



ITB EPD Life Cycle Inventory (LCI) data collection questionnaire



Instytut Techniki Budowlanej

Environmental Profile
Assessments
Life Cycle Inventory (LCI):
data collection questionnaire

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Introduction

The data collected in this questionnaire will be used to complete a cradle to gate study and data to be collected includes:

- Product specification
- Manufacturing site information
- Data collection period
- Allocation
- Input and output materials and resources
- Transportation within the factory gate

Please attach all supporting information and references to the data included, i.e. utility bills, delivery notes, waste transfer notes, etc.

1 Company Details

Company name

.... .

Address (or affix business card)	Registered Office (if different)
Postcode:	
Telephone number:	
Fax number:	
Internet address:	
E-mail address:	
Technical Contact (person responsible for completing this questionnaire):	

2 Product specification

Product name

Product type
(eg roofing, masonry coating etc)

How long has/have the product(s) been in the market for?

Service Life (declared life of product):

Please describe your product and product range

2.1 Please provide details of product sizes, colours, finishes and/or grades. If available, please attach product literature and drawings.

2.2 Please define the exact purpose/application for which the product is to be used.

Insulation of pitch roof, attic

Please provide Certificate Numbers, EN number, CE numbers, end use, grade, thickness, density, weight, conductivity etc. in your description of the finished product) and any details of product certification and product literature for each product.

3 Manufacturing site(s) information

Is the product manufactured at more than one site?

Yes
No

Please list all sites that you want to cover.

Site name	Address

From this point onwards the questionnaire should be completed separately for each individual site.

Please attach flowchart for each site where the product is manufactured.

4 Manufacturing site information

Site details

Name:
Address:
Post code:
Technical contact:
Position:
E-mail address:
Telephone number:
Fax number:

Site certification

Has the site and/or product been certified for any of the following?

Standard	Yes	No	In process
ISO EN 14001	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EMAS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other:

PN EN ISO 9001? PN –N 18001? EUCEB? RAL ζ
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If you have been certified against any of the Standards above, please provide further information (e.g. certificate number, accreditation body, scope of certificate, etc)

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Please attach certificates

5 Data collection period

This section should include the period of data collection

From (month/year):

.../ average data (1 year)

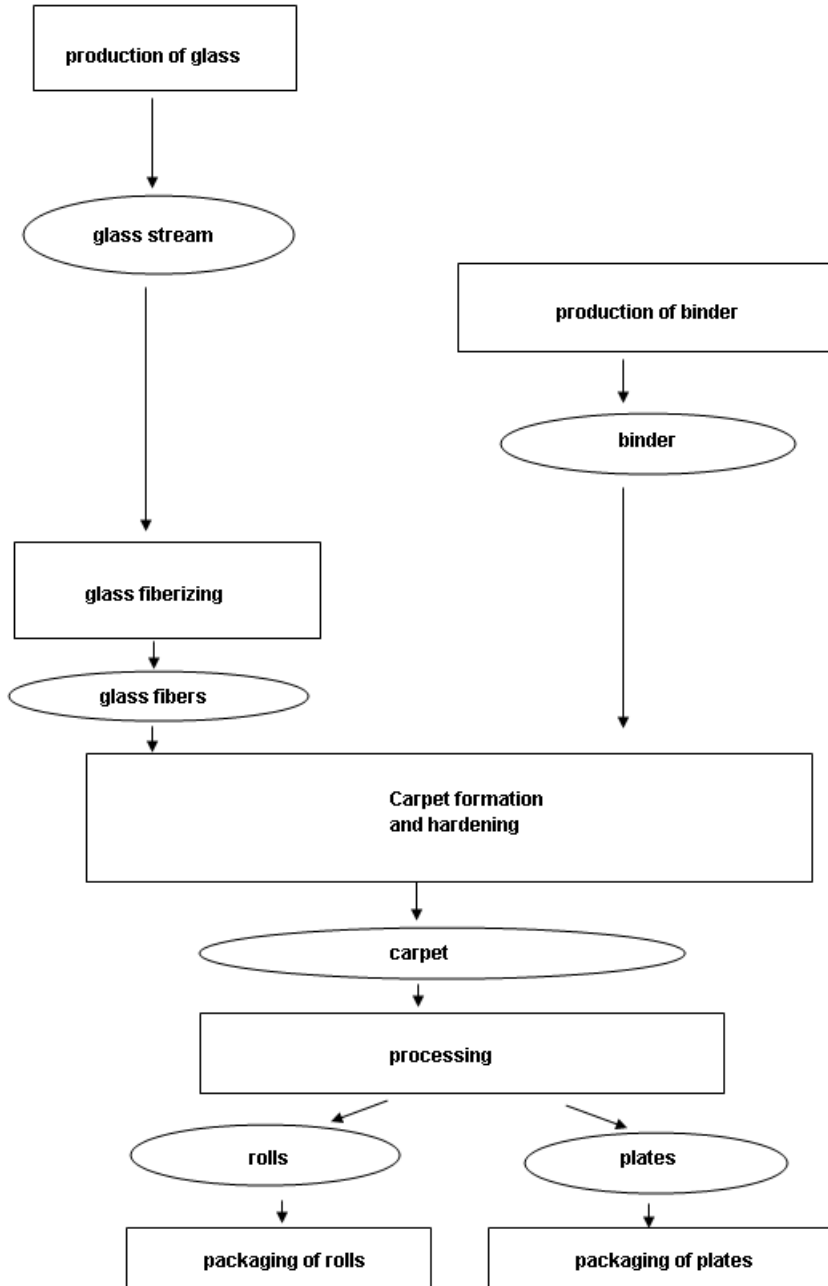
To (month/year):

