



Slimline Stainless Steel & PVC Interior Drainage System

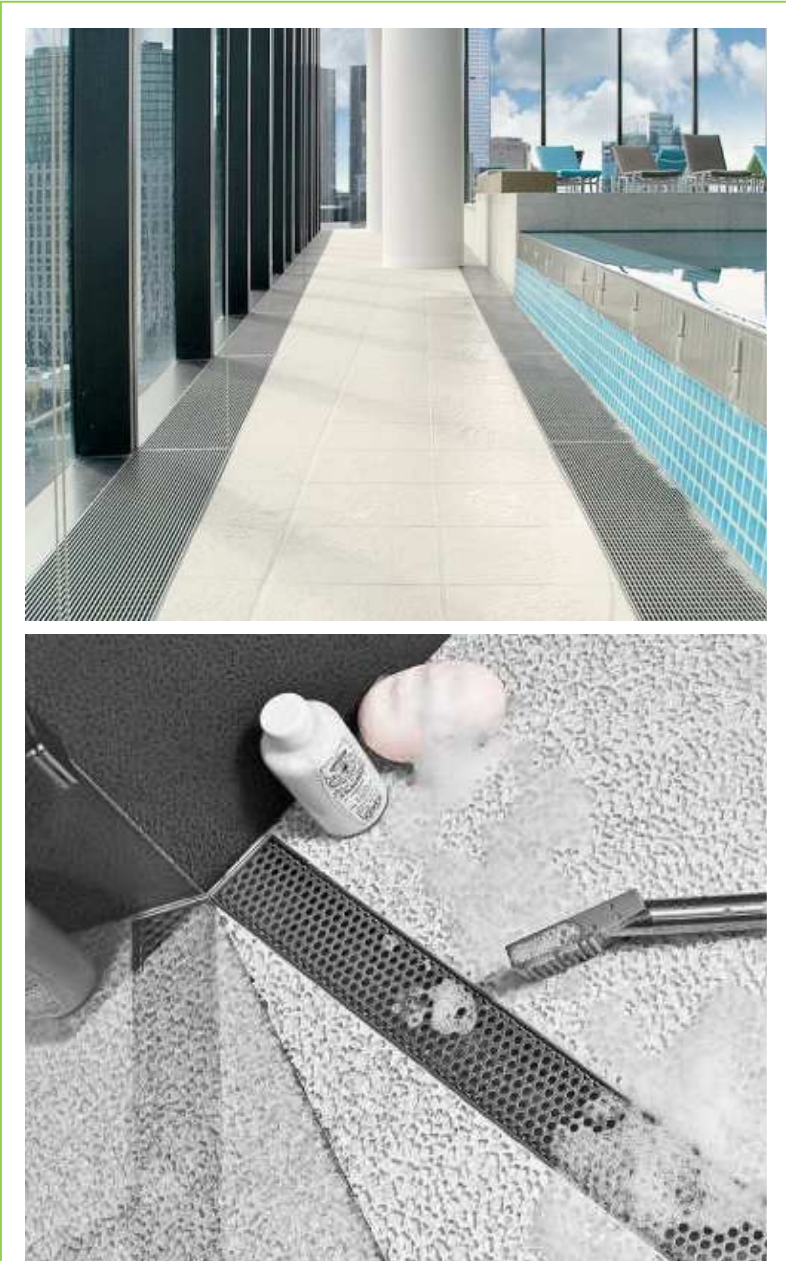


Figure 1 Slimline Interior Drainage Systems

Stormtech is an Australian family business begun by John Creighton in 1989.

The company designs and manufactures grates and drainage products for indoor drainage and outdoor stormwater and surface water removal needs.

Patented and unique in their efficiency and versatility Stormtech Slimline Grates and Drains provide elegant finished grates for architectural drainage and special needs access for new buildings and renovations.

For durability Stormtech linear grates are designed and made in Australia from marine grade stainless steel.

Stainless steel drainage system components are manufactured in a 100% solar-powered workshop in Queensland, Australia.

Stormtech offers a life-time guarantee and a take-back scheme for Product Stewardship Responsibility.

Stormtech drains connect with all standard plumbing fittings, and have Standards Australia International Certification.

In 2004 Stormtech won a Design Mark at the Australian Design Awards for its drainage design.

Since 2006, Stormtech has been a member of the Standards Australia Committee and has been involved in the writing of the code covering linear drainage in bathrooms, and other plumbing products.

More information is at www.stormtech.com.au.

This Environmental Product Declaration (EPD) discloses potential environmental outcomes compliant with ISO 21930 and ISO 14025 for business to business communication.

