

ENVIRONMENTAL PRODUCT DECLARATION

In accordance with ISO 14025 and EN 15804:2012+A2:2019 for:
MDF Panels and Profiles
from AGT Ağaç Sanayi ve Tic. A.Ş.

EPD Registration Number:
S-P-01914

Publication Date:
04.05.2020

Revision Date:
01.12.2021

Geographical Scope:
Global

Validity Date:
03.05.2025

Revision No:
V1.1



ENVIRONMENTAL PRODUCT DECLARATIONS

 **AGT**

Panel

 **AGT**

Profile

PROGRAMME INFORMATION

Programme	EPD Turkey, a fully aligned regional programme	The International EPD® System
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Product Category Rules (PCR):

2019:14 Version 1.0, 2019-12-20, Construction Products and CPC 54 Construction Services and c-PCR-006 Wood and wood-based products for use in construction (EN 16485)

Independent third-party verification of the declaration and data, according to ISO 14025:2006:

EPD process certification

EPD verification ☒

Third party verifier: Vladimír Kocí, PhD

Approved by: The International EPD® System

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

YES

NO ☒

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

EPDs within the same product category but from different programmes may not be comparable. EPDs of construction products may not be comparable if they do not comply with EN 15804. For further information about comparability, see EN 15804 and ISO 14025.

Revisions:

V1.1. : LCA Method change, Database and Software update.

COMPANY INFORMATION

AGT; (Technology That Develops the Wood) which started its activities in Antalya in 1984 with the dream of processing and developing the wood specifically for individuals and institutions with developing technology, operates today as one of the world's leading companies in the furniture components industry. In its modern production facilities established in Antalya Organized Industrial Zone on a total area of 450 thousand square meters; AGT provides service to the furniture and decoration sectors with MDF, MF MDF, Panel, Profile production and it also provides service to the construction sector with flooring and skirting board production.

Ranked in Turkey's Top 500 Industrial Enterprises, our company has obtained approximately 50% of the turnover of over 1 billion TL from exports in 2019. With our employees over 1000 people, we can produce all the wooden materials required for the interior within our own structure.

Since the first day we were founded, we have not compromised our ethical value and quality principles. For all our customers, employees and business partners without considering them on small or big scale; quality, trend and development is still our main target. Today, we add color, elegance and sustainable vitality to the living space of millions of people who value quality and aesthetics with our more than 1000 sales points on 5 continents. In addition to its widespread dealer channel within Turkey; AGT, which has sales points on 5 continents, exports approximately 90 countries, primarily to Canada, Eastern Europe-

Balkans, Mena and Russia.

Quality is a target that is constantly being renewed and developed according to the conditions, not reached. With a reliable, organized and institutionalized business approach in the furniture components industry; our quality policy is to increase our production quality by closely following the developing technology, to fully meet the expectations and wishes of our customers, to increase the efficiency of the quality management system, to always be a preferred brand in national and international markets by ensuring the continuity of our place in the sector.

Today, we will continue to be the choice of those who care about quality, aesthetics and elegance with our determination to be a leading player that guides the market not only in our country but also in the global arena along with our vision of "Technology That Develops the Wood", thinking long-term and strategically, prioritizing the compliance with international standards.

The company has ISO 9001 Quality Management System, ISO 14001 Environment Management System, ISO 45001 Occupational Health & Safety Management System, ISO 10002 Customer Satisfaction Management System, ISO 27001 Information Security Management System, ISO 50001 Energy Management System Certification, PEFC (Programme for the Endorsement of Forest Certification), FSC(Forest Stewardship Council) and TSCA Certification.



PRODUCT INFORMATION

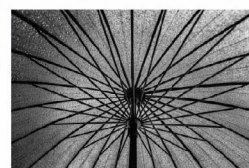
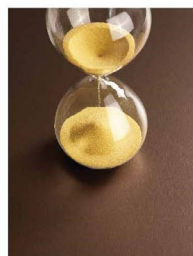
AGT

Panel



For detailed
product information:

Scan or Click !



AGT Panel is manufactured by using world class MDF of AGT and it presents colourful solutions special for every venue. PVC foil coating which has superior surface quality is what brings in rich color choices to it... Moreover AGT Panel could be manufactured in demanded size and colors as well as standard colors.

There are four types of AGT Panel: High Gloss, Soft Touch, Acrylic and Supramat.

