Nowy Styl Group

Environmental Product Declaration Type III ITB No. 099/2020

Issuance date: 07.01.2020
Validity date: 07.01.2025

SCUDO

FRAME CHAIRS

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

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:
2020
Product standard:
EN 16139
Service Life:
5 years for standard product with possibility of 10 years
PCR:
ITB-PCR A
Declared unit:
1 frame chair
Reasons for performing LCA:
B2B
Representativeness:
Polish product

Owner of the EPD:

Nowy Styl Sp. z o.o.
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EPD Program Operator:

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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^2, including a fully automated office furniture factory opened in 2014. The company also owns Research and Development Centre located in Jaslo where innovative production technologies and product solutions are constantly developed.

02/PRODUCT DESCRIPTION

FRAME CHAIRS SCUDO

FRAME VERSIONS:
4-leg and cantilever, steel tube epoxy coated or chromium plated
GLIDES:
plastic, for hard or soft surfaces
ARMRESTS:
plastic or polyurethane pads
SEAT:
beech plywood upholstered with polyurethane foam
BACKREST TYPES:
Fully upholstered – beech plywood upholstered with polyurethane foam
Wood – beech plywood
Net – mesh (cantilever version only)

CERTIFICATES

GS mark for selected configurations

APPLICATIONS

Conference rooms, meeting rooms, public areas and as visitor chair in workplaces

GENERAL RULES APPLIED

As shown in the scheme of manufacturing on page 6 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.

ALLOCATION

The allocation rules used for this EPD are based on general ITB PCR A. Production of the frame chairs SCUDO is a line process carried out in five 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 and were allocated to the frame chairs production as follows: 0.16% SCUDO. Utilization of packaging material was taken into consideration. Module A2 includes transport of raw materials such as wood, polymers (PE, PA, PU, PET), steel elements, papers, additives, ancillary materials and packaging materials from their suppliers to Nowy Styl Sp. z o.o. in Krosno and in Rzepedź. Municipal wastes of factory were allocated to module A3. Energy supply was inventoried for whole factory and was allocated to the frame chairs SCUDO 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, C2, C3, C4 and D modules (Cradle to Gate with options) accordance with ISO 14040 and ITB PCR A. The details of systems limits are provided in product technical report. All materials and energy consumption inventoried in factories and were included in calculation. In the assessment, all significant parameters from gathered production data are considered, i.e. all material used per formulation, utilized thermal energy, internal fuel and electric power consumption, direct production waste, and all available emission measurements. 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 and during production are excluded, as is transportation of employees.

A1 AND A2 MODULES: RAW MATERIALS SUPPLY AND TRANSPORT

Wood, polymers (PE, PA, PU, PET), steel elements, papers, additives, ancillary materials and packaging materials come from Polish and foreign suppliers. Data on transport of the different products to the manufacturing plants is collected and modelled for factory by assessor. Means of transport include trucks. For calculation purposes Polish and European fuel averages are applied.

03/LIFE CYCLE ASSESSMENT (LCA)

