

## Environmental Product Declaration Type III ITB No. 210/2021

Issuance date: 26.04.2021  
Validity date: 26.04.2026



## XILIUM OFFICE CHAIRS LINE

### BASIC INFORMATION

This declaration is the type III Environmental Product Declaration (EPD) based on ISO 14040 and ISO 14025. It contains the information on the impacts of the declared product on the environment. Their aspects were verified by the independent body according to ISO 14025.

ITB is the verified member  
of The European Platform for EPD  
program operators and LCA practitioner  
[www.eco-platform.org](http://www.eco-platform.org)

#### Life cycle analysis (LCA):

A1-A3, C2-C4 and D modules in accordance with ISO 14040  
(Cradle to Gate with options)

**The year of preparing the EPD:**  
2021

**Product standard:**  
EN 1335-1, EN 1335-2, EN 16139

**Service Life:**  
5 years for standard product with possibility of 10 years

**PCR:**  
ITB-PCR A

**Declared unit:**  
1 chair

**Reasons for performing LCA:**  
B2B

**Representativeness:**  
Polish product

### Owner of the EPD:

Nowy Styl Sp. z o.o.  
Address: Pużaka 49, 38-400 Krosno, Poland  
Website: <https://pl.nowystyl.com/pl/>  
Contact: [info@nowystyl.com](mailto:info@nowystyl.com)  
Tel.: +48 13 43 76 100,  
+48 13 43 62 732

### EPD Program Operator:

Instytut Techniki Budowlanej (ITB)  
Address: Filtrowa 1, 00-611 Warsaw, Poland  
Website: [www.itb.pl](http://www.itb.pl)  
Contact: Justyna Tomaszewska  
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[energia@itb.pl](mailto:energia@itb.pl)

# 01/MANUFACTURER

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## OUR COMPANY

We are a European manufacturer of furniture solutions for office and public spaces. Our unique business model allows us to provide clients with a comprehensive interior furnishing service, based on an in-depth analysis of the specificity and needs of the client, work efficiency and work organization, ergonomics and acoustics. Thanks to the company's experience as well as technological and production facilities, each offer is made to measure.

An understanding of customers' needs, innovation and an organisational culture open to change has led us to the position of a company in Europe, with sales revenues of over 380 million euro per year. We have our own international distribution network including local sales structure in 16 countries on all major European markets and the Middle East. Hiring local managers and employees, we reach clients adjusting our offer and providing professional service.



# 01/MANUFACTURER

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We provide furniture for new office buildings, conference centres, cinemas, stadiums, music, sports and multi-functional facilities every day. Our list of references includes multinational corporations such as DS Smith, Honeywell, Deloitte and ABB, cultural institutions such as Polish National Radio Symphony Orchestra in Katowice and the Opera in Munich, as well as the stadiums in Poland and France where European Football Championships were held in 2012 and 2016. Fans of the Football World Cup in Qatar in six out of seven stadiums now under construction for the event will also sit in our seats.

We offer a wide product portfolio adjusted to the needs and expectations of our clients. Our furniture solutions and our know-how in arranging modern offices are exhibited in the Office Inspiration Centre in Kraków, where we meet with clients, provide training and share inspiration. We also have 31 showrooms i.a. in Warsaw, London, Paris, Düsseldorf, Munich, Prague, Bratislava and Dubai.

We make our products in more than a dozen manufacturing plants equipped with cutting-edge technologies, located in Poland, Germany, France, Switzerland, Ukraine, Russia and Turkey.



This assessment applies to those located in Poland, in the region of Podkarpacie (4 plants) in Jasło and 1 in Rzepedź, with a floor area of nearly 100,000 m<sup>2</sup>, including a fully automated office furniture factory opened in 2014. The company also owns Research and Development Centre located in Jasło where innovative production technologies and product solutions are constantly developed.

