Environmental Product Declaration

in accordance with ISO 14025 and EN 15804

45.120

Addit Bento® monitor riser - adjustable 120

EPD Issue date	2019-02-08
EPD Expires on	2024-02-07
Market coverage	Europe

dataflex

feeling at work

General

This environmental product declaration (EPD) is based on the results of the Life Cycle Assessment (LCA) that was commissioned by Dataflex and performed by Ecochain. The LCA and EPD comply with the requirements of ISO 14040 [1], ISO 14044 [2] and ISO 14025 [3] and follow the rules set out in "INSIDE/INSIDE Horizontale PCR" [6] and "INSIDE/INSIDE PCR Accessoires" [7]. Both product category rules (PCR's) are based on EN15804:2012+A1:2013 [4].

EPD of interior design products may not be comparable if they do not comply with "INSIDE/INSIDE Horizontale PCR" [6].

EPD Program	INSIDE/INSIDE Dutch Green Building Council Zuid Hollandlaan 7 2596 AL Den Haag The Netherlands www.insideinside.com
EPD Program operator	INSIDE/INSIDE
EPD Owner/ Manufacturer	Dataflex International B.V. Van Nassauweg 2-6 2921 LX Krimpen aan den IJssel The Netherlands www.dataflex-int.com
EPD in accordance with	- INSIDE/INSIDE Horizontale PCR; version 1.2, 2018-12-10 - INSIDE/INSIDE PCR Accessoires; version 1.1, 2018-12-12
EPD type	Cradle to grave; no stages were omitted.
LCA Report prepared by	Maarten Bruinsma Environmental specialist Ecochain B.V. Burgerweeshuispad 201 1076 GR Amsterdam The Netherlands www.ecochain.com
Background data	Ecoinvent database version 3.4
Year of study	2017
EPD prepared by	Gijs Peeters QHSE Manager Dataflex International B.V.

Demonstration of verification

CEN standard EN 15804 serves as the core PCR
Independent verification of the declaration and data, according to EN ISO 14025:2010 ☐ internal ☑ external
Third party verifier: René Kraaijenbrink, LBP Sight

Company

At Dataflex we want to help you get the most out of yourself. This is why we want the place where you work to be a place where you feel at home. We call it 'feeling at work'.

Our product collections achieve the optimal balance between functionality, design and price. But while we help create ergonomic computer workplaces to suit every budget, we never compromise on quality.

What makes us tick

As well as sustainable relationships, we also want to do our bit for a sustainable planet. We try hard to be transparent at all times, and always to operate with integrity and respect for society and our environment. And we like to work with partners who feel the same way.

The Dataflex core values

We're honest and transparent, following not just the letter but the spirit of legislation and regulations.

We look to minimize the environmental impact of our products throughout their lifespan.

We try to do what's best by all our stakeholders, are open to criticism and seek out partners who share our core values. Why? Because we want to do things even better tomorrow than we do them today.

Better for those stakeholders, better for the planet and better for society.

Want to know more? Visit our website:

www.dataflex-int.com

Scope

Reference unit

The declared functional unit encompasses the production, installation, use and waste processing of one Addit Bento® monitor riser - adjustable 120 (art. no. 45.120) as sold by Dataflex

Product description

The beauty of a design that is simple yet effective: this height adjustable Addit Bento® monitor riser helps to improve your body posture by raising your monitor to eye-level. Its rubber feet ensure your monitor is perfectly stable and your desk remains scratch-free. Designed by Robert Bronwasser.

Specifications

- Suitable for monitors up to 20 kg
- Made of sturdy steel with a durable matt powder coating
- Works great with the Addit Bento® ergonomic toolbox
- Has 3 height settings: 110, 135 and 160 mm
- Dimensions (w x d x h): 381 x 260 x 110 - 160 mm
- The reference service life (RSL) is 10 years [a].

