

**Rakennustietosäätiö RTS**    **RTS EPD,**  
**Building Information**    **Water-borne exterior paints**  
**Foundation RTS**

## RAKENNUSTIETO >

### Scope of the declaration

This environmental product declaration covers the environmental impacts of Teknos water-borne exterior paints and coatings. The declaration has been prepared in accordance with EN 15804:2012+A1:2013 and ISO 14025 standards and the additional requirements stated in the RTS PCR (English version, 2.6.2016). This declaration covers the life cycle stages from cradle-to-gate.

10.03.2016  
Building Information Foundation  
RTS  
Malminkatu 16 A  
00100 Helsinki  
<http://epd.rts.fi>

Committee secretary

RTS managing director



## General information, declaration scope and verification (7.1)

### 1. Owner of the declaration, manufacturer

Teknos Oy  
Takkatie 3, PL 107, 00371 Helsinki, Finland  
Tero Rönkä  
+358 9 506 091  
tero.ronka@teknos.fi

### 2. Product name and number

Water-borne exterior paints and coatings

### 3. Place of production

Rajamäki, Finland

### 4. Additional information

<http://www.teknos.com/>

### 5. Product Category Rules and the scope of the declaration

This EPD has been prepared in accordance with EN 15804:2012+A1:2013 and ISO 14025 standards together with the RTS PCR (English version, 2.6.2016). Product specific category rules have not been applied in this EPD. EPD of construction materials may not be comparable if they do not comply with EN 15804 and seen in a building context. This EPD represents environmental impacts of water-borne exterior paints and coatings produced in Rajamäki plant, Finland.

### 6. Author of the life-cycle assessment and declaration

Bionova Engineering, MSc Anni Oviir. Hämeentie 31, 00500  
Rakennustietosäätiö RTS Building Information Foundation

### 7. Verification

This EPD has been verified according to the requirements of ISO 14025:2010, EN 15804:2012+A1:2013 and RTS PCR by a third party. The verification has been carried out by Bionova Ltd, Rodrigo Castro, according to the above-mentioned PCR. Hämeentie 31, 00500 Helsinki, Finland +358 404826648 [www.bionova.fi](http://www.bionova.fi)

### 8. Declaration issue date and validity

09.04.2018 - 09.04.2023

**European standard EN 15804: 2014 A1 serves as the core PCR**

Independent verification of the declaration and data, according to ISO14025:2010

Internal

External

Third party verifier:

Rodrigo Castro (PhD), Bionova Ltd

## Product information

### 9. Product description

This EPD covers a range of high-quality water-borne Teknos paints, wood stains and wood oils for decorating, protecting and priming wooden and mineral exterior facades, sheet iron and mineral roofs and other structures in outbuildings. The products are designed to meet variable requirements of professional painters and DIYs concerning durability, washability and environmental sustainability. The main market area of the product is Europe. This EPD is representing environmental impacts of an average Teknos water-borne exterior paint based on production data. The EPD is representing environmental impacts of the products:

#### **AKRYLIN**

Semi-matt house paint for wooden surfaces for exterior use. For new and previously with acrylate and oil paint painted wooden surfaces and for industrially primed and/or undercoated wooden surfaces, e.g. exterior walls, facial boards and weather boards outdoors.

#### **FERREX AQUA**

Anticorrosive paint for exterior and interior use. For iron and steel surfaces as well as aluminium. Also for zinc-coated (galvanized) surfaces as well as on prefabrication primers.

#### **FÖNSTERFÄRG AQUA**

Semi-gloss paint for exterior use. New, previously treated, pressure impregnated or previously oil painted windows, doors, moldings etc.

#### **KIRJO AQUA**

Matt paint for sheet-iron roofs for exterior use. Suitable for new unpainted zinc coated/galvanized sheet-iron and for maintenance painting of sheet-iron roofs which are previously painted with alkyd or acrylate paints. Can also be used for maintenance painting of industrially paint coated sheet steel: polyurethane, PURAL, PUREX, polyester, acrylic and PVC-Plastisol coatings.

