

ENVIRONMENTAL PRODUCT DECLARATION

as per ISO 14025 and EN 15804

Owner of the Declaration	NMC S.A.
Programme holder	Institut Bauen und Umwelt e.V. (IBU)
Publisher	Institut Bauen und Umwelt e.V. (IBU)
Declaration number	EPD-NMC-20170112-IBD1-EN
Issue date	07.09.2017
Valid to	06.09.2022

NOMAEASY® made of NMC NATUREFOAM®
NMC S.A.

www.ibu-epd.com / <https://epd-online.com>



1. General Information

NMC S.A.

Programme holder

IBU - Institut Bauen und Umwelt e.V.
Panoramastr. 1
10178 Berlin
Germany

Declaration number

EPD-NMC-20170112-IBD1-EN

This Declaration is based on the Product Category Rules:

Insulating materials made of foam plastics, 12.2016
(PCR tested and approved by the SVR)

Issue date

07.09.2017

Valid to

06.09.2022



Prof. Dr.-Ing. Horst J. Bossenmayer
(President of Institut Bauen und Umwelt e.V.)



Dr. Burkhard Lehmann
(Managing Director IBU)

NOMA® EASY XT made of NMC
NATUREFOAM®

Owner of the Declaration

NMC S.A.
Gert-Noel Strasse
BE-4731 Eynatten

Declared product / Declared unit

1 m³ insulation material NOMA® EASY XT made of
NMC NATUREFOAM®

Scope:

Product line NOMA® EASY made of NMC
NATUREFOAM®
Thermal insulation products for building equipment and
industrial insulations made of polyethylene foam (PEF)
according to EN14313. This declaration is an
Environmental Product Declaration according to
/ISO14025/ describing the specific environmental
performance of the product produced in Belgium
The owner of the declaration shall be liable for the
underlying information and evidence; the IBU shall not
be liable with respect to manufacturer information, life
cycle assessment data and evidences.

Verification

The CEN Norm /EN 15804/ serves as the core PCR

Independent verification of the declaration
according to /ISO 14025/

☐ internally ☒ externally



Vito D'Incognito
(Independent verifier appointed by SVR)

2. Product

2.1 Product description / Product definition

NOMA® EASY XT is a professional bio-polyethylene-based closed-cell foam pipe insulation for continuous energy saving and condensation control purposes. NOMA®EASY XT provides solutions that follow all necessary guidelines and standards for any type of installation. NOMA® EASY XT is equipped with a self adhesive strip.

For the placing on the market of the product in the EU/EFTA (with the exception of Switzerland) Regulation (EU) No. 305/2011 /CPR/ applies. The product needs a Declaration of Performance taking into consideration /EN 14313 : 2015/ Thermal Insulation products for building equipment and industrial installations. Factory made polyethylene foam (PEF) and the CE-marking. For the application and use the respective national provisions apply.

2.2 Application

NOMA® EASY XT made of NMC NATUREFOAM® is used to insulate pipes, air ducts, fittings and flanges of industrial installations and building equipment

- Polyethylene foam is a cost-efficient material with outstanding insulating properties.

- Products made of PE foam yield an excellent cost/performance ratio.
- Condensation control in fresh-and waste water systems

2.3 Technical Data

Name	Value	Unit
Gross density	25	kg/m³
Thermal conductivity	0.04	W/(mK)
Reaction to fire acc.to /EN 13501-1/	E	-
Max service temperature acc. to /EN 14707/	100	°C
Min service temperature	0	°C
Water absorption acc. to /EN 13472/	WS005	
Traces quantifies of water soluble ions and pH-value acc. to /EN 13468/	Cl15-F10-pH 5,5	



2.4 Delivery status

The PE products are supplied as, tubes and shaped pieces. The tubes are delivered in lengths of 1 m packed in Cardboard boxes. Different insulation thicknesses are available, 13mm or 25mm and an inside diameter ranging from 15 to 42mm. The insulation pipes are available with a self-adhesive closure system.

2.5 Base materials / Ancillary materials

Base materials

NOMA®EASY XT made of NMCNATUREFOAM® are Flexible insulation material based on Polyethylene, which consists of around 9 basic components. The following table displays the different elements of formula.