Additional comments (if any):

6 Allocation

Please provide a schematic diagram of the industrial process, preferably as a flow chart/process tree. This should include the main process and sub-processes, even if they are outsourced. It is important to produce a detailed flow chart to aid the assessment of the data you provide and to ensure that the key processes have been included.

Example:



7 Input materials and resources

7.1 Raw materials

Data is required for all the input materials associated with the manufacturing of your product, including ancillary items, packaging and consumables. Include any materials or chemicals that may be used as substitutes or which reflect deviations from the normal content. Please provide information about all the items even if you know you cannot provide information about their manufacture.

For instance:

– *Raw materials:*

Minerals - limestone, clay, silica, sand, gravel

Metallic minerals - zinc, alumina, iron ore

Wood materials - solid timber, sawmill chips, other residues (with species and moisture content where possible).

Fossil fuels used as feedstock materials rather than for energy production - natural gas to make plastics, petroleum products to make roofing materials

– *Processed materials:*

Cement, screws, resins, paints, acids etc

scrap and materials recycled from other processes

consumable items - sanding paper, drilling bits, detergents, mould oils

(Note: Do not include repair and maintenance of machinery or vehicles)

– *Packaging Materials:*

Steel Banding, Polythene shrink-wrapping, timber pallets etc.

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	Input material	Unit	Consumption 2011	Consumption Jan.-June 2012
Raw materials		tons		
		tons		
		tons		
		tons		
		tons		
		tons		
		tons		
Additives		tons		
		tons		
		tons		
		tons		
		tons		
		m ²		
Ancillary items		kg		
		kg		
		kg		
		pieces		
		pieces		
		pieces		
Packaging materials		kg		
		kg		
		kg		
		kg		
		kg		
		pieces		
Pallets		pieces		
		pieces		
		pieces		
Others		kg		
		Mg		
		pieces		
		tons		
		tons		

** unit = eg. kg, m³, g/cm³. You may need to define unit so it can be converted to per kg data*
Note that information on quantities is required for total input material consumption for all site, however if you have the specific information by product please complete column D

7.2 Water consumption

Please provide information about the annual water usage in the manufacturing plant, including process and non-process water. Where water is recycled within a local surface water or groundwater source, please supply further details.

Water Type	Quantity taken into plant per year (m ³)	Comment (if any)
Water company supply		
Surface water		
Groundwater		
Rain water usage		
Recycled water (if bought from external source)		
Other (Specify)	-	

7.3 Energy/fuel consumption

- Please enter details of the energy sources used in the manufacturing of your product, electricity, heating sources, lighting of building/s, fuel for on-site* transport, etc. One year data.