UN CPC code: CPC 31441

Typical Material Composition

Material	Composition
MDF	%90-%55
Impregnated Paper and Auxiliary Materials	%1-3
Foil and Auxiliary Materials	%3-5

Available Dimensions

	1220 mm X 2800 mm	
	One Face	Double Face
8 mm	x	
18 mm	x	x

Features of AGT Panel:

- More than 100 color alternatives (Matte and High Gloss)
- High expansion resistance
- Trendy modern decors
- Perfect harmony of rich patterns with surface structure
- High bending resistance
- Strong frame
- High screw pull and hold strength

PRODUCT INFORMATION

AGT

Profile



For detailed
product information:

Scan or Click !



AGT Profile made of AGT MDF can be used with panels and other AGT products. Thickening profiles, edge and cover profiles, cap and corner bands, skirting boards, surface profiles and table legs are and other products are manufactured produced in many backgrounds.

UN CPC code: CPC 31441

Typical Material Composition

Material	Composition
MDF	%90-%95
Impregnated Paper and Auxiliary Materials	%1-3
Foil and Auxiliary Materials	%3-5

Available Dimensions

- 2800 mm (Profile Length)
- Products of different thickness and height according to profile types

Features of AGT Profile :

- More than 100 color alternatives
- More than 4000 models
- Perfect Harmony Of Rich Patterns With Other AGT Products
- High bending resistance
- Trendy modern decors

Technical Specifications

PROPERTIES OF AGT FIBER SHEET PANEL				
SPECIFICATION	UNIT	TEST STANDARD	REQUIRED VALUE	RESULTS
ADHESIVE RESISTANCE (FRONT SURFACE)	N/mm ²	EN 323	≥ 0.55	1
ADHESIVE RESISTANCE (BACK SURFACE)	N/mm ²	EN 323	≥ 0.55	0.70
TEMPERATURE RESISTANCE (FRONT SURFACE)	°C	---	≤ 80	≤ 80
TEMPERATURE RESISTANCE (BACK SURFACE)	°C	---	≤ 70	≤ 70
SURFACE STRENGTH	N/mm ²	EN 311	≥ 1 N/mm ²	8 mm: 1.10 N/mm ² 16-18 mm: 1.35 N/mm ²
FORMALDEHYDE RELEASE (COATED SHEET)	mg/ m ² h	EN ISO 12460-3	≤1.75 mg/ m ² h (E0 limit)	0.42 mg/ m ² h
EVALUATION OF SURFACE RESISTANCE TO MICRO-SCRATCHES	% change	TS CEN / TS 16611 (Method A)	≤ 10	9
RESISTANCE TO COLD LIQUIDS (RESISTANCE TO CHEMICALS)	Class	EN 12720+A1	5	5
SURFACE RESISTANCE TO DRY HEAT (70°C)	Class	EN 12722	5	5
DETERMINATION OF SURFACE RESISTANCE TO WET TEMPERATURE (70°C)	Class	EN 12721	5	5
PANEL WARPING TOLERANCE	mm		Short Side (1220 mm) ≤ 4 mm Long Side (2880 mm) ≤ 10 mm	Short Side (1220 mm) ≤ 4 mm Long Side (2880 mm) ≤ 10 mm

