

Environmental Product Declaration Type III ITB No. 473/2023

Issuance date: 30.06.2023
Validity date: 30.06.2028



K40 CABINETS, CADDIES, ORGATOWERS, CONTAINERS

BASIC INFORMATION

This declaration is the Type III Environmental Product Declaration (EPD) based on EN 15804 and verified according to ISO 14025 by an external auditor. It contains the information on the impacts of the declared construction materials on the environment. Their aspects were verified by the independent body according to ISO 14025. Basically, a comparison or evaluation of EPD data is possible only if all the compared data were created according to EN 15804+A2.

Life cycle analysis (LCA):

A1-A3, C1-C4 and D modules, in accordance with EN 15804+A2

The year of preparing the EPD:

2023

Product standard:

EN 14073-2, EN 14073-3

Service Life:

5 years for standard product with possibility of 10 years

PCR:

ITB-PCR A (PCR based on EN 15804)

Declared unit:

1 piece

Reasons for performing LCA:

B2B

Representativeness:

Polish product

ITB is the verified member
of The European Platform for EPD
program operators and LCA practitioner
www.eco-platform.org

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
Tel.: +48 13 43 76 100,
+48 13 43 62 732

EPD Program Operator:

Institut Techniki Budowlanej (ITB)
Address: Filtrowa 1, 00-611 Warsaw, Poland
Website: www.itb.pl
Contact: Michał Piasecki
m.piasecki@itb.pl
energia@itb.pl

01/MANUFACTURER

Environmental Product Declaration Type III ITB No. 473/2023



OUR COMPANY

Nowy Styl has been helping companies around the world to arrange office and public spaces for 30 years. First we define their needs, and then we choose and provide products and solutions that will make the work healthier, more efficient and comfortable. We do it with genuine passion and satisfaction, what has led us to become one of the leaders in the furniture industry in Europe.

We present our solutions at the Office Inspiration Centre and 29 showrooms in London, Paris, Düsseldorf, Munich, Prague, Bratislava, Dubai and many more. We provide furniture for new office buildings, airports, conference centres, cinemas, stadiums, music, sports and multi-functional facilities.

Our list of references includes multinational corporations such as Siemens, Toyota, 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 in which European Football Championships were held in 2012 and 2016, as well as six stadiums for the Football World Cup in Qatar (2022).

We cooperate with designers from all over the world and our products are appreciated in competitions. We have received, i. a., the Red Dot Design Award, the German Design Award, the Iconic Awards, the Design Award.

The Nowy Styl portfolio includes the following brands: Nowy Styl, Kusch+Co, SOHOS by Nowy Styl, Sitag by Nowy Styl and Forum by Nowy Styl.

We make our products in manufacturing plants equipped with cutting-edge technologies, located in Poland, Germany, France and Switzerland. This assessment applies to those located in Poland, in the region of Podkarpacie (4 plants) - 3 in Jasło and 1 in Rzepedź, with a floor area of nearly 100,000 m², 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.

01/MANUFACTURER

Environmental Product Declaration Type III ITB No. 473/2023

ENVIRONMENTAL STANDARDS

We are aware that our operations have an impact on the natural environment, and we strive to reduce or neutralise it with future generations in mind.

Nowy Styl has implemented management systems confirmed by the following certificates: quality management system EN ISO 9001:2015, environmental management system EN ISO 14001:2015 and occupational health and safety EN ISO 45001. As an extension of the existing environmental management system in Nowy Styl sp. z o.o., we have implemented an ecodesign management system based on the ISO 14006 standard (Environmental Management Systems - Guidelines for incorporating ecodesign).



Ecodesign management is a methodical approach, taking into account environmental aspects during product design and development in order to reduce the negative environmental impact throughout the product's life cycle according to ISO 14040 standard (including components and raw materials).

CARBON FOOTPRINT REDUCTION

Nowy Styl has implemented a CO₂ management system for the Organization (CO₂ footprint) in accordance with the requirements stated in ISO 14064-1 and the GHG Protocol and confirmed by the CO₂ Performance Ladder certificate. Many initiatives completed in 2019-2022 produced impressive results - in 2022 our emissions in Scope 1 and 2 were lower by 43% than in 2018. One of key measures we undertake is providing renewable energy for our production processes: in 2020 it was 12,76% in total energy used for manufacturing and offices, in 2021 - 32,51% and in 2022 - 28,71% (it refers to additional purchases to improve the available energy mix).

ECOVADIS PLATINUM MEDAL

EcoVadis is an independent, holistic CSR assessment rating several dozen criteria in four thematic categories: human and labour rights, environment, ethics and sustainable procurement. Nowy Styl undergoes these audits for many years now. In 2022 and 2023 our company achieved the highest possible rating and was awarded the EcoVadis Platinum Medal, what places us among the top 1% of the best-rated companies.

SUSTAINABLE PROCUREMENT

Risk analysis and supplier assessment is the responsibility of Supplier Quality Department (within Global Procurement Department) in Poland. The purpose of their analysis is to constantly monitor and supervise our current and future suppliers with regards to potential risks.

Supplier evaluation is focused among others on the following areas: Employees human rights, Fair business practices, Environment, OHS, Purchasing, Production Process, Maintenance, Continuous Improvement and other (in accordance to FEMB Level guidance manual). Suppliers from high-risk countries shall obligatory provide 3rd party audit report. Since 2022 we prepare to expand our carbon footprint analysis for Scope 3. Our suppliers are asked to provide this information in the self-assessment.

