds from burning fossil fuels causes global warming. Forest and wilderness growth absorbing air-borne carbon in biomass can drawdown such accumulation. Urgent renewable energy reliance is vital in time to avoid imminent tipping points and the worsening “climate emergency”.</p>
<p>Ozone depletion potential</p>	<p>Stratospheric ozone layer loss weakens the planet’s solar shield so more shorter wavelength ultraviolet (UVB) light reaching earth increases malignant melanoma and skin cancer in humans and animals, and damages plants. Chlorofluorocarbons, hydrochlorofluorocarbons (HCFC), chlorobromomethane, hydrobromofluorocarbons, carbon tetrachloride, methyl chloroform, methyl bromide and halon gas cause ozone layer loss. To repair the “ozone hole” reliance on ozone-safe refrigerants, aerosols and solvents is essential to avoid its further depletion and enable accumulation of naturally-formed ozone.</p>
<p>Acidification potential of land and water</p>	<p>Acidification of land and water reduces soil and waterway pH, impedes nitrogen fixation vital for plant growth and inhibits natural decomposition. It increases rates and incidence of fish kills, forest loss and deterioration of buildings and materials. Chief synthetic causes of “acid rain” are emissions of sulphur and nitrogen oxides, hydrochloric and hydrofluoric acids and ammonia from burning fossil fuels polluting rain and snow precipitation world-wide.</p>
<p>Eutrophication potential</p>	<p>Eutrophication from excessively high macronutrient levels added to natural waters promotes excessive plant growth that severely reduces oxygen, water and habitat security for aquatic and terrestrial life across related ecosystems. Chief synthetic cause of algal blooms is nitrogen (N, NO_x, NH₄) and phosphorus (P, PO₄³⁻) in rain run-off across over-fertilised land catchments.</p>
<p>Photochemical ozone creation potential</p>	<p>Tropospheric photochemical ozone, called smog, near ground level is created from natural and synthetic compounds in UV sunlight. Low concentration smog damages vegetation and crops. High concentration smog is hazardous to human health. Chief synthetic causes are nitrogen oxides, carbon monoxide and volatile organic compounds (VOC) pollutants. Avoidance of reliance on the dirtiest coal fuels and volatile chemicals has reduced smog incidence globally.</p>
<p>Abiotic depletion potential elements</p>	<p>Abiotic depletion of finite mineral resources increases time, effort and money required to obtain more resources to the point of extinction of naturally viable reserves. This can limit access to available, valuable and scarce elements vital for human-life. The “extinction rebellion” movement calls on adults to secure climate, reserves and biodiversity for current youth and future generations.</p>
<p>Abiotic depletion potential fossil fuel</p>	<p>Abiotic depletion of resources by consuming finite oil, natural gas, coal and yellowcake fossil fuel reserves leaves current and future generations suffering limited available, accessible, plentiful, essential valuable as well as scarce raw material, medicinal and chemical feedstock and fuel stock. Approaching “peak oil” acknowledges fossil fuel reserves are finite and the need for decision-makers to act to avoid market instability, insecurity and or oil and gas wars.</p>



Cradle to Gate Potential Impact and Inventory Results

Table 2 shows LCI and LCIA results/kg declared unit.

Table 2 System LCI and LCIA Results A1-A3/kg

Impact potential categories	Units	INTERLIFE Tile & Floorboard	Tretford Carpet Roll	INTERLIFE Roll
Greenhouse Gas Biogenic Sources	kg CO _{2eq}	-0.96	-1.2	-0.91
Greenhouse Gas Land Use Change	kg CO _{2eq}	2.4E-05	3.0E-05	2.4E-05
Greenhouse Gas Fossil Sources	kg CO _{2eq}	5.43	5.29	5.37
Total Greenhouse Gas	kg CO _{2eq}	4.5	4.1	4.5
Stratospheric Ozone Depletion	kg R11 _{eq}	7.9E-08	9.8E-08	7.9E-08
Photochemical Ozone Creation	kg NMVOC _{eq}	2.5E-02	3.1E-02	2.5E-02
Acidification of Land and Water	kg H _{eq}	1.4E-02	1.2E-02	1.4E-02
Eutrophication Terrestrial	mole P _{eq}	2.1E-02	2.6E-02	2.1E-02
Eutrophication Freshwater	kg P _{eq}	6.2E-05	7.7E-05	6.2E-05
Eutrophication Marine	kg N _{eq}	2.6E-03	3.2E-03	2.6E-03
Abiotic Depletion Fossil Fuel	MJ _{ncv}	4.9	6.0	4.9
Abiotic Depletion Mineral (Elemental)	kg Sb _{eq}	1.3E-03	1.6E-03	1.3E-03
World Water Deprivation Weighted Scarcity	RDW m ³ _{eq}	0.14	0.17	0.14
Input flows				
Net fresh water	m ³	0.88	0.81	0.86
Secondary material	kg	0.24	0.22	0.23
Secondary renewable fuel	MJ _{ncv}	3.2	3.3	3.2
Secondary non-renewable fuel	MJ _{ncv}	1.0	0.51	1.0
Primary renewable energy not feedstock	MJ _{ncv}	7.8	8.7	7.9
Primary renewable feedstock energy	MJ _{ncv}	5.8	10	6.8
Total primary renewable energy use	MJ _{ncv}	14	19	15
Primary energy not renewable or feedstock	MJ _{ncv}	76	73	77
Primary non-renewable feedstock energy	MJ _{ncv}	23	23	24
Total primary non-renewable energy use	MJ _{ncv}	99	97	100
Output flows				
Hazardous waste disposed	kg	6.9E-03	2.6E-03	6.9E-03
Non-hazardous waste disposed	kg	0.60	0.77	0.60
Radioactive waste disposed	kg	1.3E-09	5.8E-10	1.3E-09
Components for reuse	kg	0.37	0.32	0.28
Material for recycling	kg	0.03	0.03	0.09
Material for energy recovery	kg	1.0E-03	7.3E-04	1.0E-03
Exported electrical energy	MJ _{ncv}	0.0E+00	0.0E+00	0.0E+00
Exported thermal energy	MJ _{ncv}	0.0E+00	0.0E+00	0.0E+00



References for this EPD

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ISO 14040:2006 EM: Life cycle assessment (LCA): Principles & framework, London, BSI, 2006.

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ISO 15686-8:2008 Buildings and constructed assets — Service-life planning — Part 8: Reference service life and service-life estimation

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