The product is Slimline Stainless Interior Drainage systems made by Stormtech in 2013 in Australia for sale with 10 year warranty for interior drainage in commercial and residential buildings over 50 years.



**Slimline Stainless Steel & PVC
Interior Drainage System**

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Different program EPDs may not be comparable as e.g. Australian transport is more than elsewhere. **Further explanatory information is found at <http://www.globalgreentag.com/>** or contact: certification1@globalgreentag.com © This EPD remains the property of Global GreenTag Pty Ltd.



Slimline Stainless Steel & PVC Interior Drainage System

1. Details of This Declaration

Program Operator	GreenTag Global Pty Ltd hereafter called Global GreenTag noted at www.globalgreentag.com	EPD Number	STO-001-A-2014
		Date issue	Mar 07 2014
		Validity	Feb 07 2017

Reference PCR	Compliant with PCR DS: 2014 Drainage Systems ¹
Time	Made in 2013, sold from 2013 or 2015 for 50 years use
Geography	Made in Australia. Use is in Australasia.
Application	Internal Drainage Systems
Functional unit	Acquisition, manufacture, use and disposition/metre(m)
Ecolabel Global GreenTag^{Cert™}	LCARate Gold GreenRate Level A



2. Product Characterisation

Product definition	Stainless Steel and PVC Drainage System 1.873kg/linear metre
Standard Conformance	WaterMark Level 2: Part 5 of AS 5200.000 (ex: ATS 5200.101) ATS 5200.040:2005 Technical Specification for plumbing and drainage products, Part 040: Waste pipe connection outlets and gratings, separate or integral CSA Certified.

3. Base Material Origin and Detail

Table 1 lists key components by function, type, key operation, source and mass share/linear metre.

Table 1 Base Material

Functions	Components	Fabricators	Producer	Origin	Amount %
Punched Gate	316L Stainless	Paige Stainless	Atlas Steel Australia	Mean Pacific Rim import & local market	50 to 100
Pressed Channel	304 Stainless	Caboolture QLD Australia			
Welded Gate	304 Stainless				
Punched part	304 Stainless	Swift Metal Australia			
Extruded Part	Welvic uPVC	Techplas Extrusions	Aust Vinyls	USA VCM	50 to 100
Extruded Part	Axiall uPVC	Pendle Hill NSW	US generic	USA VCM	
Moulded parts	Welvic uPVC	Edplas Mouldings	Aust Vinyls	USA VCM	
Moulded parts	Axiall uPVC	Peakhurst NSE	US generic	USA VCM	

Evah Institute PCR (2014) http://www2.ecospecifier.org/services_offered/greentag_certification/ecospecifier_pcrs



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4. Packaging, Installation, Use & Disposal

Packaging	In cardboard cartons, plastic wrap & strapping, shipped on reusable wood pallets.
Service life	Residential and commercial refits vary but 50-year life is assumed typical.
Health Safety & Environment	Apart from compliance to occupational and Workplace Health Safety and Environmental Law no additional personal protection is considered essential.
Residual Scrap	The product is made and supplied to order and off-cuts are reused or recycled.
Cleaning & Maintenance	The recommended cleaning and maintenance raises no ecosystem or human health concerns. Care and maintenance guides are on the company website.
Scenario	Assumed monthly sweeping and wash down plus seasonal hose cleaning.
Recycling	Typical market recycled content. The manufacturer's product stewardship provides a collection and take-back service. It makes no claims on % recycled.
Re-use	None is typical or assumed.
Disposal	The route is typical with 100% stainless steel recycling, 100% uPVC to landfill.

5. Whole of life Performance

Health Protection	The product does not contain levels of carcinogenic, toxic or hazardous substances that warrant ecological or human health concern cradle to grave. It passed the Ecospecifier Cautionary Assessment Process (ESCAP) and no issues or red light concerns existed for product human or ecological toxicity.
Effluent Waste	The LCI results and ESCAP raised no red light concerns in emissions to water ² . Cradle to grave waste to landfill was 0.007% hazardous and 99.99% non-hazardous.
Environmental Protection	Continuous improvement under the maker's non-certified EMS aims to avoid toxics, waste and pollution plus reduce their material and energy use.
Environmental Health Effects	No potential use phase impacts on environment or health are known. Due diligence checks on welder protection from fume was requested and provided.

6. Indoor Environment Quality (IEQ)

The products do not adversely affect IEQ.