02/PRODUCT DESCRIPTION

Environmental Product Declaration Type III ITB No. 473/2023

K40 cabinets, caddies, orgatowers, containers

With K40 everything finds its place, completely flexible and yet precisely tailored to the needs and requirements of users, the storage concept is versatile and masters any organizational challenge. The large number of possible combinations of different cabinet versions offers optimum use of space.

PRODUCT DESCRIPTION

Cabinets and upper cabinets K40

CARCASS: Melamine faced chipboard

SHELVES: Melamine faced chipboard or steel

FRONT TYPES: Open, Hinged door, Slide door, Tambour door, Drawer, Hanging file drawer

Pedestals K40

PEDESTAL TYPES: Fixed, Mobile

CARCASS: Melamine faced chipboard

FRONT TYPES: Pencil tray, Drawer, Hanging file drawer

Orga Towers K40

ORGA TOWER TYPES: Free-standing

CARCASS: Melamine faced chipboard

FRONT TYPES: Drawer

Caddies K40

CADDY TYPES: Mobile

CARCASS: Melamine faced chipboard

DOOR TYPES: Tambour

CERTIFICATES

GS Mark, Blue Angel, FEMB LEVEL

APPLICATIONS

Office Workstations

All specific product technical data is available at manufacturer website (<https://www.nowystyl.com/en/>).



03/LIFE CYCLE ASSESSMENT (LCA)

Environmental Product Declaration Type III ITB No. 473/2023

GENERAL RULES APPLIED

ALLOCATION

The allocation rules used for this EPD are based on general ITB-PCR A v. 1.6. Production line process carried out in four factories of Nowy Styl sp. z o.o. located in Krosno and Rzepedź (Poland). Allocation was done on product mass basis. All impacts from raw materials extraction are allocated in A1 module of the LCA. 100% of impacts from the line production of Nowy Styl sp. z o.o. were inventoried. Utilization of packaging material was taken into consideration. Module A2 includes transport of raw materials such as wood-faced boards, wood, polymer components, steel elements, papers, additives, ancillary materials and packaging materials from their suppliers to Nowy Styl sp. z o.o. in Jasło and in Rzepedź. Municipal wastes of factory were allocated to module A3. Energy supply was inventoried for whole factory and was allocated to the production. Emissions in the factory are measured and were allocated to module A3.

SYSTEM LIMITS

The life cycle analysis of the declared products covers "Product Stage", A1-A3, C1, C2, C3, C4 and D modules (Cradle-to-Gate with options) accordance with ISO 14040 and PCR A v.1.6. The details of systems limits are provided in product technical report. Energy and water consumption, emissions 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. In accordance with ITB PCR A v. 1.6., machines and facilities (capital goods) required for the production as well as transportation of employees were not included in LCA.

A1 AND A2 MODULES: RAW MATERIALS SUPPLY AND TRANSPORT

Wood based elements, wood, polymer components, steel elements, papers, additives, ancillary materials and packaging materials come from Polish and foreign suppliers. Means of transport include lorries. European standards for average combustion were used for calculations.

