



ASP™
access floors
INTERNATIONAL

ENVIRONMENTAL PRODUCT DECLARATION OF

ICON ACCESS FLOOR SYSTEMS

ENVIRONMENTAL PRODUCT DECLARATION (EPD)
IN ACCORDANCE WITH
ISO 14025: 2006 AND EN 15804+A2:2019/AC:2021

PROGRAMME: EPD AUSTRALASIA

PROGRAMME OPERATOR: EPD AUSTRALASIA <https://epd-australasia.com/>

EPD REGISTRATION NUMBER: S-P-00863 v2.0

REGISTRATION DATE: 2017-03-15

REVISION DATE: 2024-02-28

VALID TO: 2029-02-28

VERSION NUMBER : 2.0

GEOGRAPHICAL SCOPE: AUSTRALIA

This EPD covers multiple products (average set of results) with different registration numbers. The products covered in the EPD are Icon X, Icon Air, and Icon HPL access floors.

An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at <https://epd-australasia.com/>.

 **EPD®**

THE INTERNATIONAL EPD® SYSTEM

 **EPD®**

AUSTRALASIA

ENVIRONMENTAL PRODUCT DECLARATION



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EPD Profile

An Environmental Product Declaration, or EPD, is a standardised and verified way of quantifying the environmental impacts of a product based on a consistent set of rules known as a PCR (Product Category Rules). ASP Access Floors has the sole ownership, liability, and responsibility for the EPD. EPDs within the same product category but from different programmes may not be comparable. For two EPDs to be comparable, they shall be based on the same PCR (including the same version number up to the first two digits) or be based on fully-aligned PCRs or versions of PCRs; cover products with identical functions, technical performances and use (e.g. identical declared/functional units); have equivalent system boundaries and descriptions of data; apply equivalent data quality requirements, methods of data collection, and allocation methods; apply identical cut-off rules and impact assessment methods (including the same version of characterisation factors); have equivalent content declarations; and be valid at the time of comparison. EPDs of construction products may not be comparable if they do not comply with EN 15804. The results for EN15804+A1 compliant EPDs are not comparable with EN15804+A2 compliant studies as the methodologies are different. Results that are EN15804+A1 compliant are given in this document to assist comparability across EPDs."

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CEN standard EN 15804 serve as the core Product Category Rules (PCR)

Product category rules (PCR): PCR 2019: 14 Construction products, version 1.3.1

PCR review was conducted by: The Technical Committee of the International EPD® System. See www.environdec.com for a list of members.

Review Chair: Martin Erlandsson. Contact via info@environdec.com

Independent verification of the declaration and data, according to ISO 14025:

- ☐ EDP process certification (internal)
☒ EPD verification (external)

This EPD can be used to claim points under Green Building Council Australia (GBCA) Green Star rating tools, specifically Material credits (up to 7 credits total) and Responsible Building Material Credits (up to 3 credits) in the Green Star Design & As Built tool.

The EPD owner has the sole ownership, liability, and responsibility for the EPD.

This version of the EDP has been updated to correct environmental impacts for Icon.

Third-party verification

Independent verification of the declaration and data, according to ISO 14025: 2006, via:

EPD verification by individual verification by individual verifier.

Third-party verifier: Jonas Bengtsson
jonas.bengtsson@edgeimpacy.global

Verifier approved by: EPD Australasia

Procedure for follow-up of data during EPD validity involved third-party verifier

Yes ☐
No ☒



Company Profile

ASP Access Floors Pty Ltd is a global leading company that specializes in manufacture, distribution, and installation of access floors around the world. Our sole mission at ASP is to provide all our clients with exceptional products and service.

Since our conception ASP has delivered some of the most effective solutions on the market. Through research and analysing current trends and problems that occur with access floors, we have already developed some of the most unique and effective products on the market.

↔ Ease of Configuration

The modular design of the access floor enables businesses to re-configure their offices.

\$ Cost

The cost differentiation between the installation and maintenance of traditional suspended ceiling system vs. ASP access floor system are exceptionally high. Overall access floors are approximately 40% cheaper to install and maintain services.

🕒 Project Timeline

Installing services in the floor in lieu of the suspended ceiling system dramatically cuts the time of installation, which in turn cuts the overall project construction time.

⚙ Maintenance

Services can be maintained regularly and without lengthy time delays as service personnel are able to isolate and service zones as required, which minimizes the interruptions to your work.

🌡 Comfort

With HVAC system installed in the floor, employees can individually control air pressure and temperature through their office floor diffusers.

The use of access floors in the workplace is rapidly gaining popularity within the construction industry. Their specifically designed flexibility and capacity to change has made access floors the perfect solution for many owners, developer, designers and facility managers.

Product Description

The access flooring system is made up of floor panels and pedestals. The Icon (Icon) panel is a robust lightweight cementitious panel which is steel encased to help provide maximum durability. The Icon panel is the most specified panel in the industry and is regarded as ASP Access Floors' standard panel for numerous applications.

The standard Icon panel (600mm x 600mm) consists of a powder-coated high-density steel shell and edge. A cementitious core (cement, fly ash and grey water) is injected to provide a robust sound-dampening flooring surface.

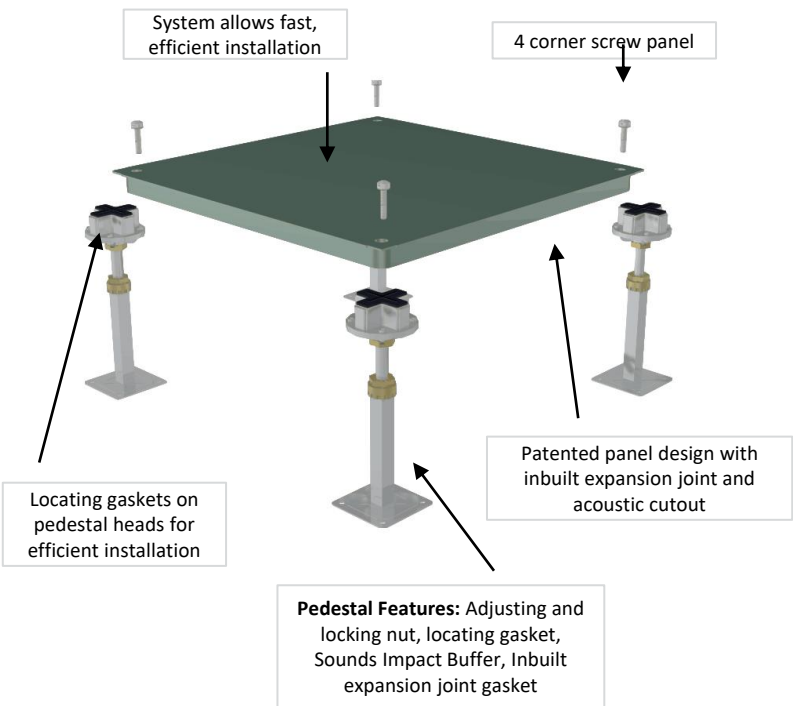
EPD Product Inclusions

The **Icon X System** is a stringer-less system where the panels are individually screw fixed onto the pedestal heads (Figure 1). This system is widely used for electrical and data cable management, and for applications where there is a need for an under-floor baffle/plenum of air highway. This system is recommended for applications such as general offices, banks, learning institutions and libraries.

Icon Air System is a system that is specifically designed to minimize air leakage, when the access floor is to be used as a plenum. This system incorporates the use of a clip-on Air stringer that acts as a barrier in between the panels to eliminate air leakage. This system is recommended for applications such as general offices, banks, learning institutions, libraries casinos and any project that seeks for 5 and 6 Green Star qualification under Green Building rating scheme.