Fuel Used	What is the fuel used for? (eg kilns, fork lifts)	Supplier	Total quantity used per year	Unit (eg GJ, kWh or m ³)	Source of data (eg meters, bills etc)	Emissions** calculated "C" or measured "M"	
						C	M
Grid Electricity	Production line, lighting of buildings and external storages			MWh	meters	<input type="checkbox"/>	<input type="checkbox"/>
Natural Gas	Production line and central heating			Nm3	meters	<input type="checkbox"/>	<input type="checkbox"/>
Central Heating						<input type="checkbox"/>	<input type="checkbox"/>
Fuel Oil	Fork lifts, emergency – generators Loading machine			lit		<input type="checkbox"/>	<input type="checkbox"/>
Diesel/Gas Oil						<input type="checkbox"/>	<input type="checkbox"/>
LPG	Fork lifts			kg	bills	<input type="checkbox"/>	<input type="checkbox"/>
Coal						<input type="checkbox"/>	<input type="checkbox"/>

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Kerosene						<input type="checkbox"/>	<input type="checkbox"/>
Gasoline						<input type="checkbox"/>	<input type="checkbox"/>
Landfill Gas						<input type="checkbox"/>	<input type="checkbox"/>
Biomass- Specify Type						<input type="checkbox"/>	<input type="checkbox"/>
Waste From Plant (Specify)						<input type="checkbox"/>	<input type="checkbox"/>
External Waste *** (Specify)						<input type="checkbox"/>	<input type="checkbox"/>
Other (for instance from renewable sources)						<input type="checkbox"/>	<input type="checkbox"/>
						<input type="checkbox"/>	<input type="checkbox"/>

* Please only include vehicle fuels used for transport on-site.

** Where the emissions from a fuel have been calculated or measured (eg emissions from a boiler flue), please put a "C" or "M" in the final column. Emissions data will be asked in Table 8.1.

*** For example, wood residues, secondary liquid fuels (SLF).

For fuels other than electricity and Mains Natural Gas, please provide information about transport mode and distances in Table 7.5.

Note that information is requested for total site production, if you have the specific information by product (e.g sub-metering on different product lines) please specify

7.4 Other information

If applicable and for more accurate energy calculations, please also complete the following, if possible:

- Please state the power of any boilers/furnaces used in kW or MW and information about the type of appliance eg condensing, modulating/non-modulating, low NOx, efficiency.

Type/Description of boiler/furnace	Power (in kW or MW)	Efficiency
Glass furnace / heating - melting by 6 burners oxy-gas /modulating	kW	
Feeder / heating – melting – 11 emergency burners / air -gas non-	kW	

modulating		
Curing oven / polymerization of glass fibres by ... burners / air – gas modulating	kW	
Defiberizers – machines ... stuck / modulating	kW	
Tunnel furnace /... burners / air - gas - modulating	kW	
Boiler for central heating nr. 1 – modulating /	kW	
Boiler for central heating nr 2 modulating /	kW	
Gas heaters on the production line and workshop /modulating	kW	

Transport to factory

Please list the transport involving the delivery of input materials (including additives and packaging materials). This should include the mode of transport, distance, number of deliveries, etc., as indicated on the table. If you do not know the distance, please state where the material is travelling from, including any ports it passes through. Note that the transport of the material should be from its point of origin. Where more than one supplier is used, please include details of raw materials supplied from different suppliers.

Input Material (specify)	Quantity delivered to plant per year (kg)	Transport type (lorry, ship etc)	Average Load (Mg) If part load what % of load	Number of deliveries per year	Average distance source to plant (state km or miles)	Return Load? (material, average load, distance to pickup point)
		Ship/lorry	25 t			
		lorry	25 t			
		lorry	25 t			

Please provide any additional information on transport of the material inputs

8 Emissions/discharges

8.1 Emissions to air

- Where possible, please list the compounds emitted from your manufacturing plant. If you can allocate emissions to specific products, by causal relationship, please attach a description of the method used. If you cannot do this, please give emissions for the whole plant. Note that emissions from plant maybe for the manufacturer of more than one product.
- We will be to convert general fuel data to emissions using standard conversion figures. However if you have calculated your own emissions, please provide details of the conversion figures used.
- If you have marked the final column of Table 7.3, please provide values for these emissions.