# 02/PRODUCT DESCRIPTION

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## OPERATIVE CHAIRS XILIUM



**BASE VERSIONS:**  
five-star, polyamide  
or aluminium (powder coated or polished)

**CASTORS:**  
fi 65 mm, self-braking for soft or hard floors

**MECHANISMS:**  
synchronous

**SEAT:**  
plastic construction covered with injected  
polyurethane foam

**BACKREST UPH VERSION:**  
plastic construction covered with injected  
polyurethane foam

**BACKREST DUO-BACK UPH VERSION:**  
plastic construction covered with injected  
polyurethane foam

**BACKREST MESH VERSION:**  
plastic construction with polyamide mesh

**HEADREST HRUA (OPTIONAL):**  
plastic construction covered with foam

**HEADREST HRUA3 (OPTIONAL):**  
plastic construction covered with foam

**ARMRESTS:**  
3D adjustable, 4D adjustable and XD adjustable

### **CERTIFICATES:**

GS Mark (selected configurations for users up to 150 kg),  
NPR 1813 for selected configurations, Ergonomics tested,  
Blue Angel

### **APPLICATIONS:**

Office Workstations



# 02/PRODUCT DESCRIPTION

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## CONFERENCE SWIVEL CHAIRS XILIUM



### BASE VERSIONS:

five-star, polyamide or aluminium  
(powder coated or polished)

### CASTORS:

fi 65mm, self-braking for soft or hard floors

### MECHANISMS:

tilting

### SEAT:

plastic construction covered with injected  
polyurethane foam

### BACKREST UPH VERSION:

plastic construction covered with  
injected polyurethane foam

### BACKREST MESH VERSION:

plastic construction with polyamide mesh

### ARMRESTS:

fixed, plastic construction

### CERTIFICATES:

GS Mark, Blue Angel

### APPLICATIONS:

Conference and meeting rooms



# 02/PRODUCT DESCRIPTION

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## COUNTER CHAIRS XILIUM



### BASE VERSIONS:

five-star, polyamide or aluminium  
(powder coated or polished)

### FOOT REST:

aluminium (powder coated or polished)

### CASTORS:

fi 50mm, load-braking for soft or hard floors

### MECHANISMS:

tilting

### SEAT:

plastic construction covered with  
injected polyurethane foam

### BACKREST UPH VERSION:

plastic construction covered with  
injected polyurethane foam

### BACKREST MESH VERSION:

plastic construction with elastic mesh

### ARMRESTS (OPTIONAL):

fixed, made of plastic

### CERTIFICATES:

GS Mark

### APPLICATIONS:

Various meeting rooms





# 02/PRODUCT DESCRIPTION

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## CONFERENCE FRAME CHAIRS XILIUM



### FRAME VERSIONS:

4-leg and cantilever, steel tube  
(powder coated or chromium plated)

### GLIDES:

plastic, for hard or soft floors

### CASTORS (OPTIONAL FOR 4-LEG FRAME):

mini-rolls for hard or soft floors

### ARMRESTS (OPTIONAL):

fixed, plastic construction

### SEAT:

plastic construction covered  
with injected polyurethane foam

### BACKREST UPH VERSION:

plastic construction  
covered with injected polyurethane foam

### BACKREST MESH VERSION:

plastic construction with polyamide mesh

### CERTIFICATES:

GS Mark, Blue Angel

### APPLICATION:

Conference and meeting rooms



## GENERAL RULES APPLIED

### ALLOCATION

The allocation rules used for this EPD are based on general ITB PCR A. Production of the XILLIUM swivel and frame chairs is a line process carried out in five factories located in Jasło and Rzepedź (Poland). Allocation was done on product mass basis. All impacts from raw materials extraction and processing were allocated in A1 module of the LCA. All impacts from the line production of Nowy Styl Sp. z o.o. were inventoried and were proportionally allocated to the XILLIUM swivel and frame chairs production. Utilization of packaging material was taken into consideration. Module A2 includes transport of raw materials from their suppliers to factories of Nowy Styl Sp. z o.o. in Jasło and in Rzepedź. Water and energy consumption as well as associated emissions and generated wastes were allocated to module A3.

### SYSTEM LIMITS

The life cycle analysis of the declared products covers "Product Stage", A1-A3, C2, C3, C4 and D modules (Cradle to Gate with options) in accordance with ISO 14040 and ITB PCR A. The details of systems limits are provided in product technical report. Energy and water consumption, emissions to air and water as well as information on generated wastes were inventoried and were included in the calculations. It can be assumed that the total sum of omitted processes does not exceed 5% of all impact categories. Machines and facilities (capital goods) required for the production and transportation of employees were not included in LCA.

