Statement of Verification

BREG EN EPD No.: 000469 Issue 01

This is to verify that the

Environmental Product Declaration

provided by:

PPG Automotive Refinish

is in accordance with the requirements of:

EN 15804:2012+A2:2019

and

BRE Global Scheme Document SD207

This declaration is for:

Selemix 2K Polyurethane Direct Gloss Topcoat 7-530 / 7-531

Company Address

PPG Automotive Refinish
PPG Italia Business Support srl
Via Comasina 121
Milano, Italy, 20161

Signed for BRE Global Ltd	Emma Baker Operator	30 November 2022 Date of this Issue
30 November 2022 Date of First Issue		29 November 2027 Expiry Date

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Environmental Product Declaration

EPD Number: 000469

General Information

EPD Programme Operator	Applicable Product Category Rules
BRE Global Watford, Herts WD25 9XX United Kingdom	BRE Environmental Profiles 2013 Product Category Rules for Type III environmental product declaration of construction products to EN 15804+A2 PN 514 Rev 3.0
Commissioner of LCA study	**LCA consultant/Tool**
PPG Automotive Refinish PPG Italia Business Support srl Via Comasina 121 Milano, Italy, 20161	William Collinge Life Cycle Assessment Functional Expert PPG Monroeville Business and Technology Center 440 College Park Drive Monroeville , PA 15146 USA
Declared/Functional Unit	**Applicability/Coverage**
PPG Selemix® 2K Polyurethane Direct Gloss Topcoat 7-532/33 to protect 1m² of substrate, suitably prepared, on the basis of two coats of paint at a spreading rate of 6 m^2/L/coat for the lifetime of the coating. The spread weight ranges from 0.40 to 0.44 kg/m^2.	Other (please specify). Highest life cycle impact assessment indicator results among all product variations covered in this EPD
EPD Type	**Background database**
Cradle to Gate with options	Ecoinvent 3.7 and Industry Data 2.0

Demonstration of Verification
CEN standard EN 15804 serves as the core PCR [a]
Independent verification of the declaration and data according to EN ISO 14025:2010 ☐Internal ☒ External
(Where appropriate [b])Third party verifier: Pat Hermon, BRE Global
a: Product category rules b: Optional for business-to-business communication; mandatory for business-to-consumer communication (see EN ISO 14025:2010, 9.4)

Comparability
Environmental product declarations from different programmes may not be comparable if not compliant with EN 15804:2012+A2:2019. Comparability is further dependent on the specific product category rules, system boundaries and allocations, and background data sources. See Clause 5.3 of EN 15804:2012+A2:2019 for further guidance

Information modules covered

Product			Construction		Use stage							End-of-life					Benefits and loads beyond the system boundary
					Related to the building fabric					Related to the building							
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4		D
Raw materials 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		Reuse, Recovery and/or Recycling potential
☑	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	☐	☑	☑	☐	☑		☑

Note: Ticks indicate the Information Modules declared.

Manufacturing site(s)

PPG Industries
Via Comasina, 121,
20161 Milano MI,
Italy

PPG Industries
Needham Rd,
Stowmarket IP14 2AD,
United Kingdom

Construction Product:

Product Description

Selemix 2K Polyurethane Direct Gloss Topcoat 7-530 / 7-531 is a versatile, high solids 2-pack polyurethane (PU) finish that can be applied directly to a variety of substrates without need for a primer, giving a very efficient process. Thanks to its ISO 12944-6 and MED Certification, 7-53X is a true allrounder for many paint jobs in the light industry. Selemix 2K delivers a high-performance single layer system, characterised by ease of application, high film thickness, and very good adhesion on various substrates as bare steel, aluminium, galvanized steel, and fibre reinforced plastic. This EPD covers two gloss levels (530/531) using the highest impact assessment indicator results of 18 custom colour mixes to document applicability of the life cycle assessment.