#### **KIRJO TILE**

Full-matt paint for tile roofs for exterior use. For maintenance painting of concrete tiles. Suitable for both industrially painted and throughout dyed concrete and cement roof tiles.

#### **JRM-EDGES**

Semi-matt paint for wood ends for exterior and interior use. For painting and protecting edges of building timber: building logs, pillars and glulam beams.

#### **NORDICA EKO**

Gloss house paint for wooden surfaces for exterior use. For new and previously with acrylate and oil paint painted wooden surfaces and for industrially primed and/or undercoated wooden surfaces, e.g. exterior walls, facial boards and weather boards outdoors.

#### **NORDICA MATT**

Full-matt house paint for wooden surfaces for exterior use. For new and previously with acrylate and oil paint painted wooden surfaces and for industrially primed and/or undercoated wooden surfaces, e.g. exterior walls, facial boards and weather boards outdoors.

#### **NORDICA PRIMER**

Full-matt priming paint for wooden surfaces for exterior use. Walls, doors etc. wooden surfaces outdoors, when they are going to be top coated with acrylate, alkyd or oil paints.

#### **PANU**

Semi-matt house paint for wooden surfaces for exterior use. For new and previously with acrylate and oil paint painted wooden surfaces and for industrially primed and/or undercoated wooden surfaces, e.g. exterior walls, facial boards and weather boards outdoors.

#### **PUNAMAALI**

Full-matt red ochre paint for wooden surfaces for exterior use. For unpainted sawn plank surfaces, rough log surfaces and surfaces painted previously with linseed oil based red ochre paint.

#### **RIIHI**

Full-matt paint for wooden surfaces for exterior use. For sawed wood and for rough log surfaces outdoors.

#### **SAKU**

Matt paint for concrete socle walls for exterior use. Intended for painting socles and concrete buttresses.



### **SILIKATFÄRG**

Full-matt paint for mineral surfaces for exterior and interior use. For painting of lime plaster, lime cement plaster and cement plaster as well as concrete, cement fibre board and lime-sand brick. Can also be used for maintenance painting of surfaces previously painted with lime paint, lime cement paint, cement paint or silicate paint.

### **SILIKATBINDER**

Primer for mineral surfaces for exterior and interior use. For pretreatment and priming of mineral surfaces which will be painted with SILIKATFÄRG silicate paint.

### **SILOKSAN ANTI-CARB**

Matt paint for mineral facades for exterior use. New and previously painted mineral facades outdoors, e.g. concrete, plaster, lime-sand brick and mineral boards.

### **SILOKSAN BINDER**

Priming agent for mineral facades for exterior use. For priming of porous, water absorbing mineral surfaces before top coating with e.g. SILOKSAN FACADE or SILOKSAN ANTI-CARB paint.

### **SILOKSAN CAVE**

Dust binder paint for walls and ceilings for interior and exterior use. For painting caverns, unheated interior spaces, as well as walls and ceilings in exterior locations which are protected from weather. Application on concrete surfaces, filler, building boards etc.

### **SILOKSAN FAÇADE**

Full-matt paint for mineral facades for exterior use. New and previously painted mineral facades, e.g. concrete, plaster, lime-sand brick and mineral boards.

### **SILOKSAN GEL**

For use together with SILOKSAN FACADE Silicone Emulsion Paint on mineral surfaces.

### **SILOKSAN SOCLE**

Full-matt coating for socle walls for exterior use. Outdoors on new and old mortar-finished block socles. Can also be used for previously painted socles.

### **TALOMAALI**

Semi-matt house paint for wooden surfaces for exterior use. For new and previously with acrylate and oil paint painted wooden surfaces and for industrially primed and/or undercoated wooden surfaces, e.g. exterior walls, facial boards and weather boards outdoors.

### **TEKNOSTONE**

Protective agent for exterior and interior use. For porous rock material surfaces, such as roof tiles, stone pavings, concrete socles and other porous mineral surfaces.