Name	Value	Unit
Bio LDPE	67,9	%
Flame retardant (diluted batch with synergic Sb2O3 + halogen)	1,1	%
NMC internal recycling	5,7	%
Pigment 1 black	0,3	%
Pigment 2	1,4	%
Volume stabilizer	1,5	%
Blowing agent	11,9	%
Glue	6,6	%
Release	3,6	%

PE and fillers give the shape of the product. The blowing agent causes the expansion during the manufacturing. And the flame retardants ensure the fire resistance. According the European Chemicals Regulation /REACH/. Manufacturers, importers and downstream users must register their chemicals and are responsible for their safe use themselves. For its production NMC S.A. uses exclusively verifiably registered and approved substances. Products manufactured and put on the market by NMC don't need to be registered. NOMA®EASY XT made of NMC NATUREFOAM® does not contain SVHC substances

2.6 Manufacture

The manufacturing process of the NOMA® EASY XT made of NMC NATUREFOAM® product consists of incorporating the ingredients of the formulation into an extruder, adding a foaming agent, mixing, heating and then extruding the mix through a die, during which time foaming takes place. The product is then cooled with water, followed by the application of the glue. The product is cut to size before being packed and stored. Quality assurance :

The manufacture is certified /ISO 9001/ for the quality management. The product corresponds to the product standard /EN 14313/ and have a Declaration of Performance according the /CPR/ : DOP n° W1PEF206 (see www.nmc.eu/dop)

2.7 Environment and health during manufacturing

During all manufacturing steps of NMC S.A. Belgium, the production follows all national guidelines and regulations. Solar panels are installed on the roof of the warehouse to reduce the requirement for grid electricity.

2.8 Product processing/Installation

The NOMA® EASY XT made of NMCNATUREFOAM® can be installed using basic tools like knives. No special tools, nor specific protection is necessary. The recommendations how to use the product is described

in the application manuals or video's. More details are listed on the Web Page www.nmc.eu

2.9 Packaging

The NOMA®EASY XT made of NMC NATUREFOAM® products are packed in cardboard boxes and transported on reusable pallets. The packaging material can be recycled.

2.10 Condition of use

During the use of the product for the purpose for which they are intended, there are no modifications on the product during the use, except if due to and extraordinary impact (see point 2.13)

2.11 Environment and health during use

There are no particular aspects of the material composition during the use. The NOMA® EASY XT made of NMC NATUREFOAM® is used in a wide range and varieties of applications for which the product is intended.

The PEF foams fulfil the German , Belgian and French regulations regarding the emission of VOC with emissions far below the most severe limit values. The Eurofin Product Testing institute, on the demand of the CEFEP (European group of PEF and FEF manufacturers) has made a wide range of tests for different PEF products from different manufacturers. The insulation of heating pipes with NOMA® EASY XT made of NMC NATUREFOAM® allow a drastic reduction of CO2 emission during the full service live of the installation. The quantification of this is not in the topic of this EPD, and have to be evaluated in the frame of the LCA from the complete installation. The programme available on our website <http://cit.nmcinsulation.eu/> allows calculating the heat flow and insulation benefit in real use condition.

2.12 Reference service life

NOMA®EASY XT made of NMC NATUREFOAM® is to ensure the insulation of heating and sanitary installations for a reference service life (RSL) of 50 years. This duration is based on the frequency of replacement of sanitary and heating piping in buildings. Although the insulation pipes are still effective after 50 years, it is assumed that when replacing the piping, the insulation (NOMA® EASY XT) is not reused and is disposed of with the piping. 50 years is the minimum Reference Service Life recommended in /prEN16783/

2.13 Extraordinary effects

Fire

According to /EN13501-1/ NOMA® EASY XT made of NMC NATUREFOAM® is classified as EURO CLASS E and therefore has a limited speed of inflammation.

Fire protection

Name	Value
Building material class	E

Water

Not applicable

Mechanical destruction

NOMA® EASY XT made of NMC NATUREFOAM® is chemically inert and does not present any



environmental or health risks if mechanically destroyed.

2.14 Re-use phase

NOMA® EASY XT made of NMC NATUREFOAM® can be recycled 100 % in the traditional recycling loop on the same level as the PE waist

2.15 Disposal

NOMA® EASY XT made of NMC NATUREFOAM® is fully recyclable using the same recycling systems as those used for other forms of PE waste. Any non-

recycled material should be disposed of the materials according to the local regulations, and by the /European Waste Catalogue/ (<http://www.wastesupport.co.uk/ewc-codes/>) waste code 07 02 13 waste Plastic "Low Density Polyethylene"

2.16 Further information

Additional information about NOMA® EASY XT made of NMC NATUREFOAM® can be found on the NMC web Site www.nmc.eu Here specification clauses, data sheets and application manuals can be found.