² According with national standards in ANZECC Guideline For Fresh & Marine Water Quality (2000)



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7. Potential For Environment Benefits And Incidents

Manufacturers’ details confirm that for each declared unit the product has:

- 34% post consumer waste that saves resources, energy and pollution and avoids waste.
- 0.1% secondary fuels use that saves fuel resources and avoids climate change.
- 0.2% secondary energy usage that saves fuel resources and avoids climate change.
- >1<5% water savings that conserve water for use in community and natural habitats.

Design for deconstruction avoids issues and offers OH&S benefits at demolition as:

- 72.5% end-of-life recycling and reuse avoids wasted resources.
- 72.5% to recycling benefits supply and avoids landfill and other issues in disposal.
- 0.0019 Ha Land use is avoided in acquiring resources though 34% recycled content.
- 0.0001 Ha Land use is avoided in manufacture though 34% recycled content.

8. Life Cycle Inventory Results

Table 2 lists resource use per linear metre with transport as in Figure 2 across four phases:

- cradle to gate including supply, manufacture and upstream;
- design and construction from delivery to site and installation;
- use and operation including maintenance, repair, replacement refurbishment;
- end-of-life from deconstruction, reuse, demolition, recycling and disposal.

Table 2 functional unit Inventory of flows/linear metre

Inputs with use of	Units	Acquire & Make	Fit & Install	Use & Maintain	Dispose & Scrap
Fossil fuel energy ³	MJ	100.00	5.64	5.25	22.50
Nuclear energy	MJ	0.22	0.04	0.02	0.20
Recovered energy	MJ	-0.07	-0.04	<0.01	-0.18
Hydro power	MJ	1.13	0.03	0.08	0.27
Geothermal	MJ	<0.01	<0.0	<0.01	<0.01
Wave/tidal power	MJ	0.06	0.01	0.01	0.09
Solar power	MJ	0.29	<0.0	0.02	0.02
Biomass energy	MJ	2.61	0.08	0.12	1.29
Hydrogen energy	MJ	0.02	<0.0	<0.01	0.02
Feedstock energy ⁴	MJ	22.85	2.18	1.11	6.00
Finite material	kg	6.23	0.15	0.32	1.33
Renewable material	kg	0.08	0.01	0.01	0.15
Recycled material	kg	0.89	0.01	0.045	0.01
Water	kl	30.40	3.77	0.77	0.66

³ Peat, Lignite, Coal, Gas, Oil, Sulphur, Hydrogen and Unspecified sources

⁴ Available for recovery in the end of life



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9. Life Cycle Impact Assessment Results

Table 2 shows the product Life Cycle Assessment (LCA) Eco-Indicator 99 results for 20 years of use.

Table 2 Potential Impact Results

Evaluation Category	Unit	Result
Product mass	kg/item	1.87
EcoIndicator 99	ecopoint	0.78
Embodied Water	kl	121.6
Carbon Dioxide Emissions	kg CO _{2e} ⁵	9.61
Gross Energy and Feedstock	MJ	7.52
Renewable Primary Energy	MJ	2.29
Ecosystem Quality Damages	PDF*m ² *yr	8.04E-05
Human Health Damages	DALY	1.04E-03
Ozone Depletion	kg R11 _e	3.3E-10
Acidification	kg SO _{2e}	0.37
Eutrophication	kg PO ₄ ³⁻ _e	7.52
Fossil Fuel Depletion	MJ _{surplus}	5.13
Mineral Resource	MJ _{surplus}	1.87

10. Sustainability Assessment Results

Table 3 lists product Global GreenTag Sustainability Assessment Criteria (SAC) scores prior to weighting and then used to determine the GreenTag EcoPOINT⁶. Lower scores show greater environmental and social outcome benefits with fewer impacts and damages for sustainability. SAC scores are normalised against products that perform the same function and results with:

- 1.0 = worst base business as usual (BAU)
- 0.0 = neutral no improvement and
- -1.0= net positive benefit

Table 3 Normalised GreenTag EcoPOINT & SAC Scores

Category Potential	Results (-1 to +1)
Building Synergy	Not Applicable
Health & Ecotoxicity	0.25
Biodiversity	0.32
LCA Score	0.16
Greenhouse Emission	0.25
Social Responsibility	0.70
GreenTag EcoPOINT	0.31

11. United States Green Building Council LEED v4® Certified Credits

This EPD is ISO 21930 compliant in accordance with the requirements of the US Green Building Council's LEED® v4 program MR Credit:

- Building Product Disclosure and Optimization - Environmental Product Declarations credit

⁵ where e= equivalent

⁶ <http://www.ecospecifier.com.au/knowledge-green/glossary.aspx#greentagecopoint>



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12. Green Building Council of Australia Green Star® Certified Credits

Products are relevant to the Green Building Council of Australia’s (GBCA) Green Star® scheme. If required this EPD is evidence the declared product meets the following Green Star® credits. It may be used as evidence in Green Star® submissions for those credits.