### A1 AND A2 MODULES: RAW MATERIALS SUPPLY AND TRANSPORT

Polymers and polymer-based components (i.a. PE, PU, PP, PA, PA6, PA6/GF, PET, POM), aluminium, steel components, cartonboard, additives, ancillary materials and packaging materials (tapes, pallets, foils) come from Polish and foreign suppliers. Means of transport include trucks with load: <10t, 10 - 16t and >16t. For calculation purposes Polish and European fuel averages were applied.

### A3 PRODUCTION

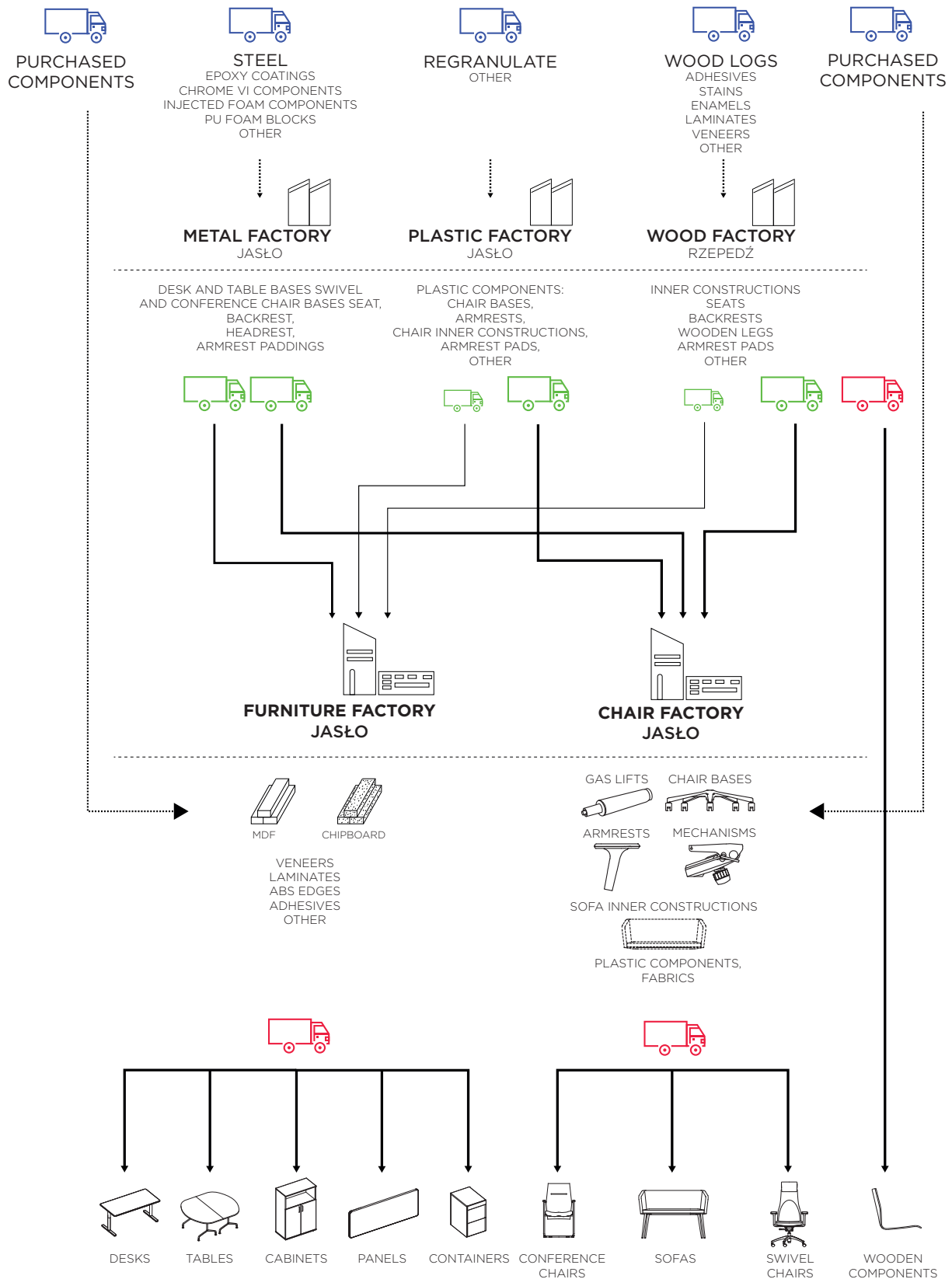
As shown in the scheme of manufacturing on page 9, Nowy Styl Sp. z o.o. manufactures products in five factories in Poland. Three of them process purchased materials such as metal, plastic and wood into components. Then, the furniture and chair factories use those components, as well as purchased components to assemble products, which are then ready for distribution. Some of the components made in the wood factory are also sold as finished products.