Icon Data + HPL is designed for those applications used for computer, data, comms, and switch room applications incorporating a 1.6 mm thick anti-static HPL covering. The HPL protects individuals from voltage shorts that can occur with electrical equipment on an access floor and creates an electrostatic discharge which helps prevent buildup of the static electricity which can cause damage to the equipment. This system is recommended for applications such as IT rooms, Comms Rooms, Switch Rooms, and Data Centre.

The under-structure system is composed of Field and Perimeter Pedestals consisting of a head and a base, attached together with a gasket. Different combinations are available to control the cavity height. In some cases, stringers (horizontal components that connect pedestals together) are used to provide additional lateral support at greater floor height and/or increase the structural performance of the raised floor system. ASP Access Floor products are used in a variety of applications e.g. general office areas, gaming areas, education facilities, banks, libraries etc. Before designing the layout and functionality of an access floor, the load capacity and tolerance are determined (concentrated load, ultimate load, uniform load, impact load, rolling load) and the relevant ASP Access Floors componentry selected.



PRODUCT	CLASSIFICATION	CODE	CATEGORY
Icon Access Floor Systems	UN CPC Ver.2	37550	Prefabricated structural components for building or civil engineering, of cement, concrete or artificial stone
	ANZSIC 2006	324	Building Completion Services

EPD Product Inclusions

PRODUCT NAME/REGISTRATION NUMBER	PANEL	FFH	PEDESTALS	STRINGERS
Icon X RN: S-P-00863-01	Medium Grade (3.0kN) 600x600mm Icon Panel	110-180mm	Field Pedestal: S3 Perimeter Pedestal: S4	/
	Heavy Grade (4.5kN) 600x600mm Icon Panel			
Icon Air RN: S-P-00863-02	Medium Grade (3.0kN) 600x600mm Icon Panel	180-1200mm	Field Pedestal: S5 Perimeter pedestal: S6	/
	Heavy Grade (4.5kN) 600x600mm Icon Panel			
Icon Data HPL RN: S-P-00863-03	Heavy Grade (4.5kN) 600*600mm Icon Panel	180-1200mm	Unique Pedestal: S8	S600 Stringer

Material composition of included products per declared unit: Weight, kg

	Icon X (Medium)	Icon X (Heavy)	Icon Air (Medium)	Icon Air (Heavy)	Icon HPL (Heavy)	Post-consumer recycled material, weight %	Biogenic material, weight-% and kg C/kg
Steel (kg)	14.7	16.4	15.0	16.7	16.9	0.91	0 resp. 0
Cement (kg)	13.8	13.8	13.8	13.8	13.8	0	0 resp. 0
Fly Ash (kg)	3.46	3.46	3.46	3.46	3.46	0	0 resp. 0
Grey Water (kg)	3.46	3.46	3.46	3.46	3.46	0	0 resp. 0
Paint (kg)	0.417	0.417	0.417	0.417	0.417	0	0 resp. 0
Aluminium (kg)	0.207	0.207	0.207	0.207	0.442	0	0 resp. 0
Zinc (kg)	0.122	0.122	0.122	0.122	0.129	0	0 resp. 0
ABS (kg)	0.019	0.019	0.019	0.019	0.034	0	0 resp. 0
Rubber (kg)	0.003	0.003	0.029	0.029	0.002	0	0 resp. 0
Paper (kg)	0.000	0.000	0.000	0.000	0.033	0	0.5 resp. 0.5
Total	36.2	37.8	36.5	38.2	38.7		
Packaging Materials	Icon X (Medium)	Icon X (Heavy)	Icon Air (Medium)	Icon Air (Heavy)	Icon HPL	Weight-% (versus the product)	0.5 resp. 0.5 Weight-% (versus the product)
Cardboard (kg)	0.131	0.131	0.133	0.133	0.142	0.004	0.5
Wood (kg)	0.529	0.529	0.534	0.534	0.566	0.014	0.5
PE film (kg)	0.0222	0.0222	0.0228	0.0228	0.0274	0.001	0
Steel (kg)	0.0680	0.0680	0.0680	0.0680	0.0727	0.002	0
Total	0.750	0.750	0.757	0.757	0.807		0.440

The declared unit (DU) is 1 square meter (m2) of access floor installed. Materials used in each product composition are presented in the tables above. The Technical service life of the product is 100 years. The product is expected to last the lifespan of the building.

A modern office interior featuring a long wall with vertical wood paneling on the left. A curved wooden desk with a green plant sits against this wall. Several white chairs and small round tables are arranged along the wall. In the center, a large white cylindrical pillar stands. To the right, a glass-walled office area is visible. In the foreground, a large orange armchair and a small round wooden table are positioned. The floor is a light-colored, polished material. The text "ASP has delivered some of the most effective solutions on the market" is overlaid in the lower-left corner.

ASP has
delivered
some of the
most **effective**
solutions on
the market

Production

All components of the Icon flooring systems are manufactured, assembled and supplied by Changzhou Wujin Zhongtian Computer-Room Equipment Co. Ltd in China.

The manufacturing process for each component is described briefly below.

Panels

600mm x 600mm sheets of mild steel are spot welded together with a 1.5mm edge to form a solid steel case. The case consists of an enclosed die formed cupped bottom pan and a steel top sheet. The steel provides the structural strength to the panel. A cementitious core consisting of cement, fly ash and grey water, is injected between the sheets to provide sound dampening and additional strength. Panels are then powder coated in an epoxy paint finish.

Pedestals

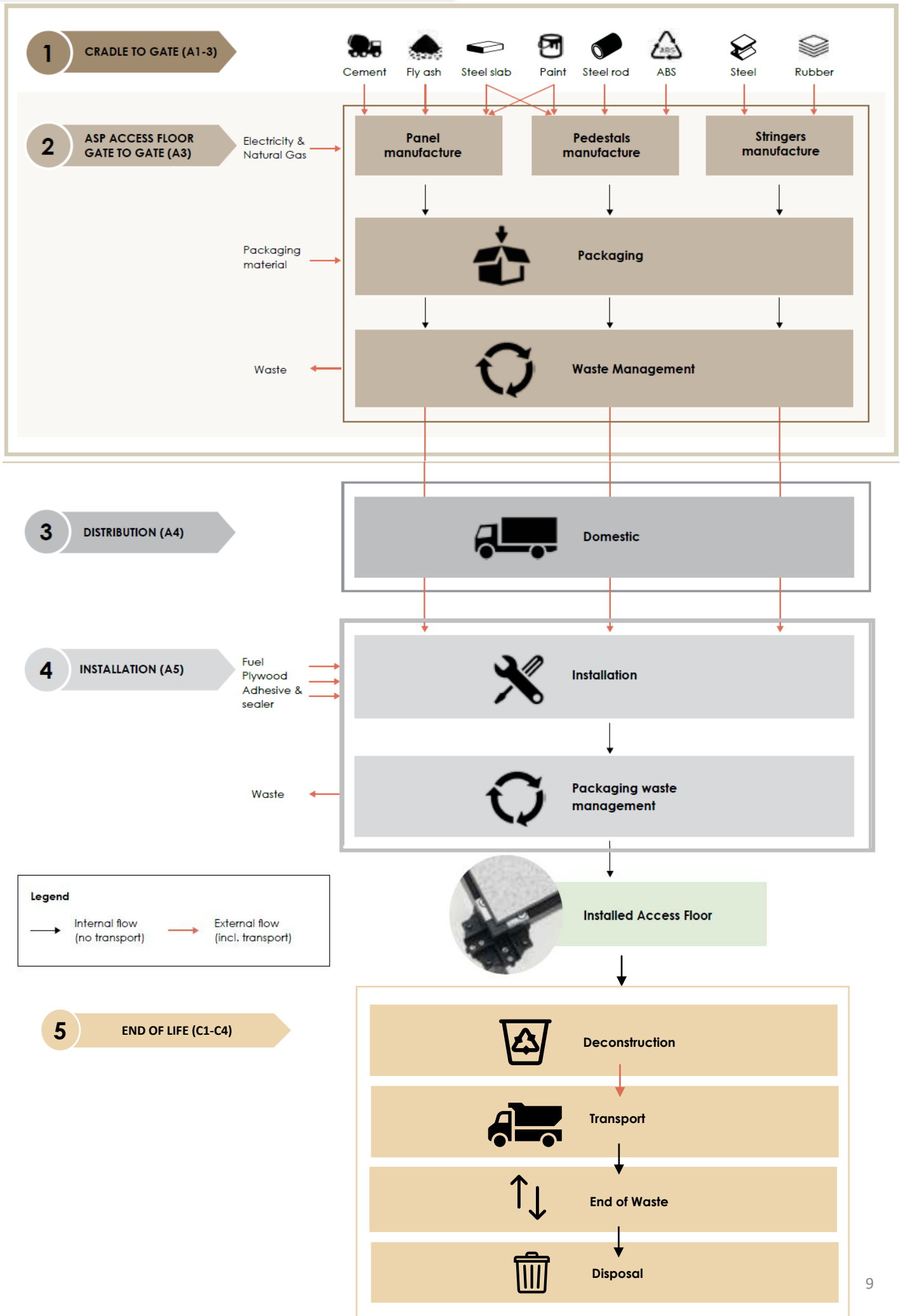
The steel plates are punched and then welded onto individual threaded rods. The resulting bases are powder coated and a nut is added to the threaded rod. Field pedestal heads (for S3 and S5 pedestals) are die-formed punched aluminium threaded onto a steel threaded tube. The inbuilt expansion joint gasket is moulded ABS. Perimeter pedestal heads (for S4, S6 and S8 pedestals) consist of a punched steel plate welded to a steel tube. This is zinc plated and a moulded ABS plastic gasket is attached..