### **VISA**

Semi-matt opaque wood stain for exterior use. To be used for renewed treatment of old, faded wood stain surfaces and, also when a uniform colour is desired on old and new wood stain surfaces. Suitable also for use on new and press-impregnated wood as well as for log surfaces.

### **VISA PREMIUM**

Gloss opaque wood stain for exterior use. To be used for renewed treatment of old, faded wood stain surfaces and, also when a uniform colour is desired on old and new wood stain surfaces. Suitable also for use on new and press-impregnated wood as well as for log surfaces.

### **WINTEROL**

Full-matt paint for mineral facades for exterior use. New and previously with alkyd or acrylate paints painted mineral surfaces outdoors, e.g. concrete, plaster, lime-sand brick and mineral boards.

### **WOODEX AQUA BASE**

Wood preservative for exterior use. For treatment of wooden surfaces outdoors before top coating is applied. Priming on planked and log surfaces, porches, jetties, garden furniture and similar untreated wooden surfaces. Use biocides safely. Always read the label and product information before use.

### **WOODEX AQUA CLASSIC**

Transparent wood stain for exterior use. New wood and wood previously treated with non-film-forming wood stain, e.g. walls, doors, window frames, fences and poles outdoors.

### **WOODEX AQUA SOLID**

Semi-matt opaque wood stain for exterior use. To be used for renewed treatment of old, faded wood stain surfaces and, also when a uniform colour is desired on old and new wood stain surfaces. Suitable also for use on new and press-impregnated wood as well as for log surfaces.



### **WOODEX AQUA WOOD OIL**

Wood oil for exterior use. Used for garden furniture made of pine and exotic wood sorts, for example teak, hardwood, oak and mahogany. Other suitable objects are jetties, fences, trellises and doors.

### **WOODEX EKO**

Transparent special wood stain for exterior use. New and previously with transparent wood stain treated wooden surfaces outdoors, e.g. planked and log walls, weatherboards, doors, window frames and fences. Also, suitable for treatment of press-impregnated wood.

## **10. Technical specifications**

The product consists of the following materials: binders, water, fillers, pigments, solvents and fungicides. Average coverage is 6-10 m<sup>2</sup>/L. Practical spreading rate depends on surface quality and application method. The average density of the product is 1.20 kg/l.

## **11. Product standards**

EN 13163:2015 Thermal insulation products for buildings

## **12. Physical properties**

Detailed physical properties for all Teknos interior paints are available at <http://www.teknos.com/decorative-paints/>.

## **13. Raw-materials of the product**

<b>Product structure / composition / raw-material</b>	<b>Amount %</b>
Binders	44-46%
Water	26-28%
Fillers	10-12%
Pigments	7-9%
Solvents	1-2%
Fungicides	<1%

## **14. Substances under European Chemicals Agency's REACH, SVHC restrictions**

<b>Name</b>	<b>EC Number</b>	<b>CAS Number</b>
Binders and thickeners include CIT/MIT (less than 10 ppm of the total raw materials)	611-341-5	55965-84-9