The product is certified by GBCA recognised Global GreenTag GreenRate to meet the following credits of Green Star®:

- Design and As Built v1: Sustainable Product
- Interiors v1: Sustainable Product
- Performance v1: Procurement and Purchasing: Refurbishment Materials

GBCA Disclaimer

Green Star® is a registered mark of the Green Building Council of Australia (GBCA). Assessments shall not be reproduced in part at any time. Rating Tools and Technical Manuals are subject to change by the GBCA.

This EPD provides Technical Opinion and as such is not endorsed by the GBCA or its agents. Green Star® Technical Manuals give technical details of credit requirements

13. LCA Review Report Independence

While the stand alone Independent Verifier Report is confidential conclusions from this report are given at the end of this report. The independent verifier:

- was not involved in developing the LCA or EPD, and
- has no conflict of interests from their organisational position.

14. Verification of this Declaration

This EPD was approved on 25 06 2015 according to requirements of ISO21930.

Signature	Name	Position
LCA Review	Shloka Ashar	Global GreenTag Lead Auditor
PCR Review Chair	Delwyn Jones	Evah Institute CEO & Sustainability Assessment Director
Internal EPD Review	David Baggs	Global GreenTag CEO & Program Director
3rd Party LCA Verifier	Murray Jones	Ecquate Pty Ltd, Systems Manager



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15. Life Cycle Assessment Method

LCA Author	The Evah Institute as described at www.evah.com.au
Study Period	Factory data was collected from 2012 to 2014
Scope	Cradle to grave
LCA Method	Compliant with ISO 14040 and ISO 14044 Standards
LCIA method	Ecolindicator 99 Life Cycle Impact (LCIA) Assessment
System Boundaries	The LCA covers all operations in the system boundary depicted in Figure 2. It includes water, waste and emissions for all intermediates used to make and pack product as well as after sale delivery. Some background operations are not shown but all known operations were tracked to the cradle and included.
Phases	The study covered all known stages and phases including resource acquisition, fuel use, power generation, scrap recovery, manufacture, packing, freight, installation, use, disposal plus dispatch for reuse, recycling, landfill and recovery.
Processes	All known processes are included for water, fuel & energy use, resource acquisition, power generation, manufacture, transport, installation and landfill. All waste and emissions for depicted product intermediates and supply chain operations shown in Figure 3 are included.
Scenarios	Use, cleaning, maintenance plus disposition and re-use were scenario-based using Facility Management Association denoted and published typical operations.
Assumptions	Use is to typical Australian Facility Management professional practice.



16. LCA System Phases

All cradle to grave phases and stages that the LCA covered are depicted in Figure 2.