Stringers

The steel plates are punched and then welded onto individual stringers. Steel stringers are then galvanized onsite. 0.3mm rubber band is added on the top for protection and air insulation. All steel used within the manufacturing process (steel case of the panels, steel plate/base for the pedestals and galvanized steel for the stringers) is sourced from Changzhou Jietong Cold Rolled Sheet Co Ltd. Manufacturing of both components and steel use electricity sourced from Chinese national grid mix.



Manufacturing Process



System Boundaries

As shown in the table below, this EPD is of the type Cradle to gate with modules C1–C4 and module D (A1–A3, A4, A5 + C + D). Other life cycle stages (Modules B1–B7) are dependent on scenarios and best modelled at the building level.

Table 4: Modules included in the scope of the EPD

	PRODUCT STAGE				CONSTRUCTION PROCESS STAGE		USE STAGE						END OF LIFE STAGE				RESOURCE RECOVERY STAGE
	Raw material supply	Transport of raw materials	Manufacturing	Transport to customer	Construction / Installation	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction / demolition	Transport to waste processing	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	ND	ND	ND	ND	ND	ND	ND	X	X	X	X	X
Geography	GLO	GLO	CN	AU	AU	ND	ND	ND	ND	ND	ND	ND	AU	AU	AU	AU	AU
Specific Data	>90%					-	-	-	-	-	-	-	-	-	-	-	-
Variation: Products	<10%					-	-	-	-	-	-	-	-	-	-	-	-
Variation: Sites	NA					-	-	-	-	-	-	-	-	-	-	-	-

X = included in the EPD; ND = Module not declared (such a declaration shall not be regarded as an indicator result of zero)

The processes below are included in the product system to be studied. For modules beyond A3, the scenarios included are currently in use and are representative for one of the most probable alternatives.

Product Stage (Modules A1-A3)

All components of the Icon X flooring system are manufactured, assembled and supplied by Changzhou Wujin Zhongtian Computer-Room Equipment Co. Ltd in China Module A1 (raw material supply) includes the production of metals, cement, plastics as received by the supplier. Module A2 (transportation) includes the transport of these raw materials from producers to the supplier. All raw materials are produced within 100 km distance, and transport by truck was assumed. Module A3 (manufacturing) includes the processing of the raw materials into the finalised components ready to be assembled; this includes the production of the cementitious panels, pedestals and stringers. Module A3 also includes the packaging of the finished components. Since Module C is included in the EPD, the use of Module A1-A3 results without considering the results of Module C is discouraged.

Transport to Customer Stage (Module A4)

Distribution includes transport of product from the manufacturing site to customers in Australia. This is based on the sales weighted average transport distances and is not representative for any given customer. Customers should individually establish the transport requirements between distribution centre and their site rather than relying on the average.

Construction/Installation

After being delivered to the construction site, access floor parts (panels, pedestals, stringers and fixing screws) are unpacked and installed. Depending on the building site, the product can be mechanically lifted using diesel machinery. As a conservative assumption, fuel consumption was estimated using the gravitational energy potential for the heaviest product (HPL system) lifted 20 m with a 10% diesel efficiency.

When a building reaches its end-of-life it will be demolished (C1) and the demolition waste transported to a processing facility (C2). The waste processing (C3) includes the separation of steel waste from other building materials and shredding activities. Material that cannot be recycled will be disposed (C4). The end-of-life stage (Modules C1-C4) and resource recovery stage (Module D) are modelled using a scenario reflecting end-of-life recycling/ landfilling rates for steel products in the construction sector.

TABLE 5: END OF LIFE SCENARIOS FOR PRODUCTS		UNIT (PER DECLARED UNIT AND TYPE OF MATERIAL)
Excavator	Equivalent weight of 1 m ² of access flooring	
Recovery system specified by type	Metals, 2% to landfill, 98% recycled	(Australian Government, 2022)
	Plastics, 95% to landfill, 5% energy recovery. (The Australian Government informs 11% of construction and demolition plastic is recycled, but since disassembling of components would be challenging for this product, we assumed this share is landfilled)	
	All other material landfilled	
Disposal specified by type	Steel: 2% modelled as ferrous metals in landfill Waste core: 100% Inert matter on landfill Paper (HPL product): 100% wood products on landfill Plastic: 95% Plastic waste on landfill Plastic: 5% Plastic in municipal waste incineration plant	
Assumptions for scenario development	- C1 - Demolishing with an Excavator (100kW)- Fuel consumption is calculated at 0.172 kg diesel input per tonne of material. - C2 - 50 km of transport by truck - C3 - 0.2 MJ of electrical energy from the Australian grid needed to process 1 kg of scrap.	

Recovery and Recycling potential (Module D)

Module D declares a potential credit or burden for the net scrap associated with ASP Access Floors' products. Net scrap is the amount of scrap left after scrap from post-consumer needs is removed from scrap produced from the product. That is, secondary product used in product manufacture is subtracted from the overall amount of recycled product after the first life cycle. If the net balance is positive, a credit is given. The credit is calculated by comparing the impacts associated with primary product produced.

Upstream Data

Australian and Chinese-specific datasets have been used where available, including the Chinese electricity mix regionalised for East China. Other energy sources generally use Chinese (for production) or Australia (for installation) datasets, for example, diesel. Water inputs are modelled as tap water, regionalised for China. The upstream production impacts for materials used in the products were calculated based on the quantities in the Bill of Materials, uplifted for any production waste, and using dataset-specific impacts extracted from Sphera databases.

LCA software and database

The LCA was modelled in LCA for Experts 10.7 from Sphera Solutions. All data in the background system was from the Sphera Life Cycle Inventory Database 2023. Documentation can be found at: <https://sphera.com/product-sustainability-gabi-data-search/> Note that all MLC datasets have as a minimum their energy upstream (and any energy upstream present in their material upstream) updated on an annual basis. In addition, all MLC datasets are updated whenever the technology or geographical mix of the producers of a product changes significantly.