3. LCA: Calculation rules

3.1 Declared Unit

The declaration refers to 1 m³ insulation product. For the LCA calculations the average density per product brand is used.

As additional information and support for installers the thermal conductivity coefficient (Lambda-value) and R-value per product brand is given

Declared unit

Name	Value	Unit
Declared unit	1	m³
Gross density	25	kg/m³
Conversion factor to 1 kg	0.04	-
Conversion factor from 1 m³ to 1 Linear meter	Section of the insulation pipe (m²)	
Thermal Conductivity	0.040	W/mK at (40°C)

R-value- thickness : 15 mm : +/- 2,44 (m²K)/W depending on the pipe diameter.

3.2 System boundary

The Data collection refers to the yearly production in 2016. The cycle stages A1 to C4 are considered :

Module A1 to A3: The LCA calculation covers the production of the raw materials, transport of these to the plant, the mixing of raw materials according to the respective recipes, manufacturing of the foam product, application of the glue and packaging for dispatch. All production takes place exclusively in Eynatten, Belgium.

Module A4: Transport of the final product to the application site. The average transport distance has been calculated based on a weighted value for NMC's customers. Capacity utilisation by volume is 100%. However, given the low density of the product, capacity utilisation by mass has been estimated as 10%.

Module A5: Installation of NOMA® EASY XT products is done by hand and requires no special equipment apart from a knife. The products can be placed end to end and the remaining pieces can be reused on other pipes.

Module B1 to B5: Use phase. Although the insulation of the piping can contribute to large reductions in the environmental impact of heating equipment, this is not taken into account here. Any such calculation, should usually consider the complete installation or take place at the building level. As foam insulation products do not require maintenance, replacement or refurbishment over the 50 year - reference service life, there are no impacts in modules B1 to B5.

Module C1 to C4: Removal and end -of -life. Disassembly, transport and landfill are taken into consideration. Credits for electric and thermal energy resulting from the waste incineration process of the off-

cut material and packaging (A5) and product (C3) are declared in module D.

3.3 Estimates and assumptions

Module A2:

The loading factor for trucks is estimated to be 50%. This is based on a fully-loaded outbound journey and an empty return.

Module A5:

For installation, default waste percentage of 2 % for insulation materials of this type based on guidance provided by /prEN 16783/ were taken into consideration. It is assumed that this 2% installation waste is landfilled. Cardboard packaging waste is assumed to be 90.1% recycled with the remainder going to landfill. This is based on paper packaging disposal statistics for the European Union's 27 countries.

Module B1:

We consider the reference service life to be 50 years, based on the recommendation in /prEN 16783/.

Module A5 and C2:

The average distance between the installation site and waste treatment/waste disposal (landfill) is estimated to be 100 km.

The scenario that has been retained for this Life Cycle Assessment is the most realistic and is 100% Landfill

3.4 Cut-off criteria

In this study no cut-off criteria have been applied and all elementary incoming processes as well as all energy and water inputs and waste outputs have been counted.

3.5 Background data

The software system for life cycle engineering /GaBi 7/ developed by thinkstep AG was used to perform this LCA. The GaBi LCI database /GaBi 7/ provides the life cycle inventory data for several of the raw and process materials obtained from the background system. The most recent update of the database was in 2016.

3.6 Data quality

All the foreground data requiring such energy or raw material coming from production, were verified and cross-checked before being included in the model. Most of the life cycle inventories for the basic materials are available in the / GaBi 7/ database. The last update of the database was 2016. Further LCIs for materials of the supply chain of the raw materials were approximated with LCIs of similar materials or estimated by the combination of available LCIs. For electric and thermal energy regional specific grid mixes



and regional specific supply for natural gas were considered.

3.7 Period under review

The production data for the year 2016 were used for the realization of this study.

3.8 Allocation

There is no co-product or by-product generated during the production of NMC's products.

Production waste

Any production waste from the process (machine start, end of production, non-conforming products, etc.) is recycled internally in order to be reused in the manufacturing process of other products. These impacts are accounted for in A1-A3.