List of materials for Addit Bento® monitor riser - adjustable 120

Materials		Quantity	Unit
Main body	SAE1008 hot-rolled steel	5,023	kg
	Zinc coating	0.063	m^2
	Rubber	0,005	kg
	Nylon	0,025	kg
Packaging materials	Plastic packaging (PE)	0,042	kg
	Cardboard box	0,504	kg
Auxiliary materials	Manuals & product sheets	0,015	kg

Table 1: Composition 45.120

No material content of this product has substances of very high concern (SVHC's) that are listed on the "Candidate List of Substances of very high concern for authorization" exceeding the limits for registration with the European Chemicals Agency (ECHA).

Data representation

Data concerning the manufacturing of the 45.120 and the used background processes for environmental impacts are recent (<2 years). All processing data has been modelled using Ecoinvent [8] (cut-off system model) references, released in 2017. Calculations were performed with Ecochain version 2.10 [5]

[a] Based on fixed RSL of "INSIDE/INSIDE PCR Accessoires" [7]

Process description

The process tree consists of all processes that cause environmental impacts, such as material extraction and the transportation of these resources to the production facility. The processes and life cycle modules that are included in this study are defined by system boundaries. In the LCA the following stages are covered:

- Raw material supply (A1), transport to production facility (A2) and manufacturing (A3)
- Transport to the customer (A4) and the installation process (A5)
- Use phase (B)
- De-installation (C1), transport to waste processing site (C2), waste processing (C3) and disposal (C4)
- Reuse, recovery or recycling potential (D)

During the use of Dataflex products no consumption, emissions or environmental impacts take place. Phase B is therefore not included in the process tree.