Transport

Transport data was collected from ASP for all input materials to all sites. The transport data included the transport modes and distances from suppliers. Transport distances were mapped against each line of BOM data and used to calculate upstream transport impacts using the calculated input volumes. Where transport data was not available, a standard value of 100 km was used.

Electricity

The composition of the electricity grid mix was modelled in LCA for experts. Purchased electricity accounts for approximately 100% of electricity used for access floor manufacture. The East Chinese electricity grid consumption mix (2019) is made up of hard coal (63.9%), photovoltaics (11.2%), hydro (7.9%), nuclear (5.7%), wind (4.9%), natural gas (2.9%), coal gases (1.7%), biomass (1.5%), waste (0.1%), and fuel oil (0.1%). The emission factor for the East Chinese national grid for the GWP-GHG indicator is 0.709 kg CO₂-eq/kWh.

Multiple products EPD: Products & Variation

Weighted average grouping was done for product lines under the two-load classification (medium and heavy grade). Overall, two groups were considered using weighted average sales (Icon X and Icon Air). Icon HPL is only presented for heavy grade and is not grouped. Overall, the variation of the grouped results in relation to the weighted average result for each group is below $\pm 10\%$ for all environmental core indicators. Therefore, this EPD is of multiple products, based on the average results of the product group.

Cut off criteria

Environmental impacts relating to personnel, infrastructure, and production equipment not directly consumed in the process are excluded from the system boundary as per PCR v1.3.1. All other reported data were incorporated and modelled using the best available life cycle inventory data.

Allocation

Where subdivision of processes was not possible, allocation rules listed in PCR chapter 6.7 have been applied. Multi-output allocation generally follows the requirements of ISO 14044, section 4.3.4.2. Site level data for electricity, diesel for mobile plant (e.g. loaders), water, and lubricant usage are allocated by mass, based on the annual production. Allocation of background data (energy and materials) is according to Sphera LCI databases; documentation is available at <https://sphera.com/product-sustainability-gabi-data-search/>.

Assumptions

The main assumptions concern the use of secondary data and end-of-life modelling. Despite the low mass contribution, Zinc paint (Modules A1-A3) and Adhesive (Module A5) show up as hotspots in several core environmental impact indicators (e.g. ODP, AP, EP-fw, EP-fm). The LCI data for these materials is based on secondary data considered proxy for region or technology. We considered a conservative approach for these datasets: Zinc paint composed by 90% zinc powder, and adhesive was based on the highest GWP-total impact kg/kg CO₂-eq dataset (Epoxy Resin) from MLC databases. These assumptions may have relevant contribution to the overall impacts. Modules C1-C4 were based on existing information for Australian waste management of construction and demolition for products Icon X, Icon Air, and Icon HPL. Plywood used to protect the ASP flooring during installation was assumed to be used in all cases, which is the conservative approach. Also, when plywood is used, it's usually sent to landfill as final destination, but other end-of-life options, such as reuse, could apply.

Life Cycle Inventory (LCI) Data and Assumptions

Primary life cycle inventory data was used for all manufacturing operations up to the plant gate, and for all installation in Australia. Primary data were collected for product manufacturing, distribution, installation, and end-of-life for the year 2022 (from 2022-01-01 to 2022-12-31).



Our sole mission at
ASP is to provide
all of our clients
with **exceptional**
sustainable
products

Assessment Indicators

The results tables describe the different environmental indicators for each product per declared unit, for each declared module. The EN 15804 reference package based on EF 3.0 is used.

- Table 6 contains the core environmental impact indicators in accordance with EN 15804:2012+A2:2019, describing the potential environmental impacts of the product.
- Table 7 shows the life cycle inventory indicators for resource use.
- Table 8 displays the life cycle inventory indicators for waste and other outputs.
- Table 9 provides additional environmental impact indicators in accordance with EN 15804:2012+A2:2019.
- Table 10 displays biogenic carbon content indicators.
- Table 11 contains results for environmental impact indicators in accordance with EN 15804:2012+A1:2013 to aid backward comparability.

The estimated impact results are only relative statements, which do not indicate the endpoints of the impact categories, exceeding threshold values, safety margins and/or risks.

Energy indicators (MJ) are always given as net calorific value.

Table 6: EN15804+A2 Core Environmental Impact Indicators

IMPACT CATEGORY	ABBREVIATION	UNIT
Climate change – total	GWP-total	kg CO ₂ -eq.
Climate change – fossil	GWP-fossil	kg CO ₂ -eq.
Climate change – biogenic	GWP-biogenic	kg CO ₂ -eq.
Climate change – land use and land use change	GWP-luluc	kg CO ₂ -eq.
Ozone depletion	ODP	kg CFC11-eq.
Acidification	AP	Mole of H ⁺ eq.
Eutrophication aquatic freshwater	EP-freshwater	kg P eq.
Eutrophication aquatic marine	EP-marine	kg N eq.
Eutrophication terrestrial	EP-terrestrial	Mole of N eq.
Photochemical ozone formation	POFP	kg NMVOC eq.
Depletion of abiotic resources – minerals and metals ¹	ADP-m&m	kg Sb-eq.
Depletion of abiotic resources – fossil fuels ¹	ADP-fossil	MJ
Water use ¹	WDP	m ³ world equiv.

Table 7: Life cycle inventory indicators on use of resources

INDICATOR	ABBREVIATION	UNIT
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	PERE	MJ
Use of renewable primary energy resources used as raw materials	PERM	MJ
Total use of renewable primary energy resources	PERT	MJ
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	PENRE	MJ
Use of non-renewable primary energy resources used as raw materials	PENRM	MJ
Total use of non-renewable primary energy resources	PENRT	MJ
Use of secondary material;	SM	kg
Use of renewable secondary fuels	RSF	MJ
Use of non-renewable secondary fuels	NRSF	MJ
Total use of net fresh water	FW	m ³

Table 8: Life cycle inventory indicators on waste categories and output flows

INDICATOR	ABBREVIATION	UNIT
Hazardous waste disposed	HWD	kg
Non-hazardous waste disposed	NHWD	kg
Radioactive waste disposed	RWD	kg
Components for reuse	CRU	kg
Materials for energy recovery	MER	kg
Materials for recycling	MFR	kg
Exported electrical energy	EEE	MJ
Exported thermal energy	EET	MJ

Assessment Indicators

Table 9: EN15804+A2 Additional Environmental Impact Indicators

INDICATOR	ABBREVIATION	UNIT
Climate Change ²	GWP-GHG	kg CO ₂ -eq
Particulate Matter emissions	PM	Disease incidences
Ionising Radiation – human health ³	IRP	kBq U235 eq.
Eco-toxicity (freshwater) ¹	ETP-fw	CTUe
Human Toxicity, cancer ¹	HTP-c	CTUh
Human Toxicity, non-cancer ¹	HTP-nc	CTUh
Land use related impacts / soil quality ¹	SQP	Dimensionless

Table 10: Biogenic carbon content indicators

INDICATOR	ABBREVIATION	UNIT
Biogenic carbon content - product	BCC-prod	kg C
Biogenic carbon content - packaging	BCC-pack	kg C

Table 11: EN15804+A1 Environmental Impact Indicators

INDICATOR	ABBREVIATION	UNIT
Global warming potential	GWP (EN15804+A1)	kg CO ₂ -eq.
Ozone depletion potential	ODP (EN15804+A1)	kg CFC11-eq.
Acidification potential	AP (EN15804+A1)	kg SO ₂ -eq.
Eutrophication potential	EP (EN15804+A1)	kg PO ₄ ³⁻ -eq.
Photochemical ozone creation potential	POCP (EN15804+A1)	kg C ₂ H ₄ -eq.
Abiotic depletion potential for non-fossil resources	ADPE (EN15804+A1)	kg Sb-eq.
Abiotic depletion potential for fossil resources	ADPF (EN15804+A1)	MJ

1The results of this environmental impact indicator shall be used with care as the uncertainties on these results are high or as there is limited experience with the indicator.