Installation and End-of-Life waste

During the installation phase (Module A5), a default waste percentage of 2% is taken into consideration. This construction waste is considered to be landfilled. Cardboard packaging on site is considered to be recycled at 90,1% the rest being sent to landfill. The scenario that has been retained for this Life Cycle Assessment is the most realistic and it is the 100% landfill

3.9 Comparability

Basically, a comparison or an evaluation of EPD data is only possible if all the data sets to be compared were created according to /EN 15804/ and the building context, respectively the product-specific characteristics of performance, are taken into account. The used background database has to be mentioned.

4. LCA: Scenarios and additional technical information

Transport to the building site (A4)

Name	Value	Unit
Litres of fuel	0.378	l/100km
Transport distance	501	km
Capacity utilisation (including empty runs)	10	%
Gross density of products transported	25	kg/m ³
Capacity utilisation volume factor	0.5	-

Installation into the building (A5)

Name	Value	Unit
Material loss	2	%
Output substances following waste treatment on site	12.5	kg

Reference service life

Name	Value	Unit
Reference service life	50	a

End of life (C1-C4)

Name	Value	Unit
Landfilling	25	kg

5. LCA: Results

DESCRIPTION OF THE SYSTEM BOUNDARY (X = INCLUDED IN LCA; MND = MODULE NOT DECLARED)

PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES
Raw material supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling-potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X

RESULTS OF THE LCA - ENVIRONMENTAL IMPACT: 1 m³ insulation material NOMA®EASY XT

Parameter	Unit	A1-A3	A4	A5	C2	C3	C4	D
GWP	[kg CO ₂ -Eq.]	-8.98	5.60	1.50	0.19	0.00	1.99	0.00
ODP	[kg CFC11-Eq.]	5.97E-8	4.56E-12	4.91E-13	1.54E-13	0.00E+0	4.89E-12	0.00E+0
AP	[kg SO ₂ -Eq.]	9.80E-1	2.65E-2	6.81E-4	8.31E-4	0.00E+0	5.50E-3	0.00E+0
EP	[kg (PO ₄) ³ -Eq.]	6.90E-1	6.65E-3	7.82E-4	2.08E-4	0.00E+0	5.46E-3	0.00E+0
POCP	[kg ethene-Eq.]	1.98E-1	-1.09E-2	3.79E-4	-3.38E-4	0.00E+0	6.28E-4	0.00E+0
ADPE	[kg Sb-Eq.]	1.00E-2	5.06E-7	4.13E-8	1.71E-8	0.00E+0	4.12E-7	0.00E+0
ADPF	[MJ]	788.61	77.24	2.86	2.61	0.00	28.56	0.00

Caption GWP = Global warming potential; ODP = Depletion potential of the stratospheric ozone layer; AP = Acidification potential of land and water; EP = Eutrophication potential; POCP = Formation potential of tropospheric ozone photochemical oxidants; ADPE = Abiotic depletion potential for non-fossil resources; ADPF = Abiotic depletion potential for fossil resources

RESULTS OF THE LCA - RESOURCE USE: 1 m³ insulation material NOMA®EASY XT

Parameter	Unit	A1-A3	A4	A5	C2	C3	C4	D
PERE	[MJ]	2050.13	3.99	0.22	0.13	0.00	2.18	0.00
PERM	[MJ]	684.98	IND	IND	IND	IND	IND	IND
PERT	[MJ]	2902.28	3.99	0.22	0.13	0.00	2.18	0.00
PENRE	[MJ]	1158.05	77.65	2.98	2.62	0.00	29.70	0.00
PENRM	[MJ]	167.17	IND	IND	IND	IND	IND	IND
PENRT	[MJ]	1158.05	77.65	2.98	2.62	0.00	29.70	0.00
SM	[kg]	IND	IND	IND	IND	IND	IND	IND
RSF	[MJ]	IND	IND	IND	IND	IND	IND	IND
NRSF	[MJ]	IND	IND	IND	IND	IND	IND	IND
FW	[m ³]	287.56	7.38	0.18	0.25	0.00	0.07	0.00

Caption PERE = Use of renewable primary energy excluding renewable primary energy resources 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 resources; SM = Use of secondary material; RSF = Use of renewable secondary fuels; NRSF = Use of non-renewable secondary fuels; FW = Use of net fresh water