# 03/LIFE CYCLE ASSESSMENT (LCA)

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## A3 PRODUCTION



LEGEND:



PURCHASED COMPONENTS



PRODUCED COMPONENTS



SOLD PRODUCTS

## GENERAL RULES APPLIED

### END OF LIFE SCENARIOS

It is assumed that at the end of life stage the declared product is dismantled manually or with the use of electrical tools. Selectively recovered materials undergo recycling, energy recovery or landfilling according to Polish treatment practice of industrial waste while residual materials are forwarded to landfill in the form of mixed wastes. Module C2 presents calculation for the transport distance of 75 km on > 16 t loaded lorry with 85% capacity utilization and fuel consumption of 35 L per 100 km. Module D presents credits associated with energy recovery and recycling potential.

Table 1 End of life scenario for the declared products.

MATERIAL	MATERIAL RECOVERY	ENERGY RECOVERY	RECYCLING	LANDFILLING
POLYMERS	80%	30%	30%	40%
ALUMINIUM	95%	0%	100%	0%
STEEL	95%	0%	100%	0%
WOOD AND WOODEN-BASED COMPONENTS	95%	50%	50%	0%
CARTONBOARD	95%	30%	70%	0%

### DATA COLLECTION PERIOD

The data for manufacture of the declared products refer to period between 01.01.2019 – 31.12.2019 (1 year). The life cycle assessments were prepared for Poland as reference area.

### DATA QUALITY

The values determined to calculate the LCA originate from verified Nowy Styl Sp. z o.o. inventory data and Ecoinvent v. 3.7.

### ASSUMPTIONS AND ESTIMATES

The impacts of the representative XIILUM swivel and frame chairs were aggregated using weighted average. Impacts were inventoried and calculated for all products of the XIILUM swivel and frame chairs product line.

### CALCULATION RULES

LCA was done in accordance with ITB PCR A document.

### DATA BASES

The data come from the following databases: Ecoinvent v.3.5, ITB-Database, ÖKOBAUDAT and specific EPDs. Specific data quality analysis was a part of external ISO 14001 audit.

# 03/LIFE CYCLE ASSESSMENT (LCA)

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## RESULTS

### DECLARED UNIT

The declaration refers to declared unit (DU) - 1 XILIIUM swivel or frame chair produced by Nowy Styl Sp. z o.o.

Table 2. System boundaries for the environmental characteristic of the XILIIUM swivel and frame chairs produced by Nowy Styl Sp. z o.o.

PRODUCT STAGE			CONSTRUCTION PROCESS		USE STAGE							END OF LIFE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARY
Raw material supply	Transport	Manufacturing	Transport to construction site	Construction-installation process	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	Deconstruction 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
MD	MD	MD	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MNA	MD	MD	MD	MD

Environmental assessment information

(MNA - Module not assessed, MD - Module Declared, INA - Indicator Not Assessed)