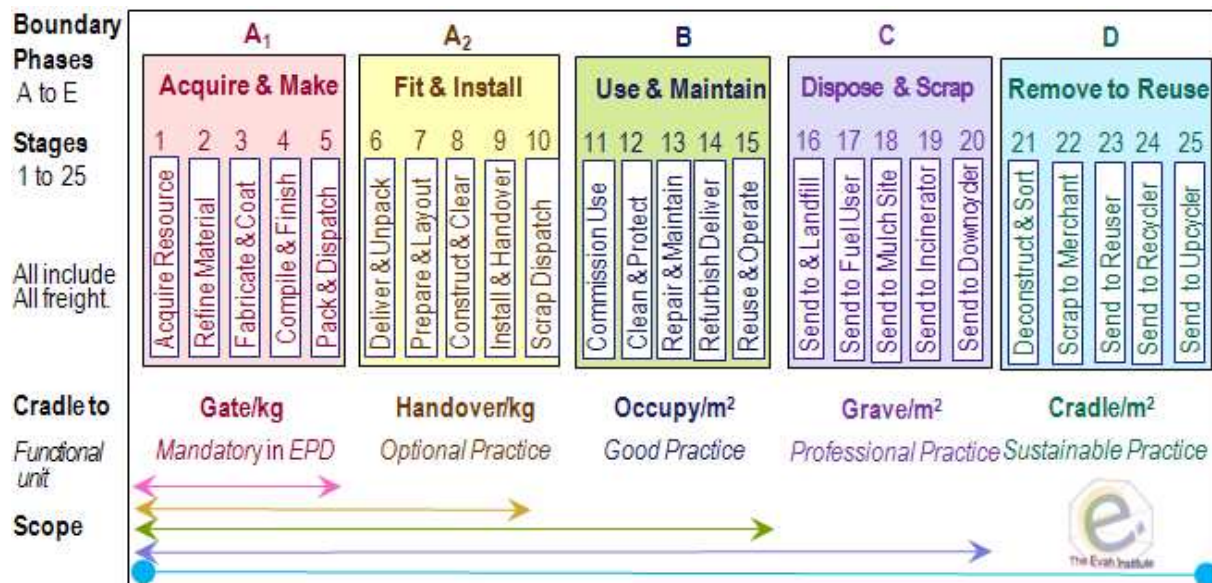


Figure 2 Phases and Stages Cradle to Grave



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17. Supply Chain Modelling

Industry supply chain databases cover all known domestic and global scope 1 and 2 operations. Processes to acquire, refine, transport, fabricate, coat, use, clean, repair, reuse and dispose of metal, masonry, ceramic, timber, glass, plastic and composites are modelled. These include those of:

- Mining, extracting and refining resources to make commodities and packaging;
- Acquiring, cultivating, harvesting, extracting, refining produce and biomass
- Fuel production to supply power and process energy and freight;
- Chemicals use in processing resources, intermediates and ancillaries;
- Process energy, fuel and freight of resources, intermediates and ancillaries;
- Use, cleaning, recoating, repair, recycling, re-use and landfill, as well as
- Infrastructure process energy transformed and material wear loss e.g. tyres.

They exclude scope 3 burdens from:

- Building capital facilities, churn updates and equipment; Noise and dehydration as well as
- Incidental activities and travel of employees engaged on-site in production facilities.

A flow chart in Figure 3 shows key product supply chain operations from cradle to disposition.