RESULTS OF THE LCA – OUTPUT FLOWS AND WASTE CATEGORIES:

1 m³ insulation material NOMA®EASY XT

Parameter	Unit	A1-A3	A4	A5	C2	C3	C4	D
HWD	[kg]	2.63E-4	4.05E-6	1.15E-8	1.37E-7	0.00E+0	1.15E-7	0.00E+0
NHWD	[kg]	8.58E+0	6.15E-3	2.46E+0	2.08E-4	0.00E+0	2.77E+1	0.00E+0
RWD	[kg]	1.45E-1	1.61E-4	4.51E-5	5.42E-6	0.00E+0	4.50E-4	0.00E+0
CRU	[kg]	IND	IND	IND	IND	IND	IND	IND
MFR	[kg]	IND	IND	IND	IND	IND	IND	IND
MER	[kg]	IND	IND	IND	IND	IND	IND	IND
EEE	[MJ]	IND	IND	IND	IND	IND	IND	IND
EET	[MJ]	IND	IND	IND	IND	IND	IND	IND

Caption HWD = Hazardous waste disposed; NHWD = Non-hazardous waste disposed; RWD = Radioactive waste disposed; CRU = Components for re-use; MFR = Materials for recycling; MER = Materials for energy recovery; EEE = Exported electrical energy; EEE = Exported thermal energy

6. LCA: Interpretation

The most interesting in the use of NMCNATUREFOAM® in the manufacture of NOMA® EASY XT is that the product put on the market (after steps A1-A3) contributes to the reduction of global warming potential (GWP -8,98kg CO₂-Eq./m³). The base polymer used by NMC is produced from vegetable matter (biomass).

This biomass, absorbs atmospheric carbon during the growth phase. In this way 3,61KG of biogenic carbon are stored per kg of Bio-ethanol. The emissions during the production of bio-polyethylene, (biomass production + bio-ethanol production + bio-ethylene production + polymerization) are 1, 46 CO₂-eq./Kg bio-polyethylene. The global production of the bio-

polyethylene, from production of the biomass to the final granulate polymer, has consequently a negative GWP impact with a value of -3,61 (stored) + 1,46 (reemitted) = -2,15 CO₂-eq./Kg bio-polyethylene. The quantity of bio-polyethylene used in composition of NOMA® EASY XT is 20,1 kg/m³ foam. This gives as factory input a value of -2,15 x 20,1 = -45,06kg CO₂-eq (carbon biogenic) from bio polyethylene per m³ foam. The impact of materials, transport, electricity and fuels are equal to 36,08Kg CO₂-eq./m³ which gives this overall value of -8,98kg CO₂-Eq./m³ (carbon biogenic) for module A1-A3 aggregate. The end-of-life scenario modeled is 100% to landfill. It is for this reason that the carbon reemitted is very low (1,99kg CO₂-Eq./m³) in module C4 compared to for example, energy recovery. However, there are also no benefits beyond the system boundary. As bio PE-LD does not degrade in landfill, there are no biogenic CO₂ emissions from landfill and effectively the landfill acts as a carbon sink. With regards to the other impact categories such as acidification potential (AP), eutrophication potential (EP), photochemical ozone creation potential (POCP) etc. the most impacting modules of the LCA are the

modules A1 to A3 and more particularly the raw material supply. Steps that have an unfavorable impact on global warming potential are steps A2 (transport), A4 (transport) and also C4 (disposal). The value for primary energy demand is mostly from renewable resources due to the use of bio-based polyethylene rather than fossil-based polyethylene. An improvement path to further improve the impact of NOMA® EASY XT would be to reuse or recycling 100% of NOMA® EASY XT rather than put on Landfill the material at end of life. From a resource perspective, landfill should also be avoided. The use of bio-polyethylene for the manufacture of NOMA® EASY XT makes it possible to obtain a value below 0 with regard to global warming potential. Electricity consumption is the main source of emissions during manufacturing. One of the solutions to continue to improve the assessment of NOMA® EASY XT would be to modify the sources of electrical supply. For example, by increasing the photovoltaic power installed at the NMC s.a. site or by finding suppliers that produce electricity from more renewable energy sources.