# 03/LIFE CYCLE ASSESSMENT (LCA)

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## RESULTS

XILIUM swivel chair					
Environmental impacts: (DU) 1 chair (weight: 27.1 kg*)					
IMPACT CATEGORIES	UNIT	A1	A2	A3	A1-A3
Global warming potential	[kg CO <sub>2</sub> eq.]	7.46E+01	6.67E-01	1.01E+01	8.53E+01
Ozone layer depletion	[kg CFC 11 eq.]	1.46E-05	0.00E+00	1.56E-09	1.46E-05
Accidification	[kg SO <sub>2</sub> eq.]	6.30E-01	3.75E-03	3.01E-02	6.64E-01
Formation of tropospheric ozone	[kg Ethene eq.]	4.80E-02	2.44E-04	1.04E-03	4.93E-02
Eutrophication	[kg (PO <sub>4</sub> ) <sup>3-</sup> eq.]	1.20E-01	6.63E-04	3.18E-03	1.24E-01
Depletion of abiotic resources	[kg Sb eq.]	3.42E-01	0.00E+00	3.73E-05	3.42E-01
Depletion of abiotic resources-fossil fuels	[MJ]	1.53E+03	9.09E+00	9.00E+01	1.63E+03
Environmental impacts: (DU) 1 chair (weight: 27.1 kg*)					
ASPECTS	Unit	A1	A2	A3	A1-A3
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw material)	[MJ]	1.76E+02	6.37E-01	1.10E+01	1.88E+02
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of non renewable primary energy resources (primary energy and primary energy resources used as raw material)	[MJ]	1.67E+03	9.55E+00	9.45E+01	1.77E+03
Use of secondary material	[kg]	7.94E+00	0.00E+00	0.00E+00	7.94E+00
Use of renewable secondary fuels	[MJ]	8.01E-02	4.77E-01	0.00E+00	5.58E-01
Use of non-renewable secondary fuels	[MJ]	4.21E-03	0.00E+00	0.00E+00	4.21E-03
Use of net fresh water	[m <sup>3</sup> ]	INA	INA	INA	INA
Environmental impacts: (DU) 1 chair (weight: 27.1 kg*)					
WASTES	Unit	A1	A2	A3	A1-A3
Hazardous waste disposed [kg]	[kg]	4.16E-02	8.14E-08	6.02E-02	1.02E-01
Non-hazardous waste disposed [kg]	[kg]	5.07E+00	3.64E-05	5.15E-01	5.58E+00
Radioactive waste disposed [kg]	[kg]	1.71E-03	2.10E-07	0.00E+00	1.71E-03
Components for re-use [kg]	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling [kg]	[kg]	1.77E-01	0.00E+00	1.91E+00	2.09E+00
Materials for energy recovery [kg]	[kg]	5.37E-05	0.00E+00	4.82E-01	4.82E-01
Exported energy MJ per energy carrier	[MJ per energy carrier]	INA	INA	INA	INA

\*Product weight includes: material, packaging waste and all packaging materials



# 03/LIFE CYCLE ASSESSMENT (LCA)

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## RESULTS

XILIUM swivel chair					
Environmental impacts: (DU) 1 chair (weight: 27.1 kg*)					
IMPACT CATEGORIES	UNIT	C2	C3	C4	D
Global warming potential	[kg CO <sub>2</sub> eq.]	9.39E-02	3.13E+00	2.36E+00	-2.92E+01
Ozone layer depletion	[kg CFC 11 eq.]	0.00E+00	3.60E-07	2.69E-08	-2.62E-06
Accidification	[kg SO <sub>2</sub> eq.]	1.12E-03	4.32E-02	3.27E-03	-1.53E-01
Formation of tropospheric ozone	[kg Ethene eq.]	8.20E-05	2.52E-03	4.19E-04	-2.57E-02
Eutrophication	[kg (PO <sub>4</sub> ) <sup>3-</sup> eq.]	1.98E-04	1.67E-02	2.27E-03	-4.54E-02
Depletion of abiotic resources	[kg Sb eq.]	0.00E+00	2.04E-04	8.58E-08	-3.13E-03
Depletion of abiotic resources-fossil fuels	[MJ]	1.28E+00	7.37E+01	8.63E-01	-2.90E+02
Environmental impacts: (DU) 1 chair (weight: 27.1 kg*)					
ASPECTS	Unit	C2	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw material)	[MJ]	8.96E-02	1.33E+01	2.02E-02	-2.99E+01
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of non renewable primary energy resources (primary energy and primary energy resources used as raw material)	[MJ]	1.34E+00	6.78E+01	8.89E-01	-3.05E+02
Use of secondary material	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	[MJ]	6.72E-02	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of net fresh water	[m <sup>3</sup> ]	INA	INA	INA	INA
Environmental impacts: (DU) 1 chair (weight: 27.1 kg*)					
WASTES	Unit	C2	C3	C4	D
Hazardous waste disposed [kg]	[kg]	3.28E-06	4.74E-01	1.26E-06	-7.96E-03
Non-hazardous waste disposed [kg]	[kg]	1.47E-03	6.49E+00	4.91E-02	-1.97E+00
Radioactive waste disposed [kg]	[kg]	8.46E-06	2.47E-04	4.65E-06	-4.29E-04
Components for re-use [kg]	[kg]	0.00E+00	1.02E-01	0.00E+00	0.00E+00
Materials for recycling [kg]	[kg]	0.00E+00	1.48E+01	0.00E+00	0.00E+00
Materials for energy recovery [kg]	[kg]	0.00E+00	5.87E+00	0.00E+00	0.00E+00
Exported energy MJ per energy carrier	[MJ per energy carrier]	INA	INA	INA	INA