## 15. Functional / declared unit

1 liter

## 16. System boundary

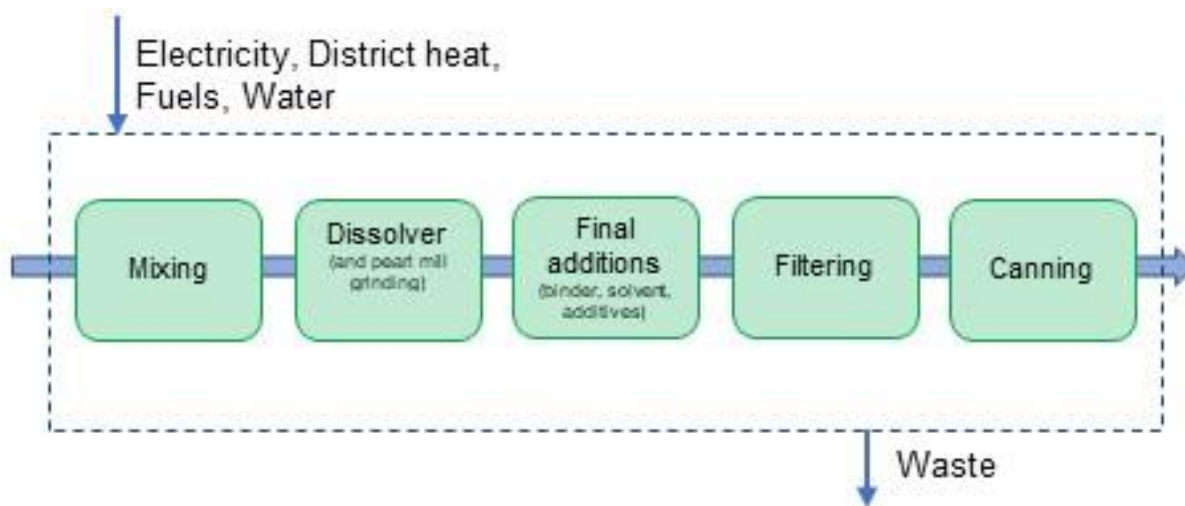
This EPD covers the following modules; A1 (Raw material supply), A2 (Transport), A3 (Manufacturing)

## 17. Cut-off criteria

All main flows of production materials, energy and packing have been included. The results have been provided as an aggregate of A1-A3 life cycle stages. The study excludes some minor raw materials which contribute less than 0.2 w% of the total raw materials mass. The total amount of excluded raw materials is less than 5% as per the requirements of EN 15804. The study does not exclude any hazardous materials or substances. The transportation module (A4) has been excluded since the impacts of the module are remarkably smaller (less than 20%) from the A1-A3 modules as per RTS PCR requirements.

## 18. Production process

The product is manufactured from raw materials, that are transported to the Teknos plant from different locations. The materials are mixed after which the substance is treated in dissolver and pearl mix grinding. The binder, solvents, additives are added and product is filtered. Final process is canning.



## Scope of the Life-Cycle Assessment (7.2.1-2)

Mark all the covered modules of the EPD with X. Mandatory modules are marked with blue in the table below. This declaration covers "cradle-to-gate with options". For other fields mark MND (module not declared) or MNR (module not relevant)

Product stage			Assembly stage		Use stage							End of life stage				Beyond the system boundaries		
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D	D	D
x	x	x	MNR	MND	MND	MND	MND	MND	MND	MND	MND	MNR	MNR	MNR	MNR	MNR	MNR	MNR
Raw materials	Transport	Manufacturing	Transport	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse	Recovery	Recycling

	Mandatory modules
	Mandatory as per the RTS PCR section 6.2.1 rules and terms
	Optional modules based on scenarios

## Environmental impacts and raw-material use (7.2.3-7.2.4)

### 19. Environmental impacts

The results of a life cycle assessment are relative. They do not predict impact on category endpoints, exceeding of limit values, safety margins, or risks. The impacts are presented per declared unit, 1 liter of product. The impacts are mainly caused by the raw material production process (A1).

Environmental impact								
Parameter	Unit	A1-A3	A4	C1	C2	C3	C4	D
Global warming potential	kg CO <sub>2</sub> -eqv	2,1E0	MND	MND	MND	MND	MND	MND
Depletion of stratospheric ozone layer	kg CFC11-eqv	3,98E-7	MND	MND	MND	MND	MND	MND
Formation of photochemical ozone	kg C <sub>2</sub> H <sub>4</sub> -eqv	1,41E-3	MND	MND	MND	MND	MND	MND
Acidification	kg SO <sub>2</sub> -eqv	1,91E-2	MND	MND	MND	MND	MND	MND
Eutrophication	kg PO <sub>4</sub> 3--eqv	2,9E-3	MND	MND	MND	MND	MND	MND
Abiotic depletion of non fossil resources	kg Sb-eqv	1,27E-4	MND	MND	MND	MND	MND	MND
Abiotic depletion of fossil resources	MJ	3,48E1	MND	MND	MND	MND	MND	MND