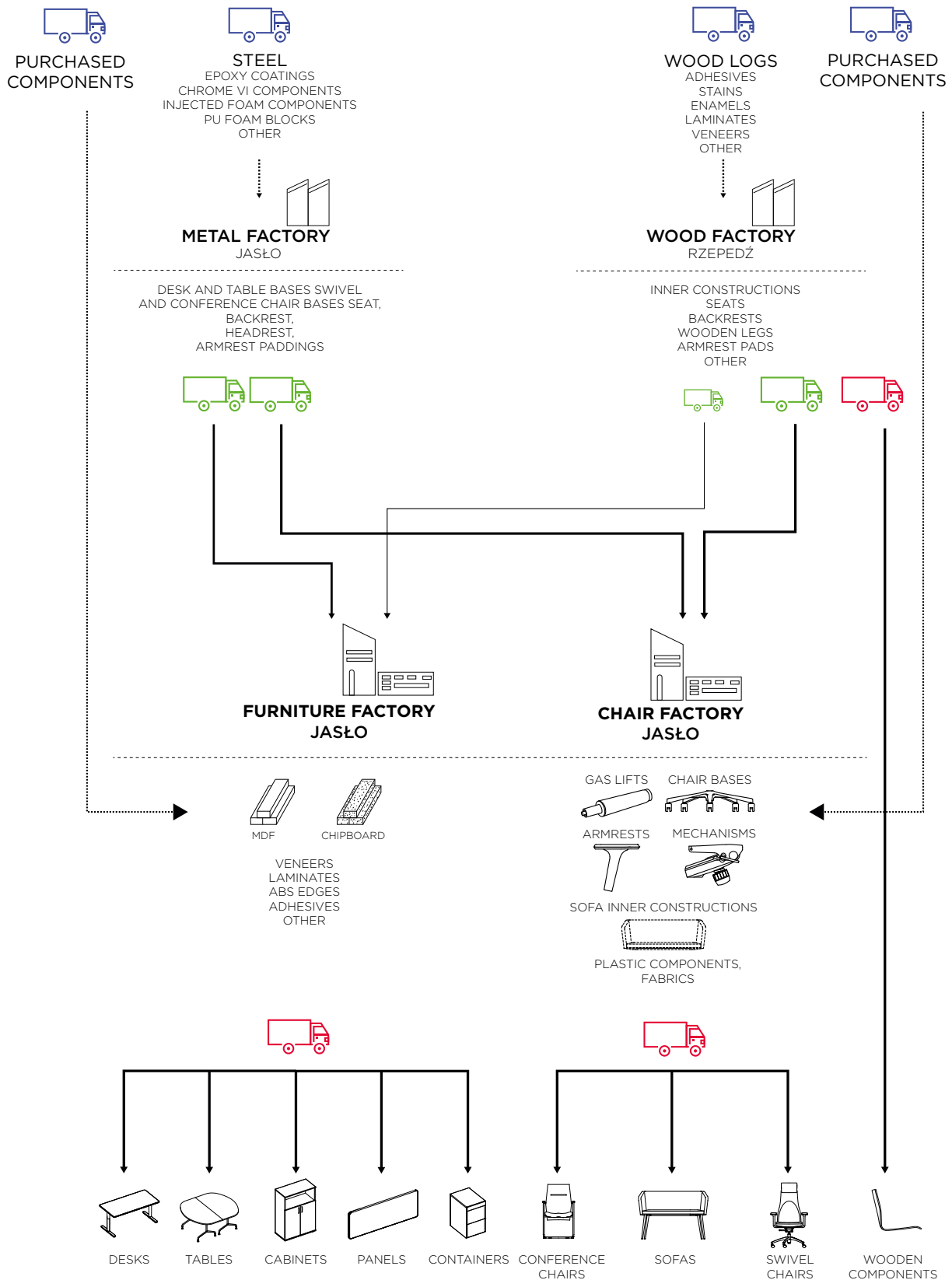
A3 PRODUCTION

As shown in the scheme of manufacturing on page 6. Nowy Styl sp. z o.o. manufactures products in four factories in Poland. Two of them process purchased materials such as metal 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)

Environmental Product Declaration Type III ITB No. 473/2023

A3 PRODUCTION



LEGEND:



PURCHASED COMPONENTS



PRODUCED COMPONENTS



SOLD PRODUCTS

03/LIFE CYCLE ASSESSMENT (LCA)

Environmental Product Declaration Type III ITB No. 473/2023

GENERAL RULES APPLIED

END OF LIFE SCENARIOS

It is assumed that at the end-of-life, the declared product is dismantled manually or with the use of electrical tools. The resulting waste is transported to waste processing plant distant by 75 km on 24t lorry (Euro 5) with 90% capacity utilization (module C2). Selectively recovered materials undergo recycling, energy recovery or landfilling according to national treatment practice of the industrial waste and recommendations of Nowy Styl sp. z o.o. Environmental burdens declared in module C4 are associated with waste-specific emissions to air and groundwater. A potential credit resulting from the recycling and energy recovery are presented in module D.

Table 1 End of life scenario for specific product.

MATERIAL	MATERIAL RECOVERY	ENERGY RECOVERY	RECYCLING	LANDFILLING
POLYMERS	100%	10%	85%	5%
ALUMINIUM	100%	0%	98%	2%
STEEL	100%	0%	98%	2%
WOOD AND WOODEN-BASED COMPONENTS	100%	8%	90%	2%
CARTONBOARD	100%	20%	80%	0%

DATA COLLECTION PERIOD

Primary data provided by Nowy Styl sp. z o.o. covers a period of 01.01.2021 – 31.12.2021 (1 year). The life cycle assessments were prepared for Poland and Europe as reference area.

DATA QUALITY

The data selected for LCA analysis originate from ITB-LCI questionnaires completed by Nowy Styl Sp. z o.o. using the inventory data, ITB and Ecoinvent databases. No specific data collected is older than five years and no generic datasets used are older than ten years. The representativeness, completeness, reliability, and consistency are judged as good.

ASSUMPTIONS AND ESTIMATES

The impacts of the representative the specific product were aggregated using weighted average. Impacts were inventoried and calculated for all products.

CALCULATION RULES

LCA was done in accordance with ITB PCR A using ITB LCA-tool.

DATA BASES

The data for the processes come from the following databases: Ecoinvent v.3.9, specific EPDs, ITB-Data. specific data quality analysis was a part of the external audit.

03/LIFE CYCLE ASSESSMENT (LCA)

Environmental Product Declaration Type III ITB No. 473/2023

RESULTS

DECLARED UNIT

The declaration refers to declared unit (DU): 1 piece of K40 system produced by Nowy Styl sp. z o.o.

Table 2. System boundaries for the environmental characteristic of the K40 cabinets, caddies, orgatowers, containers produced by Nowy Styl sp. z o.o.