\*Product weight includes: material, packaging waste and all packaging materials

# 03/LIFE CYCLE ASSESSMENT (LCA)

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## RESULTS

XILIUM frame chair					
Environmental impacts: (DU) 1 chair (weight: 13.1 kg*)					
IMPACT CATEGORIES	UNIT	A1	A2	A3	A1-A3
Global warming potential	[kg CO <sub>2</sub> eq.]	3.16E+01	3.68E-01	9.47E+00	4.15E+01
Ozone layer depletion	[kg CFC 11 eq.]	1.17E-05	0.00E+00	1.38E-09	1.17E-05
Accidification	[kg SO <sub>2</sub> eq.]	1.13E-01	2.46E-03	3.08E-02	1.47E-01
Formation of tropospheric ozone	[kg Ethene eq.]	8.09E-03	1.68E-04	9.21E-04	9.18E-03
Eutrophication	[kg (PO <sub>4</sub> ) <sup>3-</sup> eq.]	2.26E-02	4.35E-04	3.97E-03	2.70E-02
Depletion of abiotic resources	[kg Sb eq.]	6.56E-04	0.00E+00	3.51E-05	6.91E-04
Depletion of abiotic resources-fossil fuels	[MJ]	5.42E+02	5.01E+00	8.63E+01	6.33E+02
Environmental impacts: (DU) 1 chair (weight: 13.1 kg*)					
ASPECTS	Unit	A1	A2	A3	A1-A3
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw material)	[MJ]	4.03E+01	3.51E-01	9.96E+00	5.06E+01
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of non renewable primary energy resources (primary energy and primary energy resources used as raw material)	[MJ]	6.13E+02	5.26E+00	9.06E+01	7.08E+02
Use of secondary material	[kg]	5.30E+00	0.00E+00	0.00E+00	5.30E+00
Use of renewable secondary fuels	[MJ]	5.04E-02	2.63E-01	0.00E+00	3.14E-01
Use of non-renewable secondary fuels	[MJ]	1.74E-02	0.00E+00	0.00E+00	1.74E-02
Use of net fresh water	[m <sup>3</sup> ]	INA	INA	INA	INA
Environmental impacts: (DU) 1 chair (weight: 13.1 kg*)					
WASTES	Unit	A1	A2	A3	A1-A3
Hazardous waste disposed [kg]	[kg]	2.77E-03	7.15E-09	8.70E-02	8.98E-02
Non-hazardous waste disposed [kg]	[kg]	7.41E-01	3.20E-06	5.51E-01	1.29E+00
Radioactive waste disposed [kg]	[kg]	7.33E-04	1.85E-08	0.00E+00	7.33E-04
Components for re-use [kg]	[kg]	1.07E-07	0.00E+00	0.00E+00	1.07E-07
Materials for recycling [kg]	[kg]	1.92E-01	0.00E+00	2.28E+00	2.48E+00
Materials for energy recovery [kg]	[kg]	1.30E-04	0.00E+00	4.96E-01	4.96E-01
Exported energy MJ per energy carrier	[MJ per energy carrier]	INA	INA	INA	INA