Technical Information

Property	Value, Unit
Viscosity (at 20°C)	20-35 secs DIN4 depending on application
Pot life (at 20°C)	1-3 hours depending on thinner
Number of coats	2
Flash-off between coats	5-10 mins
Wet film thickness	160-200 microns
Dry film thickness	80-100 microns
Handleable	6-10 hours
Hard dry	16 hours

Property	Value, Unit
Product Density	1.19 – 1.32 kg/L
Spreading weight	0.40-0.44 kg/m^2

Main Product Contents

Material/Chemical Input	%
Additives	10-20%
Biocides	<0.1%
Binders	10-30%
Fillers	5-30%
Glycols, esters and ethers	<5%
Pigments	<0.1-10%
Solvents	30-40%
Titanium dioxide	<0.1-30%
Water	<0.1%

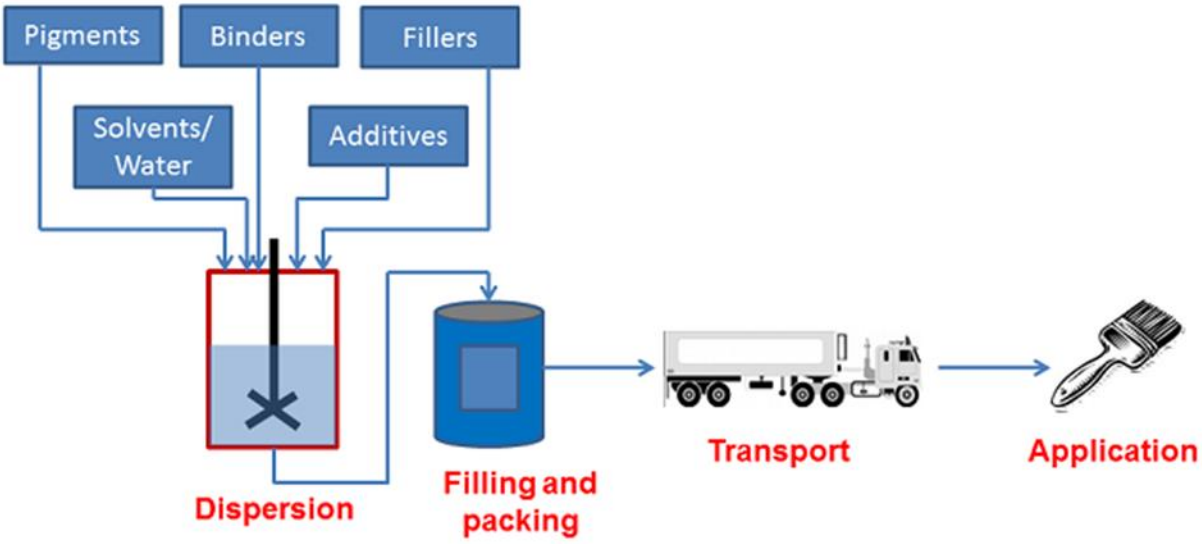
Selemix 2K does not contain any substances listed in the REACH Candidate List of Substances for Very High Concern.

Manufacturing Process

The manufacturing process involves the mixing and dispersing of raw materials into a homogeneous mixture. The product is then packaged for distribution to the customer and finally applied. The components of each product include a binder, various tints, a hardener and a thinner for spray application. The binder and tints are pre-mixed at the point of sale, then the premix, hardener and thinner are transported separately to the application site to be mixed by the customer.

All components are packaged in steel cans, with some of the smaller cans packed into boxes. Boxes or unboxed cans are then stacked on pallets with cardboard interleaves between the layers and wrapped with plastic wrap for shipping.

Process flow diagram



Construction Installation

The products in this declaration are intended for application to a wide variety of industrial surfaces including plain steel, galvanized steel, aluminium, and plastic. For this LCA, the substrate is assumed to be plain steel, and the application method is assumed to be conventional spray at a manufacturing shop location. A loss factor of 30% is assumed, defined as requiring 30% extra product to compensate for overspray. Solids from the overspray are assumed to be disposed of as hazardous waste to incineration without energy recovery. Volatile emissions from the overspray are assumed to be oxidized to CO_2 at the customer's site, in combination with volatile emissions from the drying/curing of the finished coating.

Use Information

No activities are required during the use phase.

End of Life

The end-of-life stage assumes that as the products are for structural steel application and that the final waste destination will be the melting and recycling of the steel for scrap. The paint products are assumed to burn off and are modelled as incinerated with no energy recovery, as the worst-case scenario.