Table 2 System boundaries in a product environmental assessment

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	MD	MD	MD	MD	MD

Environmental assessment information

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

03/LIFE CYCLE ASSESSMENT (LCA)

Environmental Product Declaration Type III ITB No. 473/2023

RESULTS

Table 3 Life cycle assessment (LCA) results for specific product

K40 CABINETS										
Environmental impacts : (DU) 1 piece (weight : 86.70 kg*)										
IMPACT CATEGORIES	UNIT	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Global Warming Potential	eq. kg CO ₂	7.32E-01	1.57E-01	3.98E+01	4.07E+01	4.97E-02	2.37E-03	3.29E+00	1.36E-02	-2.50E+01
Greenhouse gas potential - fossil	eq. kg CO ₂	4.17E+01	1.56E-01	3.91E+01	8.10E+01	4.88E-02	2.36E-03	2.69E+00	1.36E-02	-2.67E+01
Greenhouse gas potential - biogenic	eq. kg CO ₂	-4.10E+01	7.78E-04	6.71E-01	-4.04E+01	8.80E-04	8.06E-06	5.98E-01	4.42E-05	1.93E+00
Global warming potential - land use and land use change	eq. kg CO ₂	1.32E-01	9.12E-05	8.82E-03	1.41E-01	1.15E-05	9.25E-07	2.18E-04	6.25E-06	-2.38E-01
Stratospheric ozone depletion potential	eq. kg CFC 11	4.92E-06	3.42E-08	8.66E-07	5.82E-06	8.75E-10	5.45E-10	4.37E-07	3.63E-09	-1.86E-06
Soil and water acidification potential	eq. mol H+	2.47E+00	6.11E-04	3.71E-01	2.84E+00	4.84E-04	9.57E-06	1.05E-02	8.07E-05	-5.29E-02
Eutrophication potential - freshwater	eq. kg P	1.62E-01	1.49E-05	6.32E-02	2.25E-01	8.29E-05	1.58E-07	9.42E-05	7.39E-07	-2.16E-02
Eutrophication potential - seawater	eq. kg N	7.81E-01	1.69E-04	5.29E-02	8.34E-01	6.88E-05	2.89E-06	4.12E-03	4.53E-05	-1.28E-02
Eutrophication potential - terrestrial	eq. mol N	8.20E+00	1.84E-03	4.54E-01	8.66E+00	5.90E-04	3.15E-05	4.48E-02	3.15E-04	-1.36E-01
Potential for photochemical ozone synthesis	eq. kg NMVOC	3.56E+00	5.74E-04	1.28E-01	3.69E+00	1.66E-04	9.65E-06	1.26E-02	9.24E-05	-3.84E-02
Potential for depletion of abiotic resources - non-fossil resources	eq. kg Sb	3.85E-04	9.59E-07	5.16E-05	4.38E-04	6.59E-08	8.36E-09	1.18E-06	1.91E-08	7.15E-04
Abiotic depletion potential - fossil fuels	MJ	1.41E+03	2.29E+00	5.95E+02	2.00E+03	7.45E-01	3.50E-02	2.76E+01	2.43E-01	-4.79E+02
Water deprivation potential	eq. m ³	3.90E+02	1.39E-02	1.16E+01	4.02E+02	1.51E-02	1.62E-04	1.30E-01	8.52E-04	-4.25E+01

Table 4 Life cycle assessment (LCA) results for specific product

Environmental impacts : (DU) 1 piece (weight : 86.70 kg*)										
ASPECTS	UNIT	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Consumption of renewable primary energy - excluding renewable primary energy sources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA	INA	INA
Consumption of renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA	INA	INA
"Total consumption of renewable primary energy resources (primary energy AND primary energy resources used as raw materials)"	MJ	3.55E+02	4.82E-02	4.13E+01	3.97E+02	5.41E-02	5.02E-04	1.66E-01	3.17E-03	-2.18E+02
"Consumption of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials"	MJ	INA	INA	INA	INA	INA	INA	INA	INA	INA
Consumption of non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA	INA	INA
"Total consumption of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)"	MJ	1.41E+03	2.29E+00	6.32E+02	1.03E+03	7.89E-01	3.50E-02	2.99E+01	2.43E-01	-5.32E+02
Consumption of secondary materials	kg	3.88E+01	1.17E-03	0.00E+00	3.88E+00	0.00E+00	1.17E-05	3.18E-04	5.19E-05	1.57E-01
Consumption of renewable secondary fuels	MJ	1.77E-01	1.40E-05	0.00E+00	1.77E-01	0.00E+00	1.29E-07	5.52E-06	1.24E-03	3.88E+01
Consumption of non-renewable secondary fuels	MJ	1.07E+03	0.00E+00	0.00E+00	1.07E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.21E+00
Net consumption of freshwater resources	m ³	3.27E+00	3.71E-04	2.37E-01	3.51E+00	2.42E-04	4.40E-06	1.45E-03	2.77E-04	-1.31E-01
Environmental impacts : (DU) 1 piece (weight : 86.70 kg*)										
WASTES	UNIT	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Hazardous waste, neutralised	kg	7.21E+00	3.55E-03	6.19E-02	7.28E+00	1.54E-07	3.93E-05	3.85E-02	2.43E-04	-2.51E-01
Non-hazardous waste, neutralised	kg	1.29E+01	6.54E-02	3.99E+00	1.69E+01	4.40E-03	6.97E-04	1.10E+00	4.00E-02	-1.03E+01
Radioactive waste	kg	1.13E-03	1.54E-05	4.94E-04	1.64E-03	6.38E-07	2.61E-09	1.93E-04	1.62E-06	-3.65E-04
Components for re-use	kg	1.06E-03	0.00E+00	0.00E+00	1.06E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	5.62E-03	9.07E-06	2.94E+01	2.94E+01	0.00E+00	1.08E-07	8.83E-03	4.57E-07	5.87E-01
Materials for energy recovery	kg	3.48E-04	7.01E-08	0.00E+00	3.48E-04	0.00E+00	8.76E-10	1.73E-08	5.59E-09	-1.98E-06
Energy exported	MJ	7.08E+00	3.16E-03	0.00E+00	7.08E+00	0.00E+00	0.00E+00	3.37E+00	1.75E-04	3.32E-01