Substance*	Measured quantity per year (include range)	Unit	Sampling procedure (include baseline)	Emission calculated from fuel(s) (if available)
Dust		kg/year	Periodical manual measurement (aspiration method). Pollutant analysis' method: Gravimetric	-
Sulphur dioxide (SO ₂)		kg/year	Periodical manual measurement (aspiration method). Pollutant analysis' method: Electro-chemical	-
Nitrogen dioxide (NO ₂)		kg/year	Periodical manual measurement (aspiration method). Pollutant analysis' method: Electro-chemical	-
Carbon monoxide (CO)		kg/year	Periodical manual measurement (aspiration method). Pollutant analysis' method: Electro-chemical	-
Ammonia (NH ₃)		kg/year	Periodical manual measurement (aspiration method). Pollutant analysis' method: Spectrophotometry	-
Phenol (C ₆ H ₅ OH)		kg/year	Periodical manual measurement (aspiration method). Pollutant analysis' method: Gas chromatography (GC)	-
Formaldehyde (HCHO)		kg/year	Periodical manual measurement (aspiration method). Pollutant analysis' method: Spectrophotometry	-
Hydrogen chloride (HCl)		kg/year	Periodical manual measurement (aspiration method). Pollutant analysis' method: Spectrophotometry, mass flux	-
Fluorine (F)		kg/year	Periodical manual measurement (aspiration method). Pollutant analysis' method: Potentiometric	-
Boron (Br)		kg/year	Periodical manual measurement (aspiration method). Pollutant analysis' method: PN-EN ISO 11885:2001	-
Carbon dioxide (CO ₂)		kg/year	Periodical manual measurement (aspiration method). Pollutant analysis' method: Electro-chemical	-
Aromatic Hydrocarbons (C _n H _m)		kg/year	Periodical manual measurement (aspiration method). Pollutant analysis' method: Gas chromatography with flame ionization (GC-FID)	

* For instance Carbon Monoxide, Carbon Dioxide, Sulphur Dioxide, Nitrogen Oxides, Methane, CFC, Halogens, Volatile Organic Compounds (VOC), dust (particulates), heavy metals.

8.2 Emissions to water

Please specify quantities of water discharged by your manufacturing plant to surface water and sewer water. Please add and/or delete compounds as this is not a fixed list.

Water type	Specify if different from process or offices	Quantity discharged per year (m ³)
To sewer	process	
	offices	
To surface water	process	
	offices	
To municipal waste water treatment plant	process	
	offices	

Where possible, please list the compounds discharged by your manufacturing plant to surface water and sewer water. For instance Sulphates, Detergents, Phosphates, Ammoniac, Phenol, Formaldehyde, Sodium, Metals, Halogenated organics, etc...Please add and/or delete compounds as this is not a fixed list.

Water type	Specify if different from process or offices	Quantity discharged per year (m ³)
To sewer	process	
	offices	
To surface water	process	
	offices	
To municipal waste water treatment plant	process	
	offices	

* BOD : Biological Oxygen Demand

** COD : Chemical Oxygen Demand

8.3 Solid waste disposal

Please list the main waste materials, with a brief description, generated from your manufacturing plant. If possible sub-divide it in different categories depending on the origin, including industrial and commercial waste. It is also recommended to differentiate between different disposal methods, i.e., landfilling or incineration.

Please also include all wastes which are reused/recycled *externally* (i.e. off site), indicating the price that they are sold for or if they are given away. Wastes which are reused/recycled internally do not need to be included.

Waste produced	Description of waste	EWC Code*	Quantity per year (Mg)	Destination type e.g. reuse, recycling, landfill, incineration	Actual destination, eg town, country	If reused or recycled please state the price the material is sold for or if it is given away
Controlled: Commercial	Municipal wastes	20 03 01				
	Used and Empty toners	08 03 08				
Controlled: Industrial	Paper packaging from	15 01 01				
	Plastic packaging	15 01 02				
Controlled: Hazardous	Chemicals from laboratory	16 05 06*				
Other (Specify)	-	-	-	-	-	-

* When applicable, please include the associated waste code according to the Consolidated European Waste Catalogue (EWC 2002)

Please provide any additional information on emissions and discharges

Company declaration

I hereby confirm on behalf of, that the information provided in this questionnaire is correct and represents all of the inputs to the product(s), and any changes in circumstances will be notified to the Approval Body in writing.

..... understands that this information will form the basis of the data to be used for the assessment project and will be reviewed at the verification visit along with any assumptions made and using the references provided on this form to verify the data.

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Name:

Date:

Signed:

Title: eng.