Life Cycle Assessment Calculation Rules

Declared / Functional unit description

Selemix 2K Polyurethane Direct Gloss Topcoat 7-530 / 7-531 to protect and decorate 1m² of substrate, suitably prepared, based on two coats of paint at a spreading rate of 6 m^2/L per coat. The spread weight ranges from 0.40 to 0.44 kg/m^2.

System boundary

The system boundaries of the product LCA follow the modular design defined by EN15804 and the PCR. This cradle-to-gate with options study includes the Product stage (A1-A3), Transport Stage (A4), Installation Stage (A5), Deconstruction/Demolition (C1), End-of-life transport (C2), Disposal (C4), and Benefits and Loads beyond the system boundary (D).

Data sources, quality, and allocation

Formulation is based on the current recipe extracted from PPG recipe systems. Data related to in-house PPG manufacturing processes has been collected from PPG reporting systems for the 2021 calendar year. This is based on recorded utility use and waste disposal and is of high quality.

For life cycle modelling of the process, SimaPro V.9.3 is used. All relevant background datasets are taken from Ecoinvent V3.7 database supplied with SimaPro and are documented in supporting Ecoinvent documentation, or in some cases for raw materials, from the Industry Data 2.0 dataset included with SimaPro. Consumption grid electricity was used in all modelling.

Many Ecoinvent processes, such as waste disposal, are multi-input and not just for the material specified. For these processes the allocation used for the material in question is the one specified in the Ecoinvent process. Allocation of waste to reuse and waste disposal streams is made based on recent data from reliable sources. No allocation has been performed outside that included in the background databases.

Cut-off criteria

Cut off criteria are: 1% of the renewable and non-renewable energy usage 1% of the mass of the process under consideration. The total neglected flows shall be no more than: 5% of the energy usage 5% of the total mass. Exceptions are if flows have significant effects of or energy use in their extraction, use or disposal, or are classed as hazardous waste, then these are specifically included. In this study the cut-off criteria has not been applied.

LCA Results

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Parameters describing environmental impacts									
			GWP-total	GWP-fossil	GWP-biogenic	GWP-luluc	ODP	AP	EP-freshwater
			kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CO_2 eq	kg CFC11 eq	mol H^+ eq	kg $(PO_4)^{3-}$ eq
Product stage	Raw material supply	A1	AGG	AGG	AGG	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG	AGG	AGG	AGG
	Total (Consumption grid)	A1-3	1.42E+00	1.40E+00	6.17E-03	8.88E-02	2.75E-07	1.01E-02	8.26E-05
Construction process stage	Transport	A4	1.20E-01	1.20E-01	4.80E-05	4.72E-05	2.78E-08	4.88E-04	8.42E-07
	Construction	A5	1.42E+00	1.41E+00	2.49E-03	2.67E-02	8.86E-08	3.21E-03	2.47E-05
Use stage	Use	B1	MND	MND	MND	MND	MND	MND	MND
	Maintenance	B2	MND	MND	MND	MND	MND	MND	MND
	Repair	B3	MND	MND	MND	MND	MND	MND	MND
	Replacement	B4	MND	MND	MND	MND	MND	MND	MND
	Refurbishment	B5	MND	MND	MND	MND	MND	MND	MND
	Operational energy use	B6	MND	MND	MND	MND	MND	MND	MND
	Operational water use	B7	MND	MND	MND	MND	MND	MND	MND
End of life	Deconstruction, demolition	C1	7.89E-05	7.89E-05	1.87E-08	9.84E-09	1.68E-11	8.00E-07	3.99E-10
	Transport	C2	1.09E-05	1.09E-05	4.37E-09	4.29E-09	2.53E-12	4.43E-08	7.66E-11
	Waste processing	C3	MND	MND	MND	MND	MND	MND	MND
	Disposal	C4	6.29E-01	6.29E-01	3.53E-06	1.70E-06	5.73E-10	5.49E-05	6.41E-08
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

GWP-total = Global warming potential, total;
GWP-fossil = Global warming potential, fossil;
GWP-biogenic = Global warming potential, biogenic;
GWP-luluc = Global warming potential, land use and land use change;