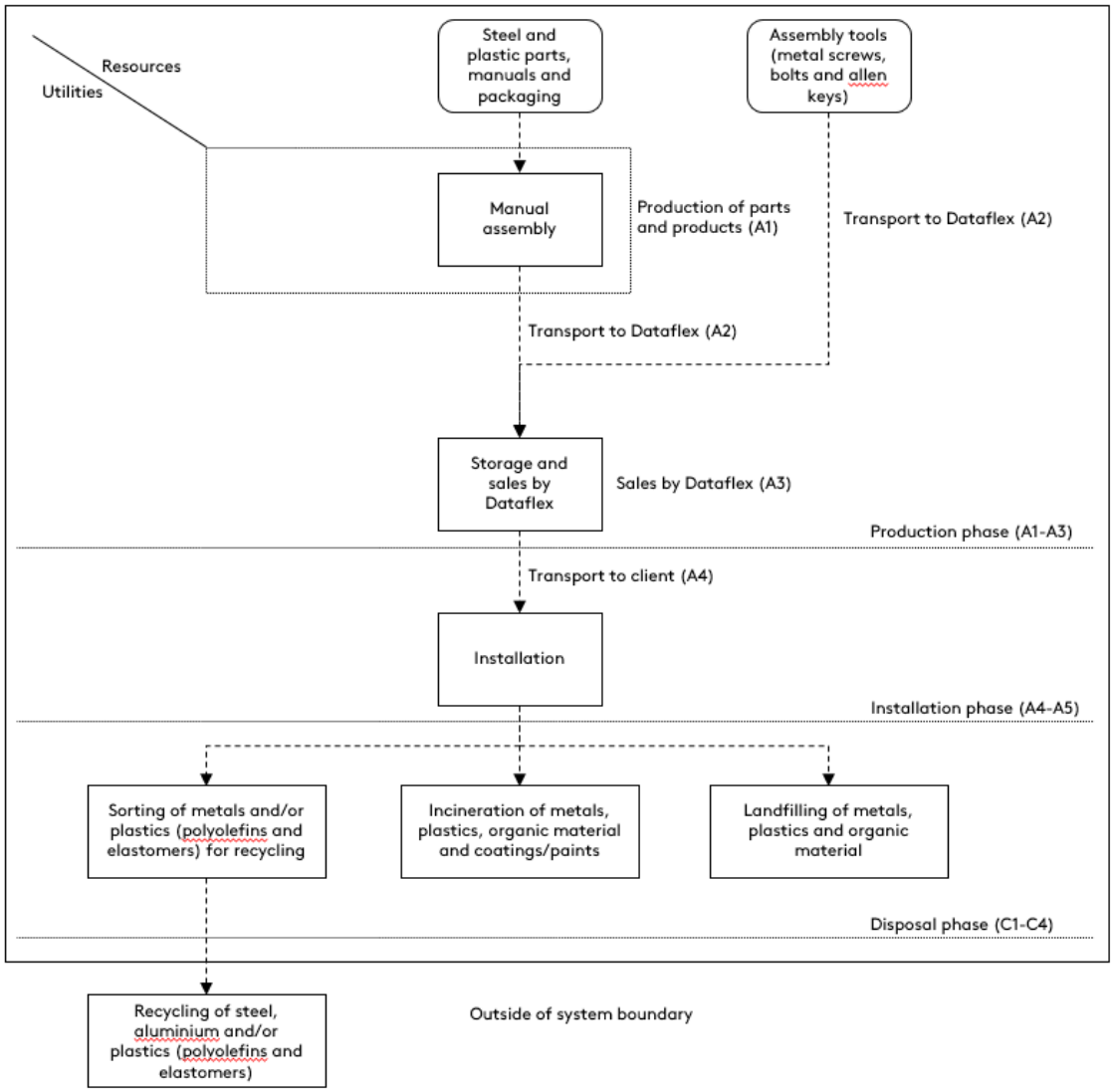

Figure 1: Process tree of 45.120

It is known metal working processes take place at the supplier of the 45.120, but no reliable data could be collected. Most parts are made by subsuppliers who did not supply data. As such, average plastic and metal working references from Ecoinvent 3.4 [8] are used for this supplier. After use, the products are discarded by customers without the involvement of Dataflex. As such, standard waste scenario's as described in "INSIDE/INSIDE Horizontale PCR" (appendix A) [6] are used.

System boundary and cut off criteria

In figure 1 the most important processes in the different life cycle stages are visualized as a process tree. Inputs and outputs that leave the system boundary are placed outside the system boundary. For reasons of clarity, not every emission that takes place at each process is visualized. However, all emissions and resource extractions that take place in the life cycle were included in the LCA calculations. In this LCA, the waste processes are declared in the relevant module. In the case of the use of secondary materials or energy recovered from secondary fuels, the system boundary between the system under study and the previous system (providing the secondary materials) is set where outputs of the previous system, e.g. materials, products, building elements or energy, reach the end-of waste state. For all materials, the cut–off is set after any pre-treatment processes such as sorting, as the recovered materials must be applicable for a specific purpose.

In this analysis all environmental inputs - such as resources, energy and waste – were qualified, quantified and translated to environmental impacts through the use of LCA background data from Ecoinvent [8].

Module A

All relevant resources, materials and services in production phase A1 are based on the composition of the products and Ecoinvent [5] references. Therefore no co-product allocation of energy usage was needed. The impact of modules A1 to A3 has been aggregated. Transport from Dataflex to its clients (A4) is set to 1 km, in accordance with "INSIDE/INSIDE Horizontale PCR" (paragraph 5.6) [6]. The impact of A4 is therefore not representative for the actual impact of the transport. Module A4 in this report should be scaled to the actual transport distance of the products from Dataflex to the respective client. All truck transport takes place with >32 t EURO4 trucks, as is described in "INSIDE/INSIDE Horizontale PCR" (paragraph 6.3.6.2) [6]. This reference from Ecoinvent [8] assumes an average load factor of 50%, in other words: fully loaded transport towards the customer with empty returns. The impact of production and waste processing of tools and fittings required to install the products is seen as the impact of the installation phase (A5).

Module B

The product consumes no resources or materials and the applied materials do not cause emissions in use.