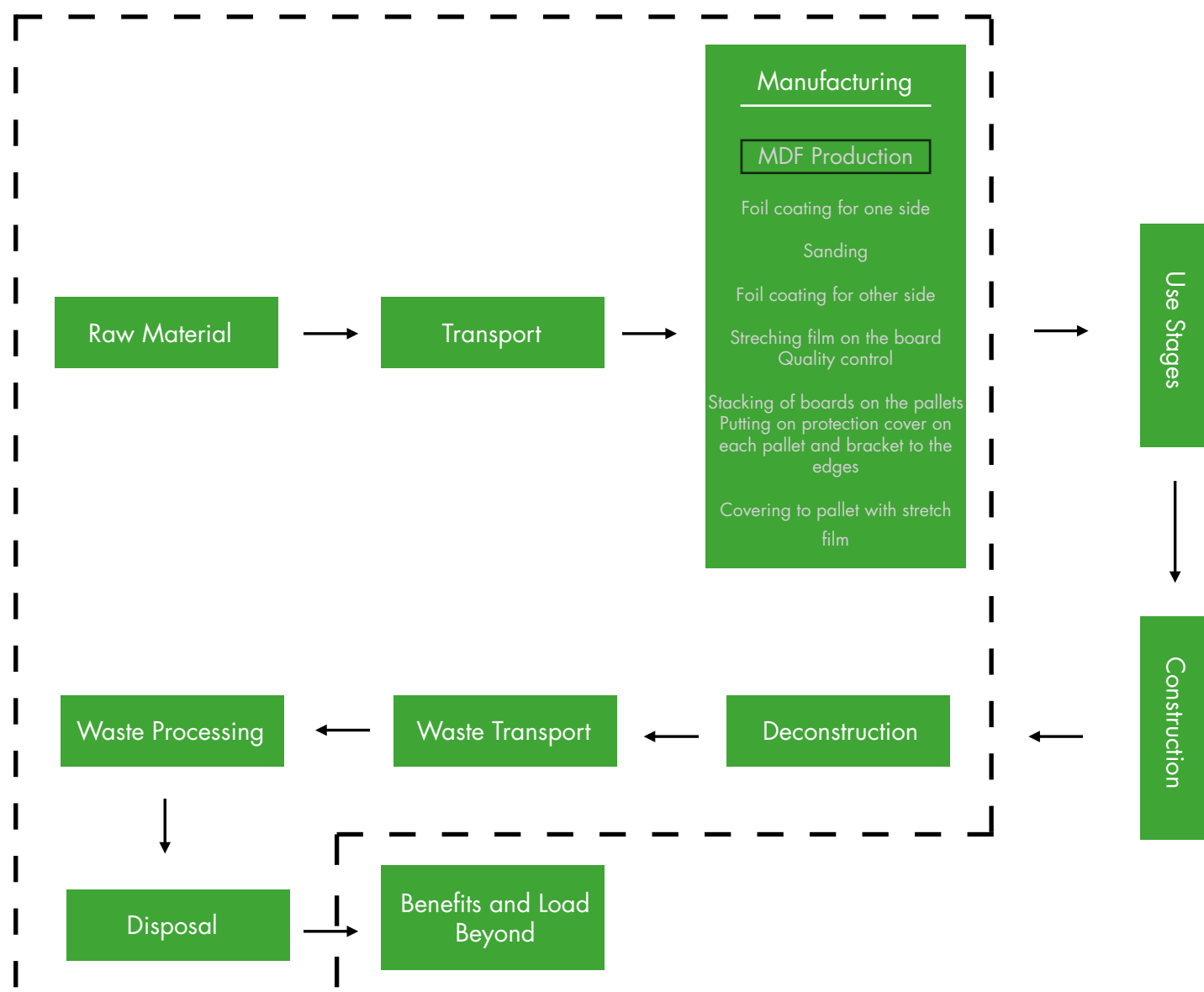
Note: Technical Specifications may vary. Please ask AGT for the latest version of TDS.



LCA INFORMATION

Declared Unit	1 m ² of MDF Panels and Profiles with an average weight 14.8 kg/m ²
Time Representativeness	2019
Reference Service Life (RSL)	RSL is 10 years provided that it complies with the conditions of use. RSL depends on application area and usage.
Database(s) and LCA Software used	Ecoinvent 3.6 and SimaPro 9.1
Description of system boundaries	Cradle to gate with modules C1–C4 and module D (A1–A3 + C + D)

System Diagram



DESCRIPTION OF SYSTEM BOUNDARY

PRODUCT STAGE			CONSTRUCTION PROCESS STAGE		USE STAGE							END OF LIFE STAGE				BENEFITS AND LOADS BEYOND THE SYSTEM BOUNDARIES
Raw Materials Supply	Transport	Manufacturing	Transport from the gate to the site	Assembly	Use	Maintenance	Repair	Replacement	Refurbishment	Operational energy use	Operational water use	De-construction	Transport	Waste processing	Disposal	Reuse-Recycling-Recovery Potential
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
X	X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	X	X	X	X	X

The system boundary covers the production of raw materials, all relevant transport down to factory gate, manufacturing by AGT, deconstruction of the product from its construction site, transport of the deconstructed material to waste processing facility with an assumed distance of 200 km, waste processing and disposal.

Waste processing, while included in the system boundary, doesn't contribute to the environmental impacts due to the assumption that the product goes directly to landfill in disposal stage without any processing.

For benefits and loads beyond, a calorific value of 18.6 MJ per kg of MDF was assumed (Günther et al., 2012) to calculate the amount of avoided natural gas use for heating. AGT produces wooden packaging materials from its own process waste. Due to this, packaging materials were not included separately to avoid double counting.

For deconstruction stage, 0.323 MJ electricity use per kg of material was assumed (Gervasio et al., 2018). For environmental impact assessment, EF Method (adapted) which is available in SimaPro 9 was used.

Energy related indicators were calculated from Cumulative Energy Demand (LHV) and resource indicators were calculated using inventory flows. There are no co-product allocations within the LCA study underlying this EPD.