ODP = Depletion potential of the stratospheric ozone layer;
AP = Acidification potential, accumulated exceedance; and
EP-freshwater = Eutrophication potential, fraction of nutrients reaching freshwater end compartment

LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Parameters describing environmental impacts									
			EP-marine	EP-terrestrial	POCP	ADP-mineral&metals	ADP-fossil	WDP	PM
			kg N eq	mol N eq	kg NMVOC eq	kg Sb eq	MJ, net calorific value	m^3 world eq deprived	disease incidence
Product stage	Raw material supply	A1	AGG	AGG	AGG	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG	AGG	AGG	AGG
	Total (Consumption grid)	A1-3	1.51E-03	1.27E-02	4.13E-03	7.34E-05	3.07E+01	8.49E-01	6.64E-08
Construction process stage	Transport	A4	1.45E-04	1.61E-03	3.98E-04	4.18E-07	1.82E+00	5.44E-03	8.31E-09
	Construction	A5	4.97E-04	4.50E-03	1.40E-03	2.21E-05	9.80E+00	2.56E-01	2.28E-08
Use stage	Use	B1	MND	MND	MND	MND	MND	MND	MND
	Maintenance	B2	MND	MND	MND	MND	MND	MND	MND
	Repair	B3	MND	MND	MND	MND	MND	MND	MND
	Replacement	B4	MND	MND	MND	MND	MND	MND	MND
	Refurbishment	B5	MND	MND	MND	MND	MND	MND	MND
	Operational energy use	B6	MND	MND	MND	MND	MND	MND	MND
	Operational water use	B7	MND	MND	MND	MND	MND	MND	MND
End of life	Deconstruction, demolition	C1	3.50E-07	3.84E-06	9.22E-07	5.78E-11	1.08E-03	2.28E-06	2.10E-11
	Transport	C2	1.32E-08	1.46E-07	3.62E-08	3.80E-11	1.65E-04	4.95E-07	7.56E-13
	Waste processing	C3	MND	MND	MND	MND	MND	MND	MND
	Disposal	C4	2.47E-05	2.73E-04	6.48E-05	1.70E-08	5.57E-02	-2.30E-03	4.19E-10
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

EP-marine = Eutrophication potential, fraction of nutrients reaching marine end compartment;
EP-terrestrial = Eutrophication potential, accumulated exceedance;
POCP = Formation potential of tropospheric ozone;
ADP-mineral&metals = Abiotic depletion potential for non-fossil resources;
ADP-fossil = Depletion potential of the stratospheric ozone layer;
WDP = Water (user) deprivation potential, deprivation-weighted water consumption; and
PM = Particulate matter.

LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Parameters describing environmental impacts							
			IRP	ETP-fw	HTP-c	HTP-nc	SQP
			kBq U^{235} eq	CTUe	CTUh	CTUh	dimensionless
Product stage	Raw material supply	A1	AGG	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG	AGG
	Total (Consumption grid)	A1-3	1.06E-01	3.93E+01	2.26E-09	5.31E-08	2.46E+01
Construction process stage	Transport	A4	7.89E-03	1.42E+00	4.59E-11	1.48E-09	1.82E+00
	Construction	A5	3.40E-02	1.21E+01	9.53E-10	1.72E-08	7.30E+00
Use stage	Use	B1	MND	MND	MND	MND	MND
	Maintenance	B2	MND	MND	MND	MND	MND
	Repair	B3	MND	MND	MND	MND	MND
	Replacement	B4	MND	MND	MND	MND	MND
	Refurbishment	B5	MND	MND	MND	MND	MND
	Operational energy use	B6	MND	MND	MND	MND	MND
	Operational water use	B7	MND	MND	MND	MND	MND
End of life	Deconstruction, demolition	C1	4.50E-06	6.94E-04	4.00E-14	5.04E-13	7.32E-05
	Transport	C2	7.17E-07	1.29E-04	4.18E-15	1.35E-13	1.65E-04
	Waste processing	C3	MND	MND	MND	MND	MND
	Disposal	C4	1.05E-04	1.66E-01	8.08E-10	2.45E-09	2.99E-02
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

IRP = Potential human exposure efficiency relative to U235;
ETP-fw = Potential comparative toxic unit for ecosystems;
HTP-c = Potential comparative toxic unit for humans;
HTP-nc = Potential comparative toxic unit for humans; and
SQP = Potential soil quality index.

LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Parameters describing resource use, primary energy								
			PERE	PERM	PERT	PENRE	PENRM	PENRT
			MJ	MJ	MJ	MJ	MJ	MJ
Product stage	Raw material supply	A1	AGG	AGG	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG	AGG	AGG
	Total (Consumption grid)	A1-3	2.40E+00	0.00E+00	2.40E+00	2.33E+01	7.44E+00	3.06E+01
Construction process stage	Transport	A4	2.56E-02	0.00E+00	2.56E-02	1.82E+00	0.00E+00	1.82E+00
	Construction	A5	6.76E-01	0.00E+00	6.76E-01	7.60E+00	2.22E+00	9.78E+00
Use stage	Use	B1	MND	MND	MND	MND	MND	MND
	Maintenance	B2	MND	MND	MND	MND	MND	MND
	Repair	B3	MND	MND	MND	MND	MND	MND
	Replacement	B4	MND	MND	MND	MND	MND	MND
	Refurbishment	B5	MND	MND	MND	MND	MND	MND
	Operational energy use	B6	MND	MND	MND	MND	MND	MND
	Operational water use	B7	MND	MND	MND	MND	MND	MND
End of life	Deconstruction, demolition	C1	8.98E-06	0.00E+00	8.98E-06	1.08E-03	0.00E+00	1.08E-03
	Transport	C2	2.33E-06	0.00E+00	2.33E-06	1.65E-04	0.00E+00	1.65E-04
	Waste processing	C3	MND	MND	MND	MND	MND	MND
	Disposal	C4	1.53E-03	0.00E+00	1.53E-03	5.57E-02	0.00E+00	5.57E-02
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

PERE = Use of renewable primary energy excluding renewable primary energy used as raw materials;
PERM = Use of renewable primary energy resources used as raw materials;
PERT = Total use of renewable primary energy resources;
PENRE = Use of non-renewable primary energy excluding non-renewable primary energy 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 resource

LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Parameters describing resource use, secondary materials and fuels, use of water						
			SM	RSF	NRSF	FW
			kg	MJ net calorific value	MJ net calorific value	m^3
Product stage	Raw material supply	A1	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG
	Total (Consumption grid)	A1-3	0.00E+00	0.00E+00	8.70E-04	2.24E-02
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	2.56E-04
	Construction	A5	0.00E+00	0.00E+00	2.61E-04	6.84E-03
Use stage	Use	B1	MND	MND	MND	MND
	Maintenance	B2	MND	MND	MND	MND
	Repair	B3	MND	MND	MND	MND
	Replacement	B4	MND	MND	MND	MND
	Refurbishment	B5	MND	MND	MND	MND
	Operational energy use	B6	MND	MND	MND	MND
	Operational water use	B7	MND	MND	MND	MND
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	1.08E-07
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	2.32E-08
	Waste processing	C3	MND	MND	MND	MND
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	5.26E-05
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	0.00E+00

SM = Use of secondary material;
RSF = Use of renewable secondary fuels;
NRSF = Use of non-renewable secondary fuels;
FW = Net use of fresh water

LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Other environmental information describing waste categories					
			HWD	NHWD	RWD
			kg	kg	kg
Product stage	Raw material supply	A1	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG
	Total (Consumption grid)	A1-3	1.79E-01	4.98E+00	1.31E-04
Construction process stage	Transport	A4	1.31E-03	1.04E-01	1.23E-05
	Construction	A5	7.99E-02	1.55E+00	4.32E-05
Use stage	Use	B1	MND	MND	MND
	Maintenance	B2	MND	MND	MND
	Repair	B3	MND	MND	MND
	Replacement	B4	MND	MND	MND
	Refurbishment	B5	MND	MND	MND
	Operational energy use	B6	MND	MND	MND
	Operational water use	B7	MND	MND	MND
End of life	Deconstruction, demolition	C1	1.43E-06	6.67E-06	7.20E-09
	Transport	C2	1.19E-07	9.44E-06	1.12E-09
	Waste processing	C3	MND	MND	MND
	Disposal	C4	1.43E-02	2.98E-03	1.36E-07
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00