7. Requisite evidence

7.1. VOC emissions

Eurofins Product Testing A/S has tested a wide range and variety of typical PEF (Polyethylene foam) products marketed in the EU from CEFEP (European Group of PEF/FEF manufacturers) Based on the loading factor 0.05m²/m³ (determined after consideration of the real-life applications of PEF

products (in living rooms) and recommendations by the experts of the test institute) all results were found to be clearly below the limit values. For all samples below 100mg/m³ TVOC after 28 days. Certificates are available on request.

8. References

ISO 14040:2006

ISO 14040:2006: Environmental management — Life cycle assessment — Principles and framework

Product Category Rules for Building-Related Products and Services

Institute Construction and Environment e.V. (IBU)
Part A: Calculation Rules for the Life Cycle
Assessment and Requirements on the Project Report
Version 1.50

PCR Guidance-Texts for Building-Related Products and Services

From the range of Environmental Product Declarations of Institute Construction and Environment e.V. (IBU)
Part B: Requirements on the EPD for Insulating materials made of foam plastics

ISO 14044:2006

ISO 14044:2006: Environmental management — Life cycle assessment — Requirements and guidelines

CEN/TR 15941:2010

CEN/TR 15941:2010: Sustainability of construction works - Environmental product declarations - Methodology for selection and use of generic data

prEN 16783

prEN 16783:2014 Thermal insulation products – PCR for factory made and in-situ formed products for preparing environmental product declarations

EN 13501-1

EN 13501-1: 2007+A1: 2013 Fire classification of construction products and building elements. Classification using test data from reaction to fire tests

EN ISO 8497:1997

EN ISO 8497:1997: Thermal insulation. Determination of steady-state thermal transmission properties of thermal insulation for circular pipes

EN 14707:2012

EN 14707:2012: Thermal insulating products for building equipment and industrial installations. Determination of maximum service temperature for preformed pipe insulation

EN 13472:2012

EN 13472:2012: Thermal insulating products for building equipment and industrial installations. Determination of short term water absorption by partial immersion of preformed pipe insulation

EN 13468:2001

EN 13468:2001: Thermal insulating products for building equipment and industrial installations. Determination of trace quantities of water soluble chloride, fluoride, silicate, sodium ions and pH

EN 1602: 2013

EN 1602: 2013: Thermal insulating products for building applications. Determination of the apparent density

EN 14313:2009+A1:2013

EN 14313:2009+A1:2013: Thermal insulation products for building equipment and industrial installations. Factory made polyethylene foam (PEF) products. Specification
+ see part 4.3.3 and annex B of EN 14313: 2009+A1:2013 minimum service temperature

CEN/TS 16516:2013

CEN TS 16516/, AgBB/, /ISO 16000-3/, /ISO 16000-6/, /ISO 16000-9/, /ISO 16000-11/ Construction products. Assessment of release of dangerous substances. Determination of emissions into indoor air

Eurostat

European Statistics: Recovery rates for packaging waste Paper and cardboard packaging for the European Union 27 countries 2014
<http://ec.europa.eu/eurostat/home>

PlasticsEurope

Association of Plastics Manufacturers: PlasticsEurope is one of the leading European trade associations
<http://www.plasticseurope.org/about-us.aspx> Overview Plastic Waste from Building & Construction by Polymer and by Recycling, Energy recovery and disposal. Building and Construction Post Consumer Waste Generation 2014 (Europe EU 28+2)

Gabi ts

GaBi 7 GaBi Software-System and Database for Life Cycle Engineering Copyright © 1992-2016 Thinkstep AG Compilation: 7.3.0.40 DB version 6.115

thinkstep

thinkstep (2016) thinkstep AG, 2016. GaBi 7 LCI documentation. <<http://www.gabi-software.com/support/gabi/gabi-7-lci-documentation/>>. Stuttgart, Echterdingen: thinkstep AG

ISO 9001:2015

Quality management systems. Requirements

Institut Bauen und Umwelt

Institut Bauen und Umwelt e.V., Berlin(pub.): Generation of Environmental Product Declarations (EPDs);
www.ibu-epd.de

ISO 14025

DIN EN ISO 14025:2011-10: Environmental labels and declarations — Type III environmental declarations — Principles and procedures

EN 15804

EN 15804:2012-04+A1 2013: Sustainability of construction works — Environmental Product Declarations — Core rules for the product category of construction products

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