Modules C and D

As no demolition takes place, there is no impact for C1. For transport to the waste processing site, distance to sorting/landfilling locations is set to 50 km and to incineration plants to 100 km in accordance with "INSIDE/INSIDE Horizontale PCR" [6]. The waste scenario for all materials has been based on appendix A of "INSIDE/INSIDE Horizontale PCR" [6], and is given in table 2.

Material group	Landfill (%)	Incineration (%)	Recycling (%)	Product re-use (%)
Plastics (rest materials)	20	80	0	0
Polyolefins (i.a. pe,pp)	10	85	5	0
Metals, other / metals (rest materials)	5	5	90	0
Finishing (attached to wood, plastic, metal)	0	100	0	0
Organic (via rest materials)	15	85	0	0
Elastomers (i.a. epdm)	10	85	5	0

Table 2: waste scenario's C3-D

For metals the end-of-waste is reached when the material is sorted, as the sorted metal can replace primary material inputs of metal production. In the case of metals, the (technically equivalent) avoided materials have been determined based on Ecoinvent [8] references used for the primary material that is used in module A1. Sorted steel replaces pig iron as raw material input for steel production

For polyolefins the end-of-waste is reached when the material have been pre-sorted and sorted, as the sorted plastics can be used as raw material input for secondary polyolefin granulate production. The sorted polyolefins therefore indirectly replace plastic (polyolefin) powder as input for granulate production. The impact of the granulation process in Ecoinvent [8] of recycled polyethylene is assumed to be similar to the granulation of virgin polyethylene in Ecoinvent [8].

For elastomers the end-of-waste is also reached when the material have been pre-sorted and sorted, as the sorted elastomers can be used as raw material input for secondary elastomer production (paragraph 2.4). According to the Ecoinvent [8] reference of the elastomer synthetic rubber, the sorted polyolefins indirectly replace raw HDPE (40%) and black carbon (60%) as input for elastomer (synthetic rubber) production. As the processing of sorted elastomers is unknown, it is assumed the same losses occur for elastomers as for polyolefins (4,48%).

All materials that are incinerated are associated with energy recovery, as it is assumed the products are incinerated in the Netherlands or similar countries. The energy yield of Dutch incineration facilities is taken from the SBK Bepalingsmethode [9].

Environmental indicators

Tables 3 to 6 show the parameters that describe the environmental impacts, resource use, waste categories and other output flows of one unit of the 45.120.

Parameter	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D	Total
Depletion of abiotic resources – elements (ADP - elements)	kg Sb equiv.	1,59E-01	3,83E-06	0,00E+00	0	0	5,75E-04	8,91E-04	2,51E-05	-6,44E-02	9,65E-02
Depletion of abiotic resources - fossil fuels (ADP - fossil fuels)	MJ, net colorific value	2,69E+02	8,40E-03	0,00E+00	0	0	1,26E+00	1,73E+00	5,51E-02	-9,85E+01	1,74E+02
Acidification for soil and water (AP)	kg SO_2 equiv.	1,42E-01	1,99E-06	0,00E+00	0	0	2,99E-04	1,16E-03	1,37E-05	-3,88E-02	1,04E-01
Ozone depletion (ODP)	kg CFC 11 equiv.	1,43E-06	9,67E-11	0,00E+00	0	0	1,45E-08	1,63E-08	6,09E-10	-4,64E-07	1,00E-06
Global warming (GWP)	kg CO_2 equiv.	2,39E+01	5,07E-04	0,00E+00	0	0	7,61E-02	3,10E-01	2,67E-03	-9,40E+00	1,49E+01
Eutrophication (EP)	kg $(PO_4)^{3-}$ equiv.	2,37E-02	3,51E-07	0,00E+00	0	0	5,26E-05	2,56E-04	2,69E-06	-4,05E-03	2,00E-02
Photochemical ozone creation (POCP)	kg ethene equiv.	9,61E-03	8,32E-08	0,00E+00	0	0	1,25E-05	4,49E-05	8,21E-07	-6,71E-03	2,96E-03