Product weight includes: material and all packaging materials

03/LIFE CYCLE ASSESSMENT (LCA)

Environmental Product Declaration Type III ITB No. 473/2023

RESULTS

Table 5 Life cycle assessment (LCA) results for specific product

K40 CADDY										
Environmental impacts : (DU) 1 piece (weight : 63.87 kg*)										
IMPACT CATEGORIES	UNIT	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Global Warming Potential	eq. kg CO ₂	1.27E+01	1.16E-01	4.87E+01	6.15E+01	4.97E-02	1.75E-03	2.43E+00	1.01E-02	-1.85E+01
Greenhouse gas potential - fossil	eq. kg CO ₂	4.04E+01	1.16E-01	4.78E+01	8.84E+01	4.88E-02	1.74E-03	1.99E+00	1.00E-02	-1.97E+01
Greenhouse gas potential - biogenic	eq. kg CO ₂	-2.79E+01	5.76E-04	8.20E-01	-2.70E+01	8.80E-04	5.96E-06	4.43E-01	3.27E-05	1.43E+00
Global warming potential - land use and land use change	eq. kg CO ₂	2.02E-01	6.75E-05	1.08E-02	2.13E-01	1.15E-05	6.85E-07	1.61E-04	4.63E-06	-1.76E-01
Stratospheric ozone depletion potential	eq. kg CFC 11	4.10E-06	2.53E-08	1.06E-06	5.19E-06	8.75E-10	4.04E-10	3.24E-07	2.69E-09	-1.38E-06
Soil and water acidification potential	eq. mol H+	1.77E+00	4.52E-04	4.53E-01	2.23E+00	4.84E-04	7.08E-06	7.77E-03	5.97E-05	-3.92E-02
Eutrophication potential - freshwater	eq. kg P	1.16E-01	1.10E-05	7.72E-02	1.93E-01	8.29E-05	1.17E-07	6.97E-05	5.47E-07	-1.60E-02
Eutrophication potential - seawater	eq. kg N	5.40E-01	1.25E-04	6.45E-02	6.05E-01	6.88E-05	2.14E-06	3.05E-03	3.35E-05	-9.48E-03
Eutrophication potential - terrestrial	eq. mol N	5.67E+00	1.36E-03	5.54E-01	6.22E+00	5.90E-04	2.33E-05	3.32E-02	2.33E-04	-1.01E-01
Potential for photochemical ozone synthesis	eq. kg NMVOC	2.46E+00	4.25E-04	1.57E-01	2.61E+00	1.66E-04	7.14E-06	9.34E-03	6.84E-05	-2.84E-02
Potential for depletion of abiotic resources - non-fossil resources	eq. kg Sb	3.44E-04	7.10E-07	6.31E-05	4.08E-04	6.59E-08	6.18E-09	8.70E-07	1.41E-08	5.29E-04
Abiotic depletion potential - fossil fuels	MJ	1.23E+03	1.69E+00	7.28E+02	1.96E+03	7.45E-01	2.59E-02	2.04E+01	1.79E-01	-3.55E+02
Water deprivation potential	eq. m ³	2.74E+02	1.03E-02	1.41E+01	2.88E+02	1.51E-02	1.20E-04	9.63E-02	6.31E-04	-3.15E+01

Table 6 Life cycle assessment (LCA) results for specific product

Environmental impacts : (DU) 1 piece (weight : 63.87 kg*)										
ASPECTS	UNIT	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Consumption of renewable primary energy - excluding renewable primary energy sources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA	INA	INA
Consumption of renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA	INA	INA
"Total consumption of renewable primary energy resources (primary energy AND primary energy resources used as raw materials)"	MJ	2.86E+02	3.57E-02	5.04E+01	3.36E+02	5.41E-02	3.71E-04	1.23E-01	2.34E-03	-1.61E+02
"Consumption of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials"	MJ	INA	INA	INA	INA	INA	INA	INA	INA	INA
Consumption of non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA	INA	INA
"Total consumption of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)"	MJ	1.23E+03	1.69E+00	7.72E+02	1.34E+03	7.89E-01	2.59E-02	2.21E+01	1.80E-01	-3.94E+02
Consumption of secondary materials	kg	3.28E+01	8.69E-04	0.00E+00	3.28E+00	0.00E+00	8.68E-06	2.36E-04	3.84E-05	1.16E-01
Consumption of renewable secondary fuels	MJ	5.37E-02	1.04E-05	0.00E+00	5.37E-02	0.00E+00	9.56E-08	4.09E-06	9.20E-04	2.87E+01
Consumption of non-renewable secondary fuels	MJ	7.23E+02	0.00E+00	0.00E+00	7.23E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.38E+00
Net consumption of freshwater resources	m ³	2.44E+00	2.74E-04	2.91E-01	2.73E+00	2.42E-04	3.26E-06	1.07E-03	2.05E-04	-9.71E-02
Environmental impacts : (DU) 1 piece (weight : 63.87 kg*)										
WASTES	UNIT	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Hazardous waste, neutralised	kg	6.98E+00	2.63E-03	8.95E-02	7.07E+00	1.54E-07	2.91E-05	2.85E-02	1.80E-04	-1.86E-01
Non-hazardous waste, neutralised	kg	1.11E+01	4.84E-02	4.88E+00	1.60E+01	4.40E-03	5.16E-04	8.14E-01	2.96E-02	-7.59E+00
Radioactive waste	kg	2.30E-03	1.14E-05	6.03E-04	2.91E-03	6.38E-07	1.93E-09	1.43E-04	1.20E-06	-2.70E-04
Components for re-use	kg	2.81E-04	0.00E+00	0.00E+00	2.81E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	2.43E-03	6.71E-06	3.57E+01	3.57E+01	0.00E+00	8.02E-08	6.54E-03	3.38E-07	4.34E-01
Materials for energy recovery	kg	1.10E-04	5.19E-08	0.00E+00	1.10E-04	0.00E+00	6.48E-10	1.28E-08	4.14E-09	-1.47E-06
Energy exported	MJ	1.05E+01	2.34E-03	0.00E+00	1.05E+01	0.00E+00	0.00E+00	2.49E+00	1.29E-04	2.46E-01