\*Product weight includes: material, packaging waste and all packaging materials

# 03/LIFE CYCLE ASSESSMENT (LCA)

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## RESULTS

XILIUM frame chair					
Environmental impacts: (DU) 1 chair (weight: 13.1 kg*)					
IMPACT CATEGORIES	UNIT	C2	C3	C4	D
Global warming potential	[kg CO <sub>2</sub> eq.]	4.57E-02	1.42E+00	1.28E+00	-8.98E+00
Ozone layer depletion	[kg CFC 11 eq.]	0.00E+00	1.72E-07	1.46E-08	-8.42E-07
Accidification	[kg SO <sub>2</sub> eq.]	5.47E-04	1.91E-02	1.89E-03	-3.97E-02
Formation of tropospheric ozone	[kg Ethene eq.]	3.99E-05	1.14E-03	2.43E-04	-5.09E-03
Eutrophication	[kg (PO <sub>4</sub> ) <sup>3-</sup> eq.]	9.64E-05	7.34E-03	1.32E-03	-7.73E-03
Depletion of abiotic resources	[kg Sb eq.]	0.00E+00	8.78E-05	4.95E-08	-9.80E-05
Depletion of abiotic resources-fossil fuels	[MJ]	6.23E-01	3.51E+01	4.91E-01	-7.90E+01
Environmental impacts: (DU) 1 chair (weight: 13.1 kg*)					
ASPECTS	Unit	C2	C3	C4	D
Use of renewable primary energy excluding renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of renewable primary energy resources (primary energy and primary energy resources used as raw material)	[MJ]	4.36E-02	4.50E+00	1.16E-02	-4.30E-02
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Use of non-renewable primary energy resources used as raw materials	[MJ]	INA	INA	INA	INA
Total use of non renewable primary energy resources (primary energy and primary energy resources used as raw material)	[MJ]	6.54E-01	3.26E+01	5.05E-01	-8.30E+01
Use of secondary material	[kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of renewable secondary fuels	[MJ]	3.27E-02	0.00E+00	0.00E+00	0.00E+00
Use of non-renewable secondary fuels	[MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Use of net fresh water	[m <sup>3</sup> ]	INA	INA	INA	INA
Environmental impacts: (DU) 1 chair (weight: 13.1 kg*)					
WASTES	Unit	C2	C3	C4	D
Hazardous waste disposed [kg]	[kg]	3.28E-06	2.01E-01	7.02E-07	-3.17E-04
Non-hazardous waste disposed [kg]	[kg]	1.47E-03	4.45E+00	2.85E-02	-4.79E-01
Radioactive waste disposed [kg]	[kg]	8.46E-06	1.22E-04	2.63E-06	-6.88E-04
Components for re-use [kg]	[kg]	0.00E+00	5.41E-02	0.00E+00	0.00E+00
Materials for recycling [kg]	[kg]	0.00E+00	7.27E+00	0.00E+00	0.00E+00
Materials for energy recovery [kg]	[kg]	0.00E+00	2.38E+00	0.00E+00	0.00E+00
Exported energy MJ per energy carrier	[MJ per energy carrier]	INA	INA	INA	INA

\*Product weight includes: material, packaging waste and all packaging materials

# 04/VERIFICATION

Environmental Product Declaration Type III ITB No. 210/2021

The process of verification of this EPD is in accordance with ISO 14025. After verification, this EPD is valid for a 5-year-period. EPD does not have to be recalculated after 5 years, if the underlying data have not changed significantly.

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The basis for LCA analysis was ISO 14040 and ITB PCR A

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Independent verification corresponding to ISO 14025 (subclause 8.1.3.)

external

internal

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External verification of EPD:  
Ph.D. Eng. Halina Prejzner

LCA, LCI audit and input data verification:  
Ph.D. Eng. Justyna Tomaszewska, j.tomaszewska@itb.pl

Verification of LCA:  
Ph.D. Eng. Michał Piasecki, m.piasecki@itb.pl

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## NORMATIVE REFERENCES

- >> ITB PCR A General Product Category Rules for Construction Products
- >> ISO 14025:2006, Environmental labels and declarations – Type III environmental declarations – Principles and procedures
- >> ISO 14040:2006 Environmental management – Life cycle assessment – Principles and framework
- >> ISO 14044:2006 Environmental management – Life cycle assessment – Requirements and guidelines
- >> EN 15804:2012+A1:2013 Sustainability of construction works – Environmental product declarations – Core rules for the product category of construction products
- >> PN-EN 15942:2012 Sustainability of construction works – Environmental product declarations – Communication format business-to-business
- >> KOBiZE Wskaźniki emisyjności CO<sub>2</sub>, SO<sub>2</sub>, NO<sub>x</sub>, CO i pyłu całkowitego dla energii elektrycznej, grudzień 2020r.



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