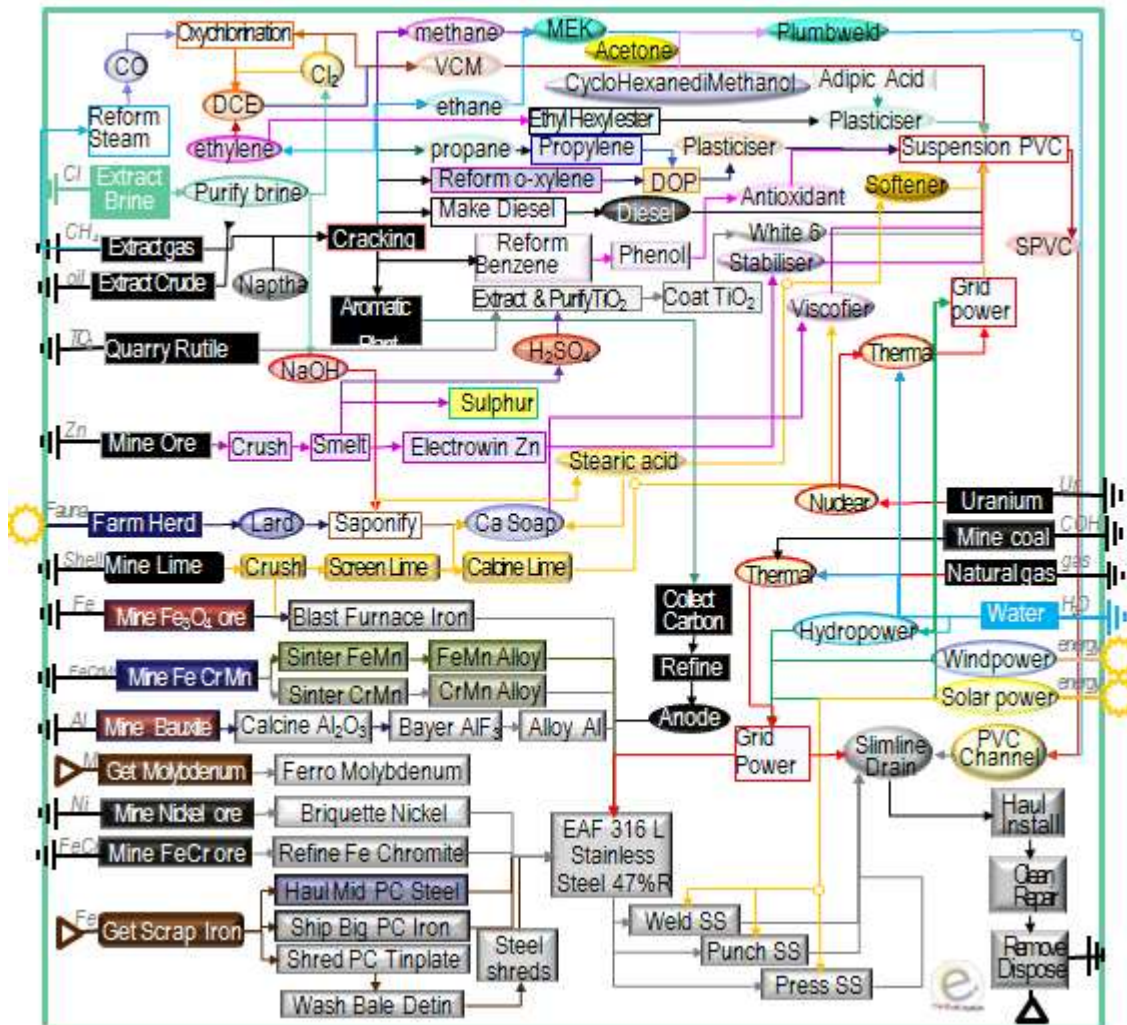


Figure 3 Major Product Operations



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18. Data Sources Representativeness and Quality

Metadata on corporate locations, logistics and technology used is documented along with market share, management systems, standards and commitment to improved environmental performance. The data employed for modelling the state of art of each operation including all known process:

- technology sequences
- energy and water use
- landfill and effluent plus
- reliance on raw and recycled material
- high and reduced process emissions
- freight and distribution systems

Primary data has been sourced from clients, their Annual Reports and research papers since 1995. Background data is sourced from the International Energy Agency, IBISWorld, USGS Minerals, Franklin Associates, Boustead 6, Plastics Europe, CML2, Simapro 8, EcoInvent 3 and NREL USLCI model databases. Information about manufacturers' operations is also sourced from:

- Supply chain mills, their technical manuals, corporate annual reports and sector experts;
- Manufacturers development license applications, specifications, websites;
- Library, document, NPI and web searches, review papers, building manuals and
- Global Industry Association and Government reports on Best Available Technology (BAT).

As most sources do not provide estimates of accuracy a pedigree matrix of uncertainty estimates to 95% confidence levels of Geometric Standard Deviation² (σ_g) is used to define quality as in Table 4⁷. Data sets with uncertainties in any of these qualities greater than $>\pm 30\%$ are not used.

Table 5 Data Quality Uncertainty (U) for 2014

Metric σ_g	U ± 0.01	U ± 0.05	U ± 0.10	U ± 0.20	U ± 0.30
Temporal	Post 2013	Post 2009	Post 2005	Post 2000	Pre 1999
Duration	>3yr	3yr	2yr	1yr	<1yr
Data Source	Process	Line	Plant	Corporate	Sector
Technology	Actual	Comparable	Within Class	Conventional	Within Sector
Reliability on	Site Audit	Expert verify	Region Report	Sector Report	Academic
Precision to	Process	Line	Plant	Company	Industry
Geography	Process	Line	Plant	Nation	Continent
True of the	Process	Mill	Company	Group	Industry
Sites cover of	>50%	>25%	>10%	>5%	<5%
Sample size	>66% trend	>25% trend	>10% batch	>5% batch	Academic
Cut-off mass	0.01%	0.05%	0.1%	0.5%	1%
Consistent to	± 0.01	$<\pm 0.05$	$<\pm 0.10$	$<\pm 0.20$	$<\pm 0.30$
Reproducible	>98% confidence	>95%	>90%	>80%	<70%
Certainty	Very High	High	Typical	Poor	$\geq \pm 0.30$ unused

The Evah databases exist in top zones of commercial global modelling and calculating engines. Quality control methods are applied to ensure:

- Coverage of place in time with all information⁸ for each dataset noted, checked and updated;
- Consistency to Evah guidelines⁹ for all process technology, transport and energy demand;
- Completeness of modelling based on in-house reports, literature and industry reviews;
- Plausibility in 2 way checks of LCI input and output flows of data checked for validity, plus
- Mathematical correctness of all calculations in mass and energy balance cross checks.

Electricity supply models in the active databases are updated annually. As each project is modelled and new data is available the databases are updated and audited by external certifiers.

⁷ Evah Institute data quality control system accords with UNEP SETAC Global LCI Database Quality 2010 Guidelines

⁸ Jones D G (2004) LCI Database for Australian Commercial Building Report 2001-006-B-15 Icon.net, Australia

⁹ Evah Tools, Databases and Methodology Queensland, Australia at <http://www.evah.com.au/tools.html>



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19. Assumptions for Supply Chain Modelling

Industry sector inventory data is also developed to represent business as usual as well as BAT practices with operations covering industry supply chains and infrastructure in Australia and overseas. Environmental performance is evaluated across sectors by mining, farming, fishery, forestry, freight, infrastructure, manufacture and other process technology type plus their license conditions. Australian building sector rules and Evah assumptions applied are defined in Table 6.