Hazardous and non-hazardous waste amounts were allocated using yearly production amounts of all AGT products. Primary data obtained from AGT is valid for year 2019. Ecoinvent 3.5 was used as secondary database.

The product contains formaldehyde which is a substance of very high concern (SVHC) and is subject to authorization under the REACH Regulation. For details, test results are provided in the additional information section.

LCA RESULTS

Environmentals Impacts for 1 m² MDF Panels and Profiles

Impact Category	Unit	A1-A3	C1	C2	C3	C4	D
GWP - Fossil	kg CO ₂ eq	11.3	0.782	0.266	0	0.122	-10.2
GWP - Biogenic	kg CO ₂ eq	-21.9	0.007	155E-6	0	1.49	-0.002
GWP - Luluc	kg CO ₂ eq	0.041	0.007	83.0E-6	0	30.9E-6	-448E-6
GWP - Total	kg CO ₂ eq	-10.6	0.796	0.266	0	1.61	-10.2
ODP	kg CFC-11 eq	2.36E-6	22.1E-9	63.0E-9	0	46.0E-9	-1.02E-6
AP	mol H+ eq	0.070	0.005	0.001	0	0.001	-0.016
*EP - Freshwater	kg P eq	0.004	0.001	22.5E-6	0	25.2E-6	-161E-6
EP - Freshwater	kg PO ₄ eq	0.014	0.003	68.8E-6	0	77.2E-6	-494E-6
EP - Marine	kg N eq	0.013	0.001	195E-6	0	0.006	-0.004
EP - Terrestrial	mol N eq	0.175	0.008	0.002	0	0.004	-0.041
POCP	kg NMVOC	0.039	0.002	0.001	0	0.002	-0.015
ADPE	kg Sb eq	155E-6	1.88E-6	4.66E-6	0	0.000	-0.000
ADPF	MJ	202	8.59	4.24	0	3.36	-157
WDP	m ³ depriv.	12.12	0.366	0.015	0	0.015	-0.344
PM	disease inc.	898E-9	21.9E-9	23.0E-9	0	23.2E-9	-45.0E-9
IR	kBq U-235 eq	0.633	0.012	0.020	0	0.021	-0.030
ETP - FW	CTUe	152	7.52	3.64	0	2.74	-43.0
HTTP - C	CTUh	7.04E-9	138E-12	82.7E-12	0	80.5E-12	-860E-12
HTTP - NC	CTUh	133E-9	6.66E-9	3.74E-9	0	3.31E-9	-29.1E-9
SQP	Pt	1620	0.495	4.79	0	8.63	-6.54
Acronyms	GWP-total: Climate change, GWP-fossil: Climate change- fossil, GWP-biogenic: Climate change - biogenic, GWP-luluc: Climate change - land use and transformation, ODP: Ozone layer depletion, AP: Acidification terrestrial and freshwater, EP-freshwater: Eutrophication freshwater, EP-marine: Eutrophication marine, EP-terrestrial: Eutrophication terrestrial, POCP: Photochemical oxidation, ADPE: Abiotic depletion - elements, ADPF: Abiotic depletion - fossil resources, WDP: Water scarcity, PM: Respiratory inorganics - particulate matter, IR: Ionising radiation, ETP-fw: Ecotoxicity freshwater, HTP-c: Cancer human health effects, HTP-nc: Non-cancer human health effects, SQP: Land use.						
Legend	A1: Raw Material Supply, A2: Transport, A3: Manufacturing, A1-A3: Sum of A1, A2, and A3. A4: Transport to Site, A5: Installation, C1: De-Construction, C2: Waste Transport, C3: Waste Processing, C4: Disposal, D: Benefits and Loads Beyond the System Boundary.						
* Eutrophication-freshwater is also provided in P as additional information.							

Resource use for 1 m ² MDF Panels and Profiles							
Resource	Unit	A1-A3	C1	C2	C3	C4	D
PERE	MJ	259	2.06	0.046	0	0.132	-0.284
PERM	MJ	0	0	0	0	0	0
PERT	MJ	259	2.06	0.046	0	0.132	-0.284
PENRE	MJ	202	8.59	4.24	0	3.36	-156.7
PENRM	MJ	0	0	0	0	0	0
PENRT	MJ	202	8.59	4.24	0	3.36	-156.7
SM	kg	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	-275
NRSF	MJ	0	0	0	0	0	0
FW	m ³	-0.053	0.003	0.001	0	0.004	-0.030
Acronyms	PERE: Use of renewable primary energy excluding resources used as raw materials, PERM: Use of renewable primary energy resources used as raw materials, PERT: Total use of renewable primary energy, PENRE: Use of non-renewable primary energy excluding resources used as raw materials, PENRM: Use of non-renewable primary energy resources used as raw materials, PENRT: Total use of non-renewable primary energy, SM: Secondary material, RSF: Renewable secondary fuels, NRSF: Non-renewable secondary fuels, FW: Net use of fresh water.						