HWD = Hazardous waste disposed;
NHWD = Non-hazardous waste disposed;
RWD = Radioactive waste disposed

LCA Results (continued)

(MND = module not declared; MNR = module not relevant; INA = indicator not assessed; AGG = aggregated)

Other environmental information describing output flows – at end of life								
			CRU	MFR	MER	EE	Biogenic carbon (product)	Biogenic carbon (packaging)
			kg	kg	kg	MJ per energy carrier	kg C	kg C
Product stage	Raw material supply	A1	AGG	AGG	AGG	AGG	AGG	AGG
	Transport	A2	AGG	AGG	AGG	AGG	AGG	AGG
	Manufacturing	A3	AGG	AGG	AGG	AGG	AGG	AGG
	Total (Consumption grid)	A1-3	0.00E+00	1.31E-07	0.00E+00	0.00E+00	0.00E+00	8.92E-03
Construction process stage	Transport	A4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Construction	A5	0.00E+00	3.93E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use stage	Use	B1	MND	MND	MND	MND	MND	MND
	Maintenance	B2	MND	MND	MND	MND	MND	MND
	Repair	B3	MND	MND	MND	MND	MND	MND
	Replacement	B4	MND	MND	MND	MND	MND	MND
	Refurbishment	B5	MND	MND	MND	MND	MND	MND
	Operational energy use	B6	MND	MND	MND	MND	MND	MND
	Operational water use	B7	MND	MND	MND	MND	MND	MND
End of life	Deconstruction, demolition	C1	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Transport	C2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	Waste processing	C3	MND	MND	MND	MND	MND	MND
	Disposal	C4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Potential benefits and loads beyond the system boundaries	Reuse, recovery, recycling potential	D	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

CRU = Components for reuse;
MFR = Materials for recycling

MER = Materials for energy recovery;
EE = Exported Energy

Scenarios and additional technical information

Scenarios and additional technical information			
Scenario	Parameter	Units	Results
A4 – Transport to the building site	Transport to the construction site is assumed to occur by heavy duty lorry.		
	Transport by Lorry	Litre of fuel type per distance or vehicle type	EURO5, 16-32t, diesel
	Distance:	km	1440
	Capacity utilisation (incl. empty returns)	%	50
	Bulk density of transported products	kg/m^3	1250
A5 – Installation in the building	The product is assumed to be applied by conventional spray at a manufacturing shop location. A loss factor of 30% is assumed, defined as requiring 30% extra product to compensate for overspray. Solids from the overspray are assumed to be disposed of as hazardous waste to incineration without energy recovery. Volatile emissions from the overspray are assumed to be oxidized to CO2 at the customer's site, in combination with volatile emissions from the drying/curing of the finished coating. Waste packaging from the material is assumed to be disposed of by a combination of recycling, incineration (without energy recovery) and landfill.		
	Disposal of solids from overspray to incineration	kg	0.072
	Disposal of steel cans to incineration	kg	0.029
	Disposal of steel cans to landfill	kg	0.012
	Disposal of plastic pallet wrap to incineration	kg	1.51E-4
	Disposal of plastic pallet wrap to landfill	kg	6.35E-5
	Recycling of paper from cardboard box packaging and pallet interleaves	kg	9.02E-4
	Disposal of paper from cardboard box packaging and pallet interleaves to incineration	kg	1.69E-4
	Disposal of paper cardboard box packaging and pallet interleaves to landfill	kg	7.10E-5
	Disposal of pallets to incineration	kg	8.63E-3
	Disposal of pallets to landfill	kg	0.3.63E-3
	Transport distance to incineration/landfill	kg	100/30
	Carbon dioxide emissions from combustion of VOCs from applied product and overspray	kg	0.699
Reference service life	The service life is highly dependent on the environment in which the product is installed. Hence the EPD gives values for the first application of the coating for the lifetime applicable to the coating in the environment in which it is used.		
C1 to C4 End of life,	The product is deconstructed from the building with the steel substrate to which it was applied. The steel is melted down for scrap and the coating product is burned (incinerated without energy recovery) in the process.		
	Transport distance to incineration	km	100
	Amount disposed at end of life	kg	0.56

Scenarios and additional technical information			
Scenario	Parameter	Units	Results
Module D	The project system was analyzed for any benefits or loads beyond the system boundary, but none were found to occur.		