*Product weight includes: material and all packaging materials

03/LIFE CYCLE ASSESSMENT (LCA)

Environmental Product Declaration Type III ITB No. 473/2023

RESULTS

Table 7 Life cycle assessment (LCA) results for specific product

K40 ORGATOWERS										
Environmental impacts : (DU) 1 piece (weight : 91.04 kg*)										
IMPACT CATEGORIES	UNIT	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Global Warming Potential	eq. kg CO ₂	-5.16E-01	1.66E-01	5.03E+01	4.99E+01	4.97E-02	2.50E-03	3.48E+00	1.44E-02	-2.64E+01
Greenhouse gas potential - fossil	eq. kg CO ₂	4.28E+01	1.65E-01	4.94E+01	9.24E+01	4.88E-02	2.49E-03	2.84E+00	1.44E-02	-2.82E+01
Greenhouse gas potential - biogenic	eq. kg CO ₂	-4.34E+01	8.24E-04	8.48E-01	-4.25E+01	8.80E-04	8.52E-06	6.33E-01	4.68E-05	2.04E+00
Global warming potential - land use and land use change	eq. kg CO ₂	1.16E-01	9.65E-05	1.11E-02	1.27E-01	1.15E-05	9.79E-07	2.30E-04	6.62E-06	-2.52E-01
Stratospheric ozone depletion potential	eq. kg CFC 11	5.06E-06	3.62E-08	1.09E-06	6.19E-06	8.75E-10	5.77E-10	4.63E-07	3.84E-09	-1.97E-06
Soil and water acidification potential	eq. mol H+	2.59E+00	6.46E-04	4.68E-01	3.06E+00	4.84E-04	1.01E-05	1.11E-02	8.54E-05	-5.60E-02
Eutrophication potential - freshwater	eq. kg P	1.70E-01	1.58E-05	7.99E-02	2.50E-01	8.29E-05	1.68E-07	9.97E-05	7.82E-07	-2.28E-02
Eutrophication potential - seawater	eq. kg N	8.25E-01	1.79E-04	6.68E-02	8.92E-01	6.88E-05	3.06E-06	4.36E-03	4.79E-05	-1.35E-02
Eutrophication potential - terrestrial	eq. mol N	8.66E+00	1.95E-03	5.74E-01	9.24E+00	5.90E-04	3.33E-05	4.75E-02	3.34E-04	-1.44E-01
Potential for photochemical ozone synthesis	eq. kg NMVOC	3.77E+00	6.07E-04	1.62E-01	3.93E+00	1.66E-04	1.02E-05	1.34E-02	9.78E-05	-4.06E-02
Potential for depletion of abiotic resources - non-fossil resources	eq. kg Sb	3.79E-04	1.01E-06	6.52E-05	4.45E-04	6.59E-08	8.84E-09	1.24E-06	2.02E-08	7.56E-04
Abiotic depletion potential - fossil fuels	MJ	1.45E+03	2.42E+00	7.52E+02	2.21E+03	7.45E-01	3.70E-02	2.92E+01	2.57E-01	-5.07E+02
Water deprivation potential	eq. m ³	4.10E+02	1.47E-02	1.46E+01	4.25E+02	1.51E-02	1.71E-04	1.38E-01	9.02E-04	-4.50E+01