2This indicator is identical to GWP-total except that the CF for biogenic CO₂ is set to zero. It has been included in the EPD following the PCR.

3This impact category deals mainly with the eventual impact of low dose ionizing radiation on human health of the nuclear fuel cycle. It does not consider effects due to possible nuclear accidents, occupational exposure nor due to radioactive waste disposal in underground facilities. Potential ionizing radiation from the soil, from radon and some construction materials, is also not measured by this indicator.

For Icon X, Icon Air, and Icon HPL, the following indicators are not relevant, hence result in zero values:

- Use of renewable secondary fuels (RSF)
- Use of non-renewable secondary fuels (NRSF)
- Materials for energy recovery (MER)
- Biogenic carbon content – product (BCC-prod)



Environmental Performance – Icon X

Results per one square meter of Icon X installed. Registration Number: S-P-00863-01

Table 12: EN15804+A2 Core environmental impact indicators

ABB.	UNIT	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-total	kg CO ₂ eq.	31.8	5.37	11.7	0.0223	0.276	0	0.911	2.07
GWP-fossil	kg CO ₂ eq.	32.7	5.37	3.78	0.0214	0.276	0	0.392	2.07
GWP-biogenic	kg CO ₂ eq.	-1.00	3.94E-04	7.97	9.86E-04	3.15E-05	0	0.518	-0.00290
GWP-luluc	kg CO ₂ eq.	0.0117	5.75E-05	5.15E-04	2.57E-07	3.14E-06	0	0.00101	-3.26E-05
ODP	kg CFC 11 eq.	1.24E-10	1.11E-13	6.74E-12	4.88E-16	3.83E-15	0	8.64E-13	-1.11E-11
AP	mol H ⁺ eq.	0.107	0.169	0.0219	1.06E-04	0.00156	0	0.00240	0.00154
EP-freshwater	kg P eq.	2.63E-05	8.96E-07	4.24E-06	3.86E-09	4.11E-08	0	1.22E-05	3.29E-07
EP-marine	kg N eq.	0.0244	0.0424	0.0106	5.21E-05	7.78E-04	0	7.11E-04	2.66E-04
EP-terrestrial	mol N eq.	0.264	0.464	0.0913	5.70E-04	0.00855	0	0.00695	4.39E-04
POCP	kg NMVOC eq.	0.0769	0.118	0.0452	1.45E-04	0.00146	0	0.00207	0.00200
ADP-m&m	kg Sb eq.	2.25E-04	1.58E-08	1.09E-06	7.06E-11	6.34E-10	0	1.55E-08	1.46E-07
ADP-fossil	MJ	367	67.0	58.5	0.300	3.74	0	4.80	17.6
WDP	m ³ world eq. deprived	4.95	0.00836	1.72	3.67E-05	3.07E-04	0	0.0361	0.179

Table 13: Use of Resources

ABB.	UNIT	A1-A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	64.3	0.0657	53.1	4.71E-04	0.00417	0	0.734	-6.08
PERM	MJ	11.4	0	-11.4	0	0	0	0	0
PERT	MJ	75.7	0.0657	41.8	4.71E-04	0.00417	0	0.734	-6.08
PENRE	MJ	365	67.0	59.5	0.300	3.74	0	5.92	17.6
PENRM	MJ	2.03	0	-0.916	0	0	0	-1.12	0
PENRT	MJ	367	67.0	58.6	0.300	3.74	0	4.81	17.6
SM	kg	36.6	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0
FWT	m ³	0.0765	1.57E-04	0.0335	6.88E-07	8.16E-06	0	0.00111	0.00687

Table 14: Waste Production & Output Flows

ABB.	UNIT	A1-A3	A4	A5	C1	C2	C3	C4	D
HWD	kg	5.11E-07	4.30E-11	2.64E-08	1.86E-13	2.43E-12	0	1.45E-10	-7.29E-09
NHWD	kg	1.46	7.60E-04	0.767	3.39E-06	4.48E-05	0	21.5	-0.445
RWD	kg	0.00462	2.07E-06	2.28E-04	9.26E-09	9.92E-08	0	5.49E-05	-7.50E-05
CRU	kg	0	0	0.0144	0	0	0	0	0
MER	kg	0.354	0	0	0	0	15.1	0	0
MFR	kg	0	0	0	0	0	0	0	0
EEE	MJ	0	0	3.58	0	0	0	0.166	0
EET	MJ	0	0	0	0	0	0	0.00901	0

Table 15: Waste Production & Output Flows

PARAMETER	UNIT	A1-A3
BCC-prod	Kg C	0
BCC-pack	kg C	0.330

Environmental Performance – Icon X

Table 16: EN15804+A2 Additional Environmental Impact Indicators

ABB.	UNIT	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-GHG	kg CO ₂ -eq	32.8	5.37	14.0	0.0214	0.276	0	0.865	2.07
PM	Disease incidences	1.39E-06	2.98E-06	2.67E-07	1.21E-09	9.44E-09	0	2.91E-08	4.15E-08
IR	kBq U235 eq.	0.378	2.11E-04	0.0243	9.44E-07	9.60E-06	0	0.00659	-0.0790
ETP-fw	CTUe	96.2	15.5	20.1	0.0694	0.785	0	2.96	0.104
HTP-c	CTUh	1.47E-07	2.60E-10	3.72E-09	1.16E-12	1.41E-11	0	3.79E-10	1.12E-09
HTP-nc	CTUh	5.46E-07	1.39E-08	1.86E-07	7.69E-11	1.00E-09	0	4.13E-08	3.70E-08
SQP	Dimensionless	108	0.0579	1.45	2.58E-04	0.00309	0	1.07	-2.93

Table 17: EN15804+A1 Environmental Impact Indicators

ABB.	UNIT	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP	kg CO ₂ eq.	30.7	5.31	8.18	0.0221	0.271	0	0.750	1.94
ODP	kg CFC-11 eq.	1.46E-10	1.31E-13	1.15E-11	5.75E-16	4.51E-15	0	1.02E-12	-1.31E-11
AP	kg SO ₂ eq.	0.0865	0.135	0.0162	7.36E-05	0.00106	0	0.00191	0.00139
EP	kg PO ₄ ³⁻ eq.	0.00871	0.0142	0.00389	1.74E-05	2.62E-04	0	6.48E-04	8.07E-05
POCP	kg C ₂ H ₄ eq.	0.0111	0.00597	0.00850	7.17E-06	-4.74E-04	0	2.44E-04	0.00106
ADPE	kg Sb eq.	2.25E-04	1.58E-08	1.09E-06	7.06E-11	6.34E-10	0	1.59E-08	1.41E-07
ADPF	MJ	338	66.8	57.9	0.299	3.74	0	4.60	18.6



Environmental Performance – Icon Air

Results per one square meter of Icon Air installed. Registration Number: S-P-00863-02