Table 6 Scope Boundaries Assumptions and Metadata

Quality/Domain	National including Import and Export
Process Model	Typical industry practice with currently most common or best (BAT) technology
Resource flows	Regional data for resource mapping, fuels, energy, electricity and logistics
Temporal	Project data was collated from 2011 to 2014
Geography	Designated client, site, regional, national, Pacific Rim then European jurisdiction
Representation	Designated client, their suppliers and energy supply chains back to the cradle
Consistency	Model all operations by known given operations with closest proximity
Technology	Pacific Rim Industry Supply Chain Technology typical of 2012 to 2015
Functional Unit	Typical product usage with cleaning & disposal/m ² over the set year service life
System Control	
Primary Sources	Clients and suppliers mills, publications, websites, specifications & manuals
Other Sources	IEA 2014 , GGT 2014 , Boustead 2013 , Simapro 2014 , IBIS 2013 , Ecolinvent 2014 ,
Data mix	Power grid and renewable shares updated to latest IEA 2014 reports
Operational	Company data for process performance, product share, waste and emissions
Logistics	Local data is used for power, fuel mix, water supply, logistics share & capacity
New Data Entry	Evah Institute 2014; Global Green Tag Researchers 2014; IBIS 2014
Data Generator	Manufacturers, Evah Institute 2014; GGT 2014 ; Meta: IBIS 2012, Other pre 2014
Data Publisher	The Evah Institute Pty Ltd to Global GreenTag and designated client only
Persons input	All contributors cited in Evah & Global GreenTag records or websites
Data Flow & Mix	
System Boundary	Earth's cradle of all resource & emission flows to end of use, fitout or build life
System flows	All known from and to air, land, water and community sources & sinks
Capital inclusions	Natural stocks Δ , industry stockpiles Δ , capital wear Δ , system losses and use
Arid Practice	Dry technology adopted, Water use is factored by 0.1 as for e.g. Mining
Transportation	Distance >20% than EU; >20% fuel efficient larger vehicles, load & distance
Industrial	Company or industry sector data for manufacturing and minerals involved
Mining	All raw material extraction is based on Australian or Pacific Rim technology
Imported fuel	Mix is from nearest sources is e.g. UAE, SE Asia, Canada or New Zealand
Finishes	Processing inputs with finishing burdens are factored in. If not that is denoted
Validation	
Accuracy	10 th generation study is ± 5 to 15% uncertain due to some background data
Completeness	All significant operations are tracked and documented from the cradle
Precision	Tracking of >90% flows applies a 90:10 rule sequentially to 99.9% and beyond
Allocation	%100 to co products on reaction stoichiometry by energetic or mass fraction
Burdens	All resource use from & emissions to community air land, water are included
Plausibility	Results are checked and benchmarked against BAT, BAU & worst practice
Sensitivity	Calculated U is reported & compared to libraries of Bath U RICE & Ecolinvent3
Validity Checks	Are made versus Plastics Europe, Ecobilan, GaBi & or Industry LCA Literature



Slimline Stainless Steel & PVC Interior Drainage System

20. References for this LCA & EPD

Australian & New Zealand (ANZECC) Guidelines For Fresh & Marine Water Quality (2000)
<http://www.environment.gov.au/water/quality/national-water-quality-management-strategy>

Basel Convention (2011) Control of Transboundary Movement of Hazardous Waste & Disposal
<http://www.basel.int/portals/4/basel%20convention/docs/text/baselconvention-text-e.pdf>

Boustead (2014) Model 6 LCI database <http://www.boustead-consulting.co.uk/publicat.htm> USA & UK

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Evah (2015) LCA Tools, Databases & Methodology at <http://www.evah.com.au/tools.html>

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Jones D.G et al. (2009) Chapter 3: Material Environmental LCA in Newton P et al., (eds) [Technology, Design & Process Innovation in the Built Environment](#), Taylor & Francis, UK

IBISWorld (2014) Market Research, <http://www.ibisworld.com.au/> IBISWorld Australia

International Energy Agency (2014) Energy Statistics <http://www.iea.org/countries/membercountries/>

ISO 9001:2008 Quality Management Systems Requirements

ISO 14001:2004 Environmental management systems: Requirements with guidance for use

ISO 14004:2004 EMS: General guidelines on principles, systems & support techniques

ISO 14015:2001 EMS: Environmental assessment of sites & organizations (EASO)

ISO 14020:2000 Environmental labels & declarations — General principles

ISO 14024:2009 Environmental labels & declarations -- Type I Principles & procedures

ISO 14025:2006 Environmental labelling & declarations Type III EPDs Principles & procedures

ISO 14031:1999 EM: Environmental performance evaluation: Guidelines

ISO 14040:2006 EM: Life cycle assessment (LCA): Principles & framework

ISO 14044:2006 EM: LCA: Requirement & guideline for data review: LCI; LCIA, Interpretation results

ISO 14064:2006 EM: Greenhouse Gases: Organization & Project reporting, Validation & verification

ISO/TS 14067:2013 Greenhouse gases Carbon footprint of products Requirements and guidelines for quantification and communication.