Waste and output flows for 1 m ² MDF Panels and Profiles							
Flow	Unit	A1-A3	C1	C2	C3	C4	D
HWD	kg	0.015	0	0	0	0	0
NHWD	kg	3.75	0	0	0	0	0
RWD	kg	0	0	0	0	0	0
CRU	kg	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0
MER	kg	0	0	0	0	0	-14.4
EE (Electrical)	MJ	0	0	0	0	0	0
EE (Thermal)	MJ	0	0	0	0	0	-275
Acronyms	HWD: Hazardous waste disposed, NHWD: Non-hazardous waste disposed, RWD: Radioactive waste disposed, CRU: Components for reuse, MFR: Material for recycling, MER: Materials for energy recovery, EE (Electrical): Exported energy electrical, EE (Thermal): Exported energy, Thermal						
Legend	A1: Raw Material Supply, A2: Transport, A3: Manufacturing, A1-A3: Sum of A1, A2, and A3, C1: De-Construction, C2: Waste Transport, C3: Waste Processing, C4: Disposal, D: Benefits and Loads Beyond the System Boundary.						

Information on Biogenic Carbon Content

Results per functional or declared unit		
Biogenic Carbon Content	Unit	QUANTITY
Biogenic carbon content in product	kg C	2.89

Note: 1 kg biogenic carbon is equivalent to 44/12 kg of CO₂.

ADDITIONAL INFORMATION - PANEL

Product | Catalogue

Please follow the product catalogue for more information, product details and images.



Scan or Click !

Product | Standards

Panel products manufactured by AGT follows the below standards:

- GOSTR CERTIFICATE
- TS EN ISO 12460-3
- TSE K 517



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VOC Emissions | Indoor Air Quality

Volatile Organic Compounds (VOC) tests and evidence have been carried out on the product, according to ISO 16000 parts.

Report Number: TURT200046259

Formaldehyde | Indoor Air Quality

Panel: 0.018 mg/m³ - TS EN 717-1
Class : E0

ADDITIONAL INFORMATION - PROFILE

Product | Catalogue

Please follow the product catalogue for more information, product details and images.



Scan or Click !

Product | Standarts

Profile products manufactured by AGT follows the below standards:

- GOSTR CERTIFICATE
- TS EN ISO 12460-3
- GOSTR CERTIFICATE



Scan or Click !

Formaldehyde | Indoor Air Quality

Panel: 0.018 mg/m³ - TS EN 717-1
Class : E0

REFERENCES

- /GPI/ General Programme Instructions of the International EPD® System. Version 3.0
- /ISO 9001/ Quality management systems – Requirements
- /ISO 14001/ Environment Management System- Requirements
- /EN 15804:2012+A2:2019/ Sustainability of construction works - Environmental Product Declarations — Core rules for the product category of construction products
- /ISO 14020:2000/ Environmental labels and declarations — General principles
- /ISO 14025/ ISO 14025:2006 Preview Environmental labels and declarations – Type III environmental declarations – Principles and procedures
- /ISO 14040-44/ ISO 14040:2006-10, Environmental management - Life cycle assessment - Principles and framework (ISO 14040:2006) and Requirements and guidelines (ISO 14044:2006)
- /ISO 45001/ Occupational Health & Safety Management System Certification - Requirements
- / Gervasio et al., 2018 /Model for Life Cycle Assessment of buildings LCA, JRC Technical Reports, 2018.
- / Günther et al. ,2012 /Calorific value of selected wood species and wood products, Springer.
- /PCR for Construction Products and CPC 54 Construction Services/ Prepared by IVL Swedish Environmental Research Institute, Swedish Environmental Protection Agency, SP Trä, Swedish Wood Preservation Institute, Swedisol, SCDA, Svenskt Limträ AB, SSAB, The International EPD System, 2019:14 Version 2.0, DATE 2019-12-20
- /Ecoinvent/ Ecoinvent Centre, www.ecoinvent.org
- /SimaPro/ SimaPro LCA Package, Pré Consultants, the Netherlands, www.pre-sustainability.com

CONTACT INFORMATION

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in **5** continents



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