## 20. Use of natural resources

Resource use								
Parameter	Unit	A1-A3	A4	C1	C2	C3	C4	D
Renewable primary energy resources used as energy carrier	MJ	1,47E0	MND	MND	MND	MND	MND	MND
Renewable primary energy resources used as raw materials	MJ	6,5E-1	MND	MND	MND	MND	MND	MND
Total use of renewable primary energy resources	MJ	2,12E0	MND	MND	MND	MND	MND	MND
Nonrenewable primary energy resources used as energy carrier	MJ	3,78E1	MND	MND	MND	MND	MND	MND
Nonrenewable primary energy resources used as materials	MJ	4,27E0	MND	MND	MND	MND	MND	MND
Total use of nonrenewable primary energy resources	MJ	4,2E1	MND	MND	MND	MND	MND	MND
Use of secondary materials	kg	1,06E-2	MND	MND	MND	MND	MND	MND
Use of renewable secondary fuels	MJ	2,4E-3	MND	MND	MND	MND	MND	MND
Use of nonrenewable secondary fuels	MJ	1,96E-4	MND	MND	MND	MND	MND	MND
Use of net fresh water	m <sup>3</sup>	2,59E0	MND	MND	MND	MND	MND	MND

## 21. End of life - Waste

Waste								
Parameter	Unit	A1-A3	A4	C1	C2	C3	C4	D
Hazardous waste	kg	2,78E-2	MND	MND	MND	MND	MND	MND
Non-hazardous waste	kg	1,08E-1	MND	MND	MND	MND	MND	MND
Radioactive waste	kg	1,19E-4	MND	MND	MND	MND	MND	MND

## 22. End of life - Output flow

Output flow								
Parameter	Unit	A1-A3	A4	C1	C2	C3	C4	D
Components for reuse	kg	7,91E-5	MND	MND	MND	MND	MND	MND
Materials for recycling	kg	1,35E-2	MND	MND	MND	MND	MND	MND
Materials for energy recovery	kg	2,35E-2	MND	MND	MND	MND	MND	MND
Exported energy	MJ	5,97E-5	MND	MND	MND	MND	MND	MND



## Scenarios and additional technical information (7.3)

### 23. Electricity in the manufacturing phase (7.3.A3)

Object	Value	Data quality
A3 data quality of electricity and CO2 emission kg CO2 eq. / kWh	<b>FI 0.235</b>	The impacts of Finnish electricity were calculated based on Energiategollisuus (2016b) and Statistics Finland (2016), which provide the yearly fuel mixes for electricity production in Finland. Imported electricity has been calculated based on ecoinvent 3.3 database. The impacts include all upstream processes as well as transmission losses.
District heating/cooling data quality and CO2 emissions kg CO2 eq./kWh	<b>FI 0.072</b>	Based on specific fuel mix of the district heating plant in Rajamäki (Rajamäen biolämpökeskus) by Nurmijärven Sählö Oy, Finland for 2015 (Energiategollisuus 2016).

### 24. Transport from production place to user (7.3.2A4)

N/A

### 25. End-of-life process description (7.3.4)

N/A

### 26. Additional technical information

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### 27. Product data sheet

Find product data sheets from Teknos website <https://www.teknos.com/decorative-paints/products/product-search/Exterior-paints/>

### 28. Additional information (7.4)

Air, soil and water impacts during the use phase have not been studied.

### 29. Bibliography

ISO 14025:2010 Environmental labels and declarations – Type III environmental declarations Principles and procedures. ISO 14040:2006 Environmental management. Life cycle assessment. Principles and frameworks. ISO 14044:2006 Environmental management. Life cycle assessment. Requirements and guidelines. EN 15804:2012+A1 Sustainability in construction works – Environmental product declarations – Core rules for the product category of construction products. RTS PCR 2.6.2016 RTS PCR protocol: EPDs published by the Building Information Foundation RTS sr. PT 18 RT EPD Committee. (English version)