Summary, comments and additional information

Interpretation of results

Figure 1 shows the relative contributions of each module to the overall impact for Global Warming Potential (GWP) and other indicators for each product considered in this report. The main contributions to GWP are from the raw materials (A1), application (A5) and end-of-life (C4). Raw materials tend to contribute significantly to most impact indicators for paints, since paints are close to the end of the chemical value chain, and as such much of the expenditure of energy, raw materials, processing, waste processing, etc. in bringing the product to existence has occurred prior to the entry of the raw materials onto the PPG production site. However, Stage C4 has the highest impact for all of the products in this category, as a result of the incineration of overspray and the oxidization of VOCs in the wet paint as it dries and cures. Stage A5 also has a significant contribution due to the modelling of paint solids as incinerated during the recycling process for the steel substrate.

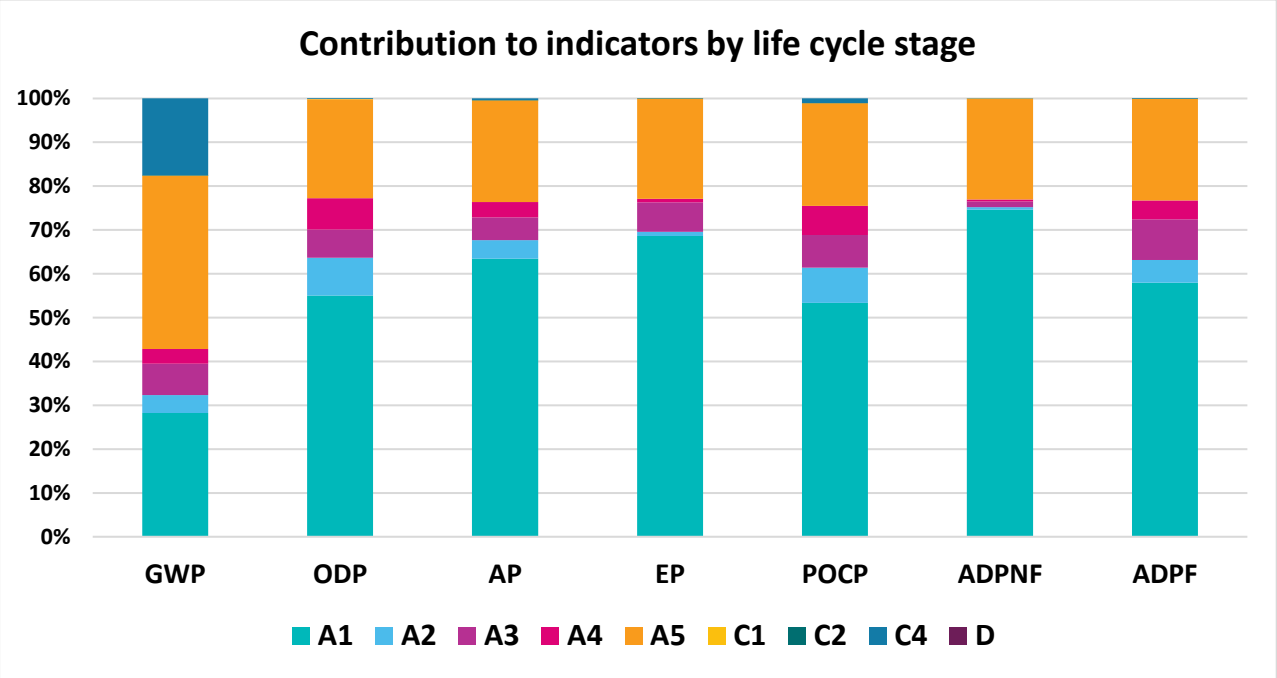


Figure 1

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