Table 8 Life cycle assessment (LCA) results for specific product

Environmental impacts : (DU) 1 piece (weight : 91.04 kg*)										
ASPECTS	UNIT	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Consumption of renewable primary energy - excluding renewable primary energy sources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA	INA	INA
Consumption of renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA	INA	INA
"Total consumption of renewable primary energy resources (primary energy AND primary energy resources used as raw materials)"	MJ	3.64E+02	5.10E-02	5.21E+01	4.16E+02	5.41E-02	5.31E-04	1.75E-01	3.35E-03	-2.31E+02
"Consumption of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials"	MJ	INA	INA	INA	INA	INA	INA	INA	INA	INA
Consumption of non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA	INA	INA
"Total consumption of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)"	MJ	3.82E+02	2.42E+00	7.98E+02	1.18E+03	7.89E-01	3.70E-02	3.16E+01	2.57E-01	-5.63E+02
Consumption of secondary materials	kg	4.51E+01	1.24E-03	0.00E+00	4.51E+00	0.00E+00	1.24E-05	3.37E-04	5.50E-05	1.67E-01
Consumption of renewable secondary fuels	MJ	5.14E-02	1.48E-05	0.00E+00	5.14E-02	0.00E+00	1.37E-07	5.84E-06	1.32E-03	4.10E+01
Consumption of non-renewable secondary fuels	MJ	1.13E+03	0.00E+00	0.00E+00	1.13E+03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	3.40E+00
Net consumption of freshwater resources	m ³	3.42E+00	3.92E-04	2.99E-01	3.72E+00	2.42E-04	4.66E-06	1.53E-03	2.93E-04	-1.39E-01
Environmental impacts : (DU) 1 piece (weight : 91.04 kg*)										
WASTES	UNIT	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Hazardous waste, neutralised	kg	7.30E+00	3.76E-03	7.48E-02	7.37E+00	1.54E-07	4.15E-05	4.08E-02	2.57E-04	-2.66E-01
Non-hazardous waste, neutralised	kg	1.27E+01	6.92E-02	5.05E+00	1.78E+01	4.40E-03	7.38E-04	1.16E+00	4.23E-02	-1.09E+01
Radioactive waste	kg	6.67E-04	1.63E-05	6.24E-04	1.31E-03	6.38E-07	2.76E-09	2.04E-04	1.72E-06	-3.87E-04
Components for re-use	kg	2.50E-04	0.00E+00	0.00E+00	2.50E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	1.79E-03	9.59E-06	3.72E+01	3.72E+01	0.00E+00	1.15E-07	9.35E-03	4.84E-07	6.21E-01
Materials for energy recovery	kg	1.04E-04	7.42E-08	0.00E+00	1.04E-04	0.00E+00	9.27E-10	1.83E-08	5.92E-09	-2.10E-06
Energy exported	MJ	8.10E+00	3.34E-03	0.00E+00	8.11E+00	0.00E+00	0.00E+00	3.56E+00	1.85E-04	3.51E-01

Product weight includes: material and all packaging materials

03/LIFE CYCLE ASSESSMENT (LCA)

Environmental Product Declaration Type III ITB No. 473/2023

RESULTS

Table 9 Life cycle assessment (LCA) results for specific product

K40 PEDESTALS										
Environmental impacts : (DU) 1 piece (weight : 48.62 kg*)										
IMPACT CATEGORIES	UNIT	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Global Warming Potential	eq. kg CO ₂	3.27E+01	8.82E-02	3.41E+01	6.69E+01	4.97E-02	1.33E-03	1.84E+00	7.64E-03	-1.40E+01
Greenhouse gas potential - fossil	eq. kg CO ₂	4.72E+01	8.77E-02	3.36E+01	8.09E+01	4.88E-02	1.32E-03	1.51E+00	7.61E-03	-1.50E+01
Greenhouse gas potential - biogenic	eq. kg CO ₂	-1.46E+01	4.37E-04	5.77E-01	-1.41E+01	8.80E-04	4.52E-06	3.36E-01	2.48E-05	1.08E+00
Global warming potential - land use and land use change	eq. kg CO ₂	7.63E-02	5.11E-05	7.58E-03	8.39E-02	1.15E-05	5.19E-07	1.22E-04	3.51E-06	-1.34E-01
Stratospheric ozone depletion potential	eq. kg CFC 11	2.64E-06	1.92E-08	7.35E-07	3.39E-06	8.75E-10	3.06E-10	2.45E-07	2.04E-09	-1.04E-06
Soil and water acidification potential	eq. mol H+	1.01E+00	3.42E-04	3.19E-01	1.33E+00	4.84E-04	5.37E-06	5.89E-03	4.53E-05	-2.97E-02
Eutrophication potential - freshwater	eq. kg P	6.52E-02	8.36E-06	5.43E-02	1.20E-01	8.29E-05	8.89E-08	5.28E-05	4.14E-07	-1.21E-02
Eutrophication potential - seawater	eq. kg N	3.04E-01	9.48E-05	4.54E-02	3.49E-01	6.88E-05	1.62E-06	2.31E-03	2.54E-05	-7.18E-03
Eutrophication potential - terrestrial	eq. mol N	3.19E+00	1.03E-03	3.90E-01	3.58E+00	5.90E-04	1.77E-05	2.52E-02	1.77E-04	-7.64E-02
Potential for photochemical ozone synthesis	eq. kg NMVOC	1.40E+00	3.22E-04	1.10E-01	1.51E+00	1.66E-04	5.41E-06	7.08E-03	5.18E-05	-2.15E-02
Potential for depletion of abiotic resources - non-fossil resources	eq. kg Sb	3.85E-04	5.38E-07	4.43E-05	4.30E-04	6.59E-08	4.69E-09	6.60E-07	1.07E-08	4.01E-04
Abiotic depletion potential - fossil fuels	MJ	1.51E+03	1.28E+00	5.11E+02	2.02E+03	7.45E-01	1.96E-02	1.55E+01	1.36E-01	-2.69E+02
Water deprivation potential	eq. m ³	1.55E+02	7.81E-03	9.94E+00	1.65E+02	1.51E-02	9.07E-05	7.30E-02	4.78E-04	-2.38E+01