Table 18: EN15804+A2 Core environmental impact indicators

ABB.	UNIT	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-total	kg CO ₂ eq.	32.1	5.38	11.8	0.0224	0.276	0	0.942	2.11
GWP-fossil	kg CO ₂ eq.	33.1	5.38	3.78	0.0214	0.276	0	0.399	2.11
GWP-biogenic	kg CO ₂ eq.	-1.01	3.95E-04	7.98	9.89E-04	3.16E-05	0	0.542	-0.00292
GWP-luluc	kg CO ₂ eq.	0.0119	5.76E-05	5.15E-04	2.58E-07	3.15E-06	0	0.00101	-3.17E-05
ODP	kg CFC 11 eq.	1.26E-10	1.11E-13	6.74E-12	4.90E-16	3.84E-15	0	8.67E-13	-1.11E-11
AP	mol H ⁺ eq.	0.108	0.169	0.0219	1.07E-04	0.00156	0	0.00241	0.00162
EP-freshwater	kg P eq.	2.66E-05	8.99E-07	4.24E-06	3.87E-09	4.12E-08	0	1.27E-05	3.36E-07
EP-marine	kg N eq.	0.0247	0.0425	0.0106	5.22E-05	7.81E-04	0	7.17E-04	2.80E-04
EP-terrestrial	mol N eq.	0.267	0.466	0.0913	5.72E-04	0.00858	0	0.00698	5.55E-04
POCP	kg NMVOC eq.	0.0777	0.118	0.0452	1.46E-04	0.00146	0	0.00208	0.00206
ADP-m&m	kg Sb eq.	2.29E-04	1.58E-08	1.09E-06	7.08E-11	6.36E-10	0	1.56E-08	2.56E-07
ADP-fossil	MJ	373	67.2	58.5	0.301	3.76	0	4.82	18.0
WDP	m ³ world eq. deprived	5.00	0.00839	1.72	3.68E-05	3.08E-04	0	0.0365	0.186

Table 19: Use of Resources

ABB.	UNIT	A1-A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	65.2	0.0659	53.3	4.72E-04	0.00418	0	0.736	-6.12
PERM	MJ	11.5	0	-11.5	0	0	0	0	0
PERT	MJ	76.7	0.0659	41.8	4.72E-04	0.00418	0	0.736	-6.12
PENRE	MJ	370	67.2	59.5	0.301	3.76	0	6.95	18.0
PENRM	MJ	3.07	0	-0.942	0	0	0	-2.13	0
PENRT	MJ	373	67.2	58.6	0.301	3.76	0	4.83	18.0
SM	kg	36.7	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0
FWT	m ³	0.0770	1.57E-04	0.0335	6.90E-07	8.19E-06	0	0.00112	0.00703

Table 20: Waste Production & Output Flows

ABB.	UNIT	A1-A3	A4	A5	C1	C2	C3	C4	D
HWD	kg	5.74E-07	4.32E-11	2.64E-08	1.87E-13	2.43E-12	0	1.47E-10	-7.29E-09
NHWD	kg	1.47	7.62E-04	0.767	3.40E-06	4.50E-05	0	21.5	-0.451
RWD	kg	0.00470	2.07E-06	2.28E-04	9.29E-09	9.95E-08	0	5.52E-05	-7.51E-05
CRU	kg	0	0	0.0145	0	0	0	0	0
MER	kg	0.346	0	0	0	15.2	0	0	0
MFR	kg	0	0	0	0	0	0	0	0
EEE	MJ	0	0	3.58	0	0	0	0.179	0
EET	MJ	0	0	0	0	0	0	0.0195	0

Table 21: Waste Production & Output Flows

PARAMETER	UNIT	A1-A3
BCC-prod	kg C	0
BCC-pack	kg C	0.333

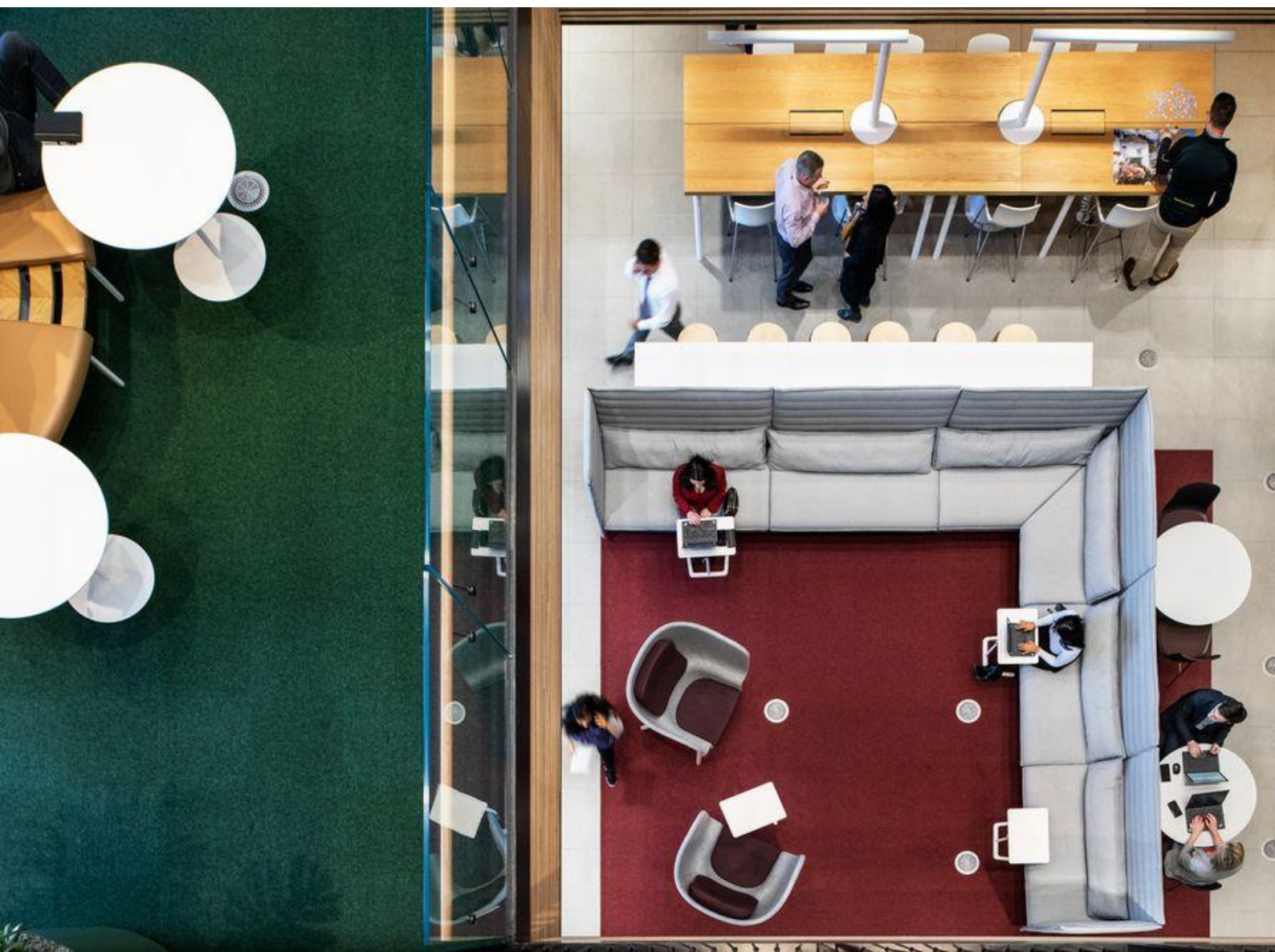
Environmental Performance – Icon Air

Table 22: EN15804+A2 Additional Environmental Impact Indicators

ABB.	UNIT	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-GHG	kg CO ₂ -eq	33.2	5.39	14.0	0.0214	0.277	0	0.892	2.11
PM	Disease incidences	1.41E-06	2.99E-06	2.67E-07	1.21E-09	9.47E-09	0	2.92E-08	4.26E-08
IR	kBq U235 eq.	0.385	2.12E-04	0.0243	9.47E-07	9.63E-06	0	0.00663	-0.0800
ETP-fw	CTUe	97.7	15.6	20.1	0.0696	0.787	0	2.99	0.125
HTP-c	CTUh	1.48E-07	2.61E-10	3.72E-09	1.17E-12	1.41E-11	0	3.80E-10	1.14E-09
HTP-nc	CTUh	5.54E-07	1.40E-08	1.86E-07	7.71E-11	1.01E-09	0	4.14E-08	3.76E-08
SQP	Dimensionless	109	0.0581	1.45	2.59E-04	0.00310	0	1.07	-2.94