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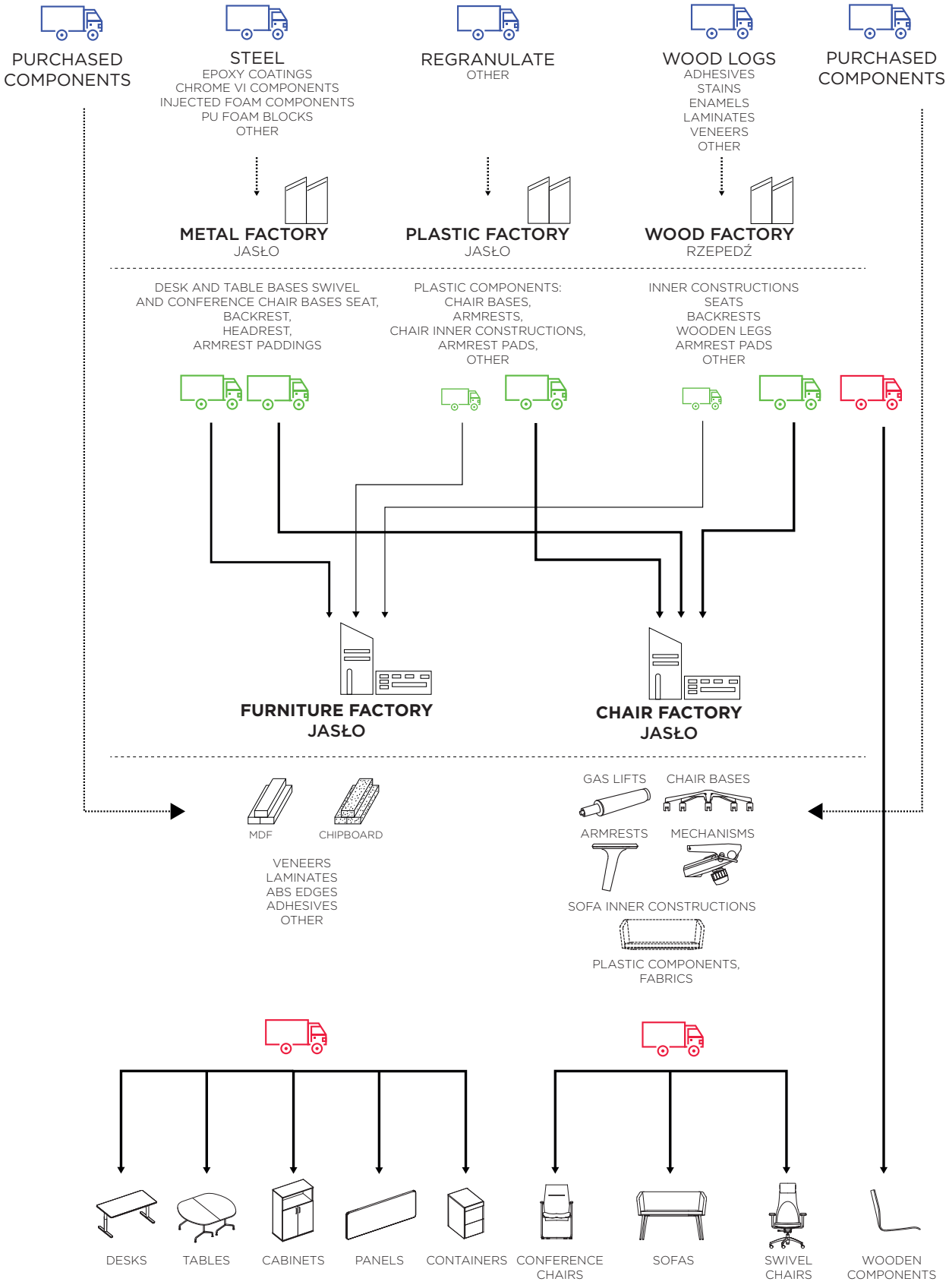
A3 PRODUCTION



LEGEND:

PURCHASED COMPONENTS

PRODUCED COMPONENTS

SOLD PRODUCTS

A3 PRODUCTION

END OF LIFE SCENARIOS
It is assumed that at the end of life stage, the transport distance for waste to waste processing (C3) is 50 km on > 10t loaded lorry with 50% capacity utilization and fuel consumption of 15 L per 100 km. The declared product is dismantled manually. 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. The reuse, energy recovery and recycling stage is considered beyond the system boundaries (D).

Table 1 End of life scenarios for the materials

MATERIAL	MATERIAL RECOVERY	ENERGY RECOVERY	RECYCLING	LANDFILLING
POLYMERS	80%	30%	30%	40%
ALUMINIUM	95%	0%	75%	25%
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 01.01.2018 – 31.12.2018 (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.

ASSUMPTIONS AND ESTIMATES
The impacts of the representative the frame chairs SCUDO were aggregated using weighted average. Impacts were inventoried and calculated for all products of the frame chairs SCUDO.

CALCULATION RULES
LCA was done in accordance with ITB PCR A document.

DATA BASES
The data for the processes come from the following databases: Ecoinvent v.3.5, specific EPDs, ELCD, ÖKOBAUDAT, Ullmann's, ITB-Data. Specific data quality analysis was a part of external ISO 14001 audit.

RESULTS

DECLARED UNIT
The declaration refers to declarated unit (DU) –
1 frame chairs: SCUDO produced by Nowy Styl Sp. z o.o.

Table 2. System boundaries for the environmental characteristic of frame chairs: SCUDO 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)