Table 10 Life cycle assessment (LCA) results for specific product

Environmental impacts : (DU) 1 piece (weight : 48.62 kg*)										
ASPECTS	UNIT	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Consumption of renewable primary energy - excluding renewable primary energy sources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA	INA	INA
Consumption of renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA	INA	INA
"Total consumption of renewable primary energy resources (primary energy AND primary energy resources used as raw materials)"	MJ	1.60E+02	2.70E-02	3.55E+01	1.96E+02	5.41E-02	2.81E-04	9.30E-02	1.78E-03	-1.22E+02
"Consumption of non-renewable primary energy, excluding non-renewable primary energy resources used as raw materials"	MJ	INA	INA	INA	INA	INA	INA	INA	INA	INA
Consumption of non-renewable primary energy resources used as raw materials	MJ	INA	INA	INA	INA	INA	INA	INA	INA	INA
"Total consumption of non-renewable primary energy resources (primary energy and primary energy resources used as raw materials)"	MJ	1.23E+03	1.28E+00	5.42E+02	1.77E+03	7.89E-01	1.96E-02	1.67E+01	1.36E-01	-2.98E+02
Consumption of secondary materials	kg	1.87E+01	6.59E-04	0.00E+00	4.86E+00	0.00E+00	6.58E-06	1.79E-04	2.91E-05	8.83E-02
Consumption of renewable secondary fuels	MJ	1.28E-02	7.85E-06	0.00E+00	1.28E-02	0.00E+00	7.25E-08	3.10E-06	6.97E-04	2.18E+01
Consumption of non-renewable secondary fuels	MJ	3.85E+02	0.00E+00	0.00E+00	3.85E+02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.80E+00
Net consumption of freshwater resources	m ³	1.29E+00	2.08E-04	2.01E-01	1.49E+00	2.42E-04	2.47E-06	8.12E-04	1.55E-04	-7.36E-02
Environmental impacts : (DU) 1 piece (weight : 86.70 kg*)										
WASTES	UNIT	A1	A2	A3	A1-A3	C1	C2	C3	C4	D
Hazardous waste, neutralised	kg	4.69E+00	1.99E-03	2.90E-02	4.72E+00	1.54E-07	2.20E-05	2.16E-02	1.36E-04	-1.41E-01
Non-hazardous waste, neutralised	kg	1.34E+01	3.67E-02	3.43E+00	1.69E+01	4.40E-03	3.91E-04	6.17E-01	2.24E-02	-5.75E+00
Radioactive waste	kg	1.22E-04	8.62E-06	4.24E-04	5.65E-04	6.38E-07	1.46E-09	1.08E-04	9.10E-07	-2.05E-04
Components for re-use	kg	4.78E-05	0.00E+00	0.00E+00	4.78E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Materials for recycling	kg	8.81E-04	5.08E-06	2.55E+01	2.55E+01	0.00E+00	6.07E-08	4.95E-03	2.56E-07	3.29E-01
Materials for energy recovery	kg	4.39E-05	3.93E-08	0.00E+00	4.40E-05	0.00E+00	4.91E-10	9.72E-09	3.14E-09	-1.11E-06
Energy exported	MJ	6.49E+00	1.77E-03	0.00E+00	6.49E+00	0.00E+00	0.00E+00	1.89E+00	9.79E-05	1.86E-01

Product weight includes: material and all packaging materials

04/VERIFICATION

Environmental Product Declaration Type III ITB No. 473/2023

The process of verification of this EPD was in accordance with ISO 14025 and ISO 21930. After verification, this EPD is valid for a 5-year-period. EPD does not have to be recalculated after 5 years if the data have not changed significantly.

The basis for LCA analysis was EN 15804 and ITB PCR A

Independent verification corresponding to ISO 14025 (subclause 8.1.3.)

external internal

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

LCA, LCI audit and input data verification:
Ph.D, D.Sc.Eng. Michał Piasecki.
m.piasecki@itb.pl

The declaration owner has the sole ownership, liability, and responsibility for the declaration. Declarations of construction products may not be comparable if they do not comply with EN 15804+A2. For further information about comparability, see EN 15804 and ISO 14025.

REFERENCES NORMATIVES

- >> 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+A2:2019 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 CO₂, SO₂, NO_x, CO i pyłu całkowitego dla energii elektrycznej, grudzień 2021 r.



Building Research Institute

00-611 Warszawa, ul. Filtrowa 1

05/CERTIFICATE

Environmental Product Declaration Type III ITB No. 473/2023



Instytut Techniki Budowlanej

00-611 Warszawa, Filtrów 1

Thermal Physics, Acoustics and Environment Department

02-656 Warsaw, Ksawerów 21

CERTIFICATE № 473/2023 of TYPE III ENVIRONMENTAL DECLARATION

Products:

K40 cabinets, caddies, orgatowers, containers

Manufacturer:

Nowy Styl Sp. z o.o.

ul. Pużaka 49, 38-400 Krosno, Poland

confirms the correctness of the data included in the development of
Type III Environmental Declaration and accordance with the requirements of the standard

EN 15804+A2

Sustainability of construction works.

Environmental product declarations.

Core rules for the product category of construction products.

This certificate, issued on 30th June 2023 is valid for 5 years
or until amendment of mentioned Environmental Declaration

Head of the Thermal Physic, Acoustics
and Environment Department


Agnieszka Winkler-Skalna, PhD



Deputy Director
for Research and Innovation


Krzysztof Kućczyński, PhD

Warsaw, June 2023