Table 23: EN15804+A1 Environmental Impact Indicators

ABB.	UNIT	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP	kg CO ₂ eq.	31.0	5.32	8.19	0.0221	0.272	0	0.773	1.97
ODP	kg CFC-11 eq.	1.49E-10	1.31E-13	1.15E-11	5.77E-16	4.53E-15	0	1.02E-12	-1.31E-11
AP	kg SO ₂ eq.	0.0873	0.135	0.0162	7.38E-05	0.00106	0	0.00191	0.00146
EP	kg PO ₄ ³⁻ eq.	0.00880	0.0142	0.00389	1.75E-05	2.63E-04	0	6.68E-04	8.53E-05
POCP	kg C ₂ H ₄ eq.	0.0112	0.00598	0.00850	7.19E-06	-4.76E-04	0	2.49E-04	0.00108
ADPE	kg Sb eq.	2.30E-04	1.58E-08	1.09E-06	7.08E-11	6.36E-10	0	1.59E-08	2.51E-07
ADPF	MJ	343	67.0	57.9	0.300	3.75	0	4.62	19.0



Environmental Performance – Icon Data HPL

Results per one square meter of Icon Data HPL installed. Registration Number: S-P-00863-03

Table 24: EN15804+A2 Core environmental impact indicators

ABB.	UNIT	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-total	kg CO ₂ eq.	35.3	5.66	11.8	0.0236	0.291	0	1.04	1.68
GWP-fossil	kg CO ₂ eq.	36.4	5.66	3.78	0.0225	0.291	0	0.400	1.68
GWP-biogenic	kg CO ₂ eq.	-1.13	4.16E-04	8.04	0.00104	3.32E-05	0	0.643	-0.00422
GWP-luluc	kg CO ₂ eq.	0.0135	6.06E-05	5.15E-04	2.71E-07	3.31E-06	0	0.00101	-1.34E-04
ODP	kg CFC 11 eq.	1.38E-10	1.17E-13	6.74E-12	5.15E-16	4.04E-15	0	8.74E-13	-1.20E-11
AP	mol H ⁺ eq.	0.119	0.178	0.0219	1.12E-04	0.00164	0	0.00243	3.96E-04
EP-freshwater	kg P eq.	2.94E-05	9.45E-07	4.24E-06	4.07E-09	4.33E-08	0	1.26E-05	9.13E-08
EP-marine	kg N eq.	0.0268	0.0447	0.0106	5.49E-05	8.21E-04	0	7.23E-04	1.03E-04
EP-terrestrial	mol N eq.	0.289	0.489	0.0913	6.01E-04	0.00902	0	0.00707	-0.00112
POCP	kg NMVOC eq.	0.0849	0.124	0.0452	1.53E-04	0.00154	0	0.00212	0.00134
ADP-m&m	kg Sb eq.	2.84E-04	1.66E-08	1.09E-06	7.44E-11	6.69E-10	0	1.57E-08	-8.88E-06
ADP-fossil	MJ	411	70.6	58.5	0.316	3.95	0	4.87	13.5
WDP	m ³ world eq. deprived	5.51	0.00882	1.72	3.87E-05	3.23E-04	0	0.0369	0.107

Table 25: Use of Resources

ABB.	UNIT	A1-A3	A4	A5	C1	C2	C3	C4	D
PERE	MJ	74.4	0.0693	54.0	4.96E-04	0.00439	0	1.23	-6.83
PERM	MJ	12.7	0	-12.2	0	0	0	-0.493	0
PERT	MJ	87.1	0.0693	41.8	4.96E-04	0.00439	0	0.741	-6.83
PENRE	MJ	409	70.6	59.7	0.316	3.95	0	6.55	13.5
PENRM	MJ	2.81	0	-1.13	0	0	0	-1.67	0
PENRT	MJ	411	70.6	58.6	0.316	3.95	0	4.88	13.5
SM	kg	38.2	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0
FWT	m ³	0.0884	1.65E-04	0.0335	7.25E-07	8.61E-06	0	0.00113	0.00487

Table 26: Waste Production & Output Flows

ABB.	UNIT	A1-A3	A4	A5	C1	C2	C3	C4	D
HWD	kg	8.92E-07	4.54E-11	2.64E-08	1.96E-13	2.56E-12	0	1.50E-10	-1.59E-08
NHWD	kg	1.64	8.01E-04	0.767	3.57E-06	4.73E-05	0	21.5	-0.430
RWD	kg	0.00538	2.18E-06	2.28E-04	9.76E-09	1.05E-07	0	5.56E-05	-1.54E-04
CRU	kg	0	0	0.0146	0	0	0	0	0
MER	kg	0.396	0	0	0	0	17.0	0	0
MFR	kg	0	0	0	0	0	0	0	0
EEE	MJ	0	0	3.58	0	0	0	0.206	0
EET	MJ	0	0	0	0	0	0	0.0145	0

Table 27: Waste Production & Output Flows

PARAMETER	UNIT	A1-A3
BCC-prod	kg	0.0167
BCC-pack	kg	0.354

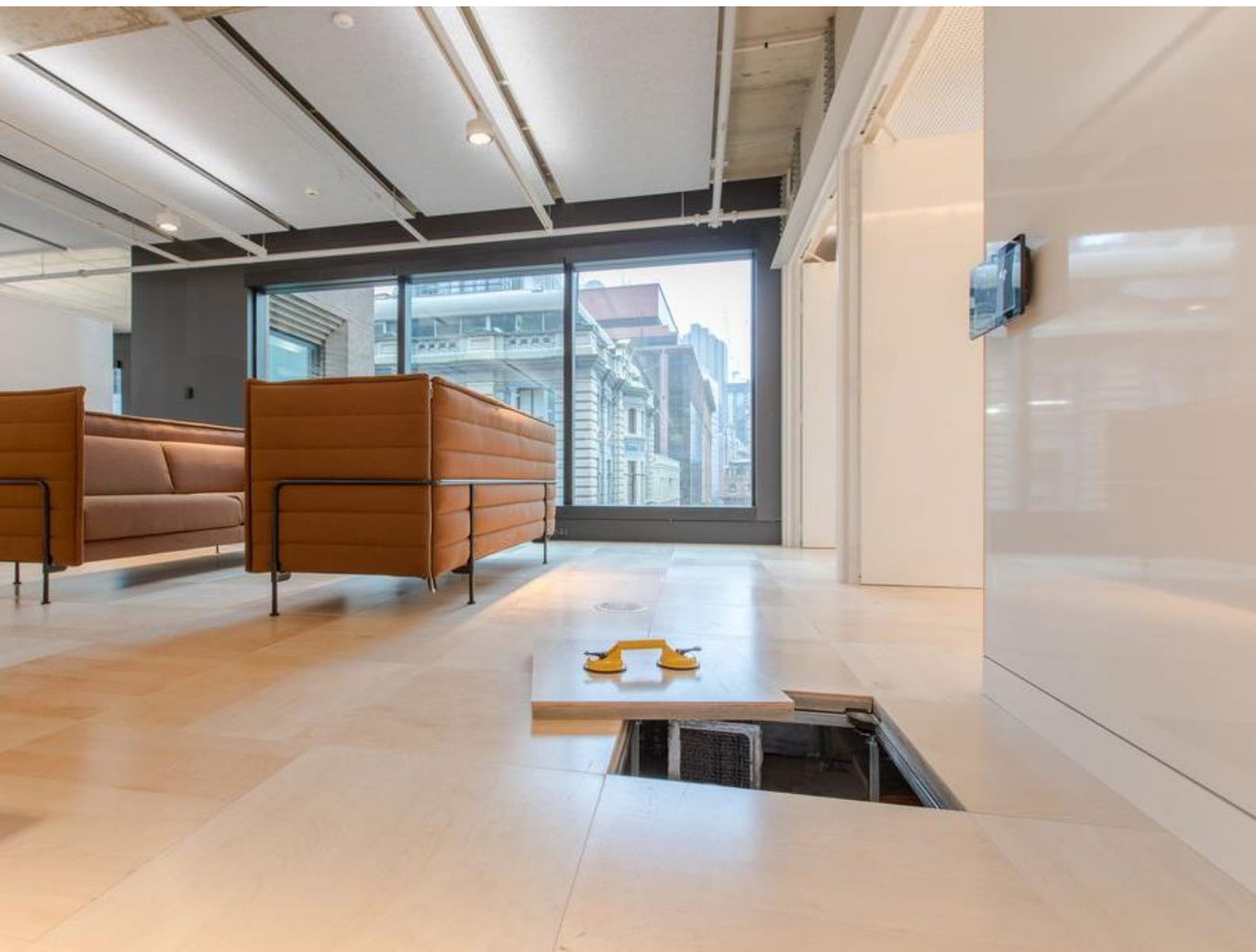
Environmental Performance – Icon Data HPL