Table 3: Environmental impacts

Parameter	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D	Total
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	MJ, net calorific value	2,29E+01	1,17E-04	0,00E+00	0	0	1,75E-02	2,48E-01	1,37E-03	-9,29E+00	1,39E+01
Use of renewable primary energy resources used as raw materials	MJ, net calorific value	8,24E+00	0,00E+00	0,00E+00	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00	8,24E+00
Total use of renewable primary energy resources	MJ, net calorific value	2,73E+01	1,17E-04	0,00E+00	0	0	1,75E-02	2,48E-01	1,37E-03	-9,29E+00	1,83E+01
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	MJ, net calorific value	2,90E+02	8,55E-03	0,00E+00	0	0	1,28E+00	1,96E+00	5,60E-02	-9,99E+01	1,93E+02
Use of non-renewable primary energy resources used as raw materials	MJ, net calorific value	2,84E+00	0,00E+00	0,00E+00	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,84E+00
Total use of non-renewable primary energy resources	MJ, net calorific value	2,93E+02	8,55E-03	0,00E+00	0	0	1,28E+00	1,96E+00	5,60E-02	-9,99E+01	1,96E+02
Use of secondary material	kg	2,99E+00	0,00E+00	0,00E+00	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00	2,99E+00
Use of renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Use of non-renewable secondary fuels	MJ, net calorific value	0,00E+00	0,00E+00	0,00E+00	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Net use of fresh water	m^3	1,45E-01	4,36E-07	0,00E+00	0	0	6,53E-05	1,18E-03	3,66E-06	-1,41E-02	1,33E-01

Table 4: Resource use

Parameter	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D	Total
Hazardous waste disposed	kg	1,74E-03	5,94E-08	0,00E+00	0	0	8,91E-06	1,27E-05	3,79E-07	-1,05E-03	7,21E-04
Non-hazardous waste disposed	kg	5,99E+00	6,92E-04	0,00E+00	0	0	1,04E-01	2,06E-01	3,39E-01	-3,72E-01	6,27E+00
Radioactive waste disposed	kg	7,37E-04	5,48E-08	0,00E+00	0	0	8,22E-06	1,02E-05	3,43E-07	-1,04E-04	6,51E-04

Table 5: Waste categories

Parameter	Unit	A1-A3	A4	A5	B1-B7	C1	C2	C3	C4	D	Total
Components for re-use	kg	0,00E+00	0,00E+00	0,00E+00	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Materials for recycling	kg	0,00E+00	0,00E+00	0,00E+00	0	0	0,00E+00	4,52E+00	0,00E+00	0,00E+00	4,52E+00
Materials for energy recovery	kg	0,00E+00	0,00E+00	0,00E+00	0	0	0,00E+00	0,00E+00	0,00E+00	0,00E+00	0,00E+00
Exported energy	MJ per energy carrier	0,00E+00	0,00E+00	0,00E+00	0	0	0,00E+00	9,37E+00	0,00E+00	0,00E+00	9,37E+00

Table 6: Other output flows

References

[1] 'ISO 14040: Environmental management - Life cycle assessment – Principles and Framework', International Organization for Standardization, ISO14040:2006.

[2] 'ISO 14044: Environmental management - Life cycle assessment - Requirements and guidelines', International Organization for Standardization, ISO14044:2006.

[3] 'ISO 14025: Environmental labels and declarations -- Type III environmental declarations -- Prin-ciples and procedures', International Organization for Standardization, ISO14025:2006.

[4] 'NEN-EN 15804: Sustainability of construction works - Environmental product declarations - Core rules for the product category of construction products', NEN-EN 15804:2012+A1:2013.

[5] Ecochain, 2017, web: http://app.Ecochain.com.

[6] INSIDE/INSIDE Horizontale PCR; version 1.2, 2018-12-10

[7] INSIDE/INSIDE PCR Accessoires; version 1.1, 2018-12-12

[8] Ecoinvent database version 3.4

[9] 'SBK Bepalingsmethode Milieuprestatie Gebouwen en GWW werken', Stichting Bouwkwaliteit, versie januari 2019.