ISO 15392:2008 Sustainability in building construction General principles

ISO 15686-1:2011 Buildings & constructed assets Service life planning Part 1: General principles

ISO 15686-2:2012 Buildings & constructed assets Service life (SL) planning Part 2: prediction

ISO 15686-8:2008 Buildings & constructed assets SL planning Part 8: Reference & estimation

ISO 21929-1:2011 Sustainability in building construction Sustainability indicators Part 1: Framework

ISO 21930:2007 Building construction: Sustainability, Environmental declaration of building products

ISO/TS 21931-1:2010 Sustainability in building construction: Framework for assessment, Part 1:

ISO 21932:2013 Sustainability in buildings and civil engineering works -- A review of terminology

Plastics Europe (2014) Portal <http://www.plasticseurope.org/plastics-sustainability/eco-profiles.aspx>

Pre (2014) SimaPro 8 Software, The Netherlands <http://www.pre-sustainability.com/simapro-manuals>

Roache S. K. (2012) IMF Report WP/12/115 China's Impact on World Commodity Markets

<http://www.imf.org/external/pubs/ft/wp/2012/wp12115.pdf> International Monetary Fund

UNEP (2014) Persistent Organic Pollutants <http://www.chem.unep.ch/pops/> The UN

USLCI (2014) Life-Cycle Inventory Database <https://www.lcacommons.gov/nrel/search>, USA

U.S. Geological Survey National Minerals <http://minerals.usgs.gov/minerals/pubs/country/> USA

US EPA (2014) Database of Sources of Environmental Releases of Dioxin like Compounds in U.S
<http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=20797> p 1-38, 6-9, USA

Appendix A Reviewers Report Conclusions



Ecuate Reviewers Report Conclusions

The stand-alone independent reviewer's report defined in Section 12 and verified in Section 13 confirmed that the LCA project report and addition information addressed the EPD.

The conclusions of the independent verifier's report confirmed that documentation according to ISO Standard requirements as denoted was also provided including evidence from the:

The Evah Institute, the LCA developer:

- a) Recipes of input and output data of unit processes used for LCA calculations ✓
- b) Datasheets of measures, calculations, estimates and emails with
 - Sources & citations in Table 6 ✓
- e) References to literature and databases from which data was extracted noted in Table 6 ✓
- g) Notes on supply chain processes and scenarios satisfying requirements of this Standard ✓
- i) Embodied Energy shares as used for sensitivity analyses re ISO 14044:2006, 4.5.3.3 ✓
- j) Proof percentages or figures in calculations in the end of life scenario ✓
- k) Notes on proof of % and allocation calculations ✓
- o) All operations covered Vs criteria and substantiation used to determine system boundaries ✓

Product Manufacturer in:

- c) Specifications used to create the manufacturer's product ✓
- d) Citations References, specifications or regulations & data showing completeness ✓
- f) Specification demonstrating that the building product can fulfil the intended use ✓

The Certifier Global GreenTag on:

- l) Notes on calculation of averages of different locations yielding generic data ✓
- m) Substantiating additional environmental information ISO 14025:2006, 7.2.4 ✓
- n) Procedures for data collection, questionnaires, instructions, confidentiality deeds ✓

Requiring No Evidence

As the EPD is cradle to grave as well as PCR compliant the independent reviewer did not need to:

- h) Substantiate a few stages as all stages were substantiated ✓
- p) Substantiate alternatives when no other choices and assumptions were applied ✓
- q) Demonstrate consistency for few stages as the same rules in Tables 5 and 6 applied to all. ✓



**Slimline Stainless Steel & PVC
Interior Drainage System**

Environmental Product Declaration



**Global GreenTagCert™ EPD Program
Environmental Product Declaration
Compliant to ISO 21930**

This Environmental Product Declaration (EPD) discloses potential environmental outcomes compliant with ISO 14025 for business to business communication.

Further and explanatory information is found at

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

Or contact:

certification1@globalgreentag.com

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