RESULTS

SCUDO					
Environmental impacts: (DU) 1 frame chair (weight: 18,5 kg*)					
IMPACT CATEGORIES	UNIT	A1	A2	A3	A1-A3
Global warming potential	[kg CO_2 eq.]	1.51E+01	4.73E-01	2.85E+01	4.40E+01
Depletion potential of the stratospheric ozone layer	[kg CFC 11 eq.]	5.99E-06	0.00E+00	0.00E+00	5.99E-06
Acidification potential of soil and water	[kg SO_2 eq.]	5.12E-02	3.50E-03	1.14E-02	6.61E-02
Formation potential of tropospheric ozone	[kg Ethene eq.]	8.31E-03	2.46E-04	1.05E-03	9.60E-03
Eutrophication potential	[kg $(PO_4)^{3-}$ eq.]	9.82E-03	6.72E-06	1.69E-03	1.15E-02
Abiotic depletion potential (ADP-elements) for non-fossil resources	[kg Sb eq.]	2.00E-03	0.00E+00	1.06E-04	2.11E-03
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	[MJ]	2.52E+02	6.36E+00	1.33E+02	3.91E+02
Environmental impacts: (DU) 1 frame chair (weight: 18,5 kg*)					
ASPETCS	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]	3.54E+01	4.45E-01	7.91E+00	4.38E+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]	2.73E+02	6.68E+00	1.40E+02	4.19E+02
Use of secondary material	[kg]	4.66E+00	0.00E+00	0.00E+00	4.66E+00
Use of renewable secondary fuels	[MJ]	9.01E-02	3.34E-01	0.00E+00	4.24E-01
Use of non-renewable secondary fuels	[MJ]	6.13E-02	0.00E+00	0.00E+00	6.13E-02
Use of net fresh water	[m^3]	INA	INA	INA	INA
Environmental impacts: (DU) 1 frame chair (weight: 18,5 kg*)					
WASTES	Unit	A1	A2	A3	A1-A3
Hazardous waste disposed [kg]	[kg]	5.35E-03	9.19E-07	1.35E-01	1.41E-01
Non-hazardous waste disposed [kg]	[kg]	1.01E+00	8.54E-04	1.46E-01	1.16E+00
Radioactive waste disposed [kg]	[kg]	4.65E-03	0.00E+00	0.00E+00	4.65E-03
Components for re-use [kg]	[kg]	9.16E-02	0.00E+00	0.00E+00	9.16E-02
Materials for recycling [kg]	[kg]	8.80E-02	0.00E+00	2.22E+00	2.31E+00
Materials for energy recovery [kg]	[kg]	0.00E+00	0.00E+00	4.38E-01	4.38E-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

RESULTS

SCUDO					
Environmental impacts: (DU) 1 frame chair (weight: 18,5 kg*)					
IMPACT CATEGORIES	UNIT	C2	C3	C4	D
Global warming potential	[kg CO_2 eq.]	3.45E-02	6.84E-01	2.08E+00	-1.24E+01
Depletion potential of the stratospheric ozone layer	[kg CFC 11 eq.]	0.00E+00	5.39E-08	2.39E-08	-8.30E-08
Acidification potential of soil and water	[kg SO_2 eq.]	2.61E-04	2.60E-03	2.06E-03	-1.78E-02
Formation potential of tropospheric ozone	[kg Ethene eq.]	1.68E-05	3.99E-04	5.22E-04	-5.00E-03
Eutrophication potential	[kg $(PO_4)^{3-}$ eq.]	4.61E-05	9.38E-04	6.53E-04	-3.89E-03
Abiotic depletion potential (ADP-elements) for non-fossil resources	[kg Sb eq.]	0.00E+00	1.00E-05	4.57E-06	-5.07E-04
Abiotic depletion potential (ADP-fossil fuels) for fossil resources	[MJ]	1.02E+00	1.03E+01	6.65E+00	-9.85E+01
Environmental impacts: (DU) 1 frame chair (weight: 18,5 kg*)					
ASPETCS	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]	7.12E-02	2.51E+01	6.64E-01	-2.78E+00
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]	1.07E+00	9.43E+00	5.69E+00	-8.34E+01
Use of secondary material	[kg]	0.00E+00	0.00E+00	0.00E+00	2.10E+00
Use of renewable secondary fuels	[MJ]	5.34E-02	0.00E+00	0.00E+00	3.43E+01
Use of non-renewable secondary fuels	[MJ]	0.00E+00	0.00E+00	0.00E+00	2.81E+00
Use of net fresh water	[m^3]	INA	INA	INA	INA
Environmental impacts: (DU) 1 frame chair (weight: 18,5 kg*)					
WASTES	Unit	C2	C3	C4	D
Hazardous waste disposed [kg]	[kg]	1.82E-06	1.54E-05	6.27E-06	-1.61E-03
Non-hazardous waste disposed [kg]	[kg]	1.69E-03	4.17E-01	8.70E-01	-5.75E-01
Radioactive waste disposed [kg]	[kg]	0.00E+00	5.82E-05	1.34E-05	-3.50E-03
Components for re-use [kg]	[kg]	0.00E+00	5.50E-02	0.00E+00	0.00E+00
Materials for recycling [kg]	[kg]	0.00E+00	5.39E+00	0.00E+00	0.00E+00
Materials for energy recovery [kg]	[kg]	0.00E+00	0.00E+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

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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.

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

Independent verification corresponding to ISO 14025 (subclause 8.1.3.)

[X] external [ ] internal

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

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_2, SO_2, NOx, CO i pyłu całkowitego dla energii elektrycznej, grudzień 2017