Table 28: EN15804+A2 Additional Environmental Impact Indicators

ABB.	UNIT	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP-GHG	kg CO ₂ -eq	36.5	5.66	14.0	0.0225	0.291	0	0.973	1.68
PM	Disease incidences	1.53E-06	3.14E-06	2.67E-07	1.28E-09	9.95E-09	0	2.94E-08	2.78E-08
IR	kBq U235 eq.	0.475	2.22E-04	0.0243	9.95E-07	1.01E-05	0	0.00669	-0.0850
ETP-fw	CTUe	105	16.4	20.1	0.0732	0.828	0	3.00	-0.502
HTP-c	CTUh	1.49E-07	2.74E-10	3.72E-09	1.23E-12	1.49E-11	0	3.82E-10	9.76E-10
HTP-nc	CTUh	5.98E-07	1.47E-08	1.86E-07	8.11E-11	1.06E-09	0	4.15E-08	3.17E-08
SQP	Dimensionless	137	0.0611	1.45	2.72E-04	0.00326	0	1.07	-5.70

Table 29: EN15804+A1 Environmental Impact Indicators

ABB.	UNIT	A1-A3	A4	A5	C1	C2	C3	C4	D
GWP	kg CO ₂ eq.	34.1	5.60	8.25	0.0233	0.286	0	0.850	1.56
ODP	kg CFC-11 eq.	1.62E-10	1.38E-13	1.15E-11	6.06E-16	4.76E-15	0	1.03E-12	-1.41E-11
AP	kg SO ₂ eq.	0.0966	0.142	0.0162	7.76E-05	0.00112	0	0.00193	4.07E-04
EP	kg PO ₄ ³⁻ eq.	0.00957	0.0149	0.00389	1.84E-05	2.77E-04	0	6.59E-04	2.13E-05
POCP	kg C ₂ H ₄ eq.	0.0125	0.00629	0.00850	7.56E-06	-5.00E-04	0	2.63E-04	8.87E-04
ADPE	kg Sb eq.	2.84E-04	1.66E-08	1.09E-06	7.44E-11	6.69E-10	0	1.60E-08	-8.88E-06
ADPF	MJ	378	70.5	57.9	0.316	3.94	0	4.67	14.7



ASP provides
businesses & developers
the perfect balance
between optimum
design & functionality



Sustainability Initiative

WALK CARBON NEUTRAL

ASP Access Floors is committed to reduce the impact of our access flooring on the climate by reducing carbon emissions. With this commitment we are able to offer our clients an option to upgrade their access floor system to a fully Certified Carbon Neutral System.

HOW IT WORKS

ASP's access floor products in the Icon and Urban series have verified LCA's and EPD's. Based on your projects access floor quantities, the carbon emissions for your access floor system are calculated and then offset through the purchase of certified carbon credits. You are then provided with certification of your Zero Carbon or Climate Positive access floor system.



Project Feature

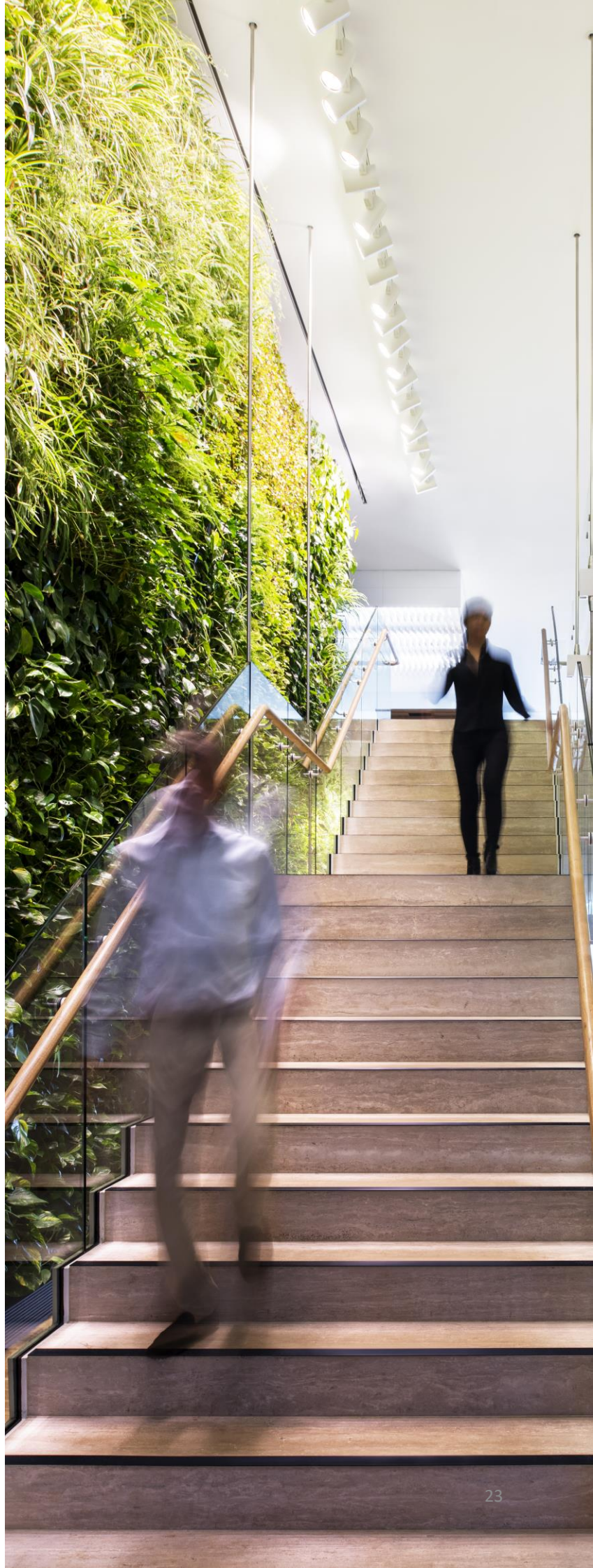
BARANGAROO INTERNATIONAL TOWERS

When Lend Lease won the contract to develop Barangaroo South on the Sydney waterfront, their sustainability initiatives included a significant vow to reduce the embodied carbon of building materials by 20% compared to standard construction practices.

In response to this commitment, ASP put a plan into action to measure the carbon footprint of the 300,000m² of Icon X flooring that was going into the 3 International Towers at Barangaroo South.

Not satisfied with simply measuring the footprint, ASP decided to take the further step of making all product going into the towers carbon neutral through carbonZero certification. With this evidence of environmental responsibility, ASP was awarded the contract for the 300,000m² of access floor with Lend Lease, and the project began in earnest.

ASP couldn't have anticipated the incredible impact that working with Lend Lease on this project would have. As a result, ASP's environmental initiatives are now a core driving focus in the company's business plan. ASP Access Floors is striving to set the market standard environmentally across the globe.



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