

Arborisa™, SoftFold®, SoftGrid®, SoftSpan®, SoftShapes™*, SoundAngle®, SoundBar®, SoundEdge®

PET Ceiling and Interior Wall Panels

**Select SoftShape™ products only*

Environmental Product Declaration

Date of Issue: 10/1/2023

Date of Expiration: 10/1/2028

PRODUCT CATEGORY RULE

UL Part A: Life Cycle Assessment Calculation Rules and Report Requirements, UL 10010, V3.2

UL Part B: Non-Metal Ceiling and Interior Wall Panel System EPD Requirements, V2.0

DECLARED UNIT

1 ft²



ASTM INTERNATIONAL

Program Operator	ASTM International 100 Barr Harbor Dr., West Conshohocken, PA 19428 cert@astm.org					
General Program Instructions and Version Number	ASTM Program Operator Rules. Version: 8.0, Revised 04/29/20					
Manufacturer Name and Address	Arktura LLC 18225 South Figueroa Street, Los Angeles, CA 90248 info@arktura.com					
Declaration Number	ASTM-EPD577					
Declared Product and Functional Unit	PET Ceiling and Interior Wall Panels Declared Unit: 0.093 m ² (1 ft ²) of panel (alternative unit of 1 m ² also declared)					
Reference PCR and Version Number	ISO 21930:2017 UL Part A: Part A: Life Cycle Assessment Calculation Rules and Report Requirements, UL 10010, V3.2 (Dec 12 2018); UL Part B: Non-Metal Ceiling and Interior Wall Panel System EPD Requirements, v2.0 (Oct 23 2018)					
Product's intended Application and Use	Commercial					
Intended Audience	Business-to-Business					
Product RSL	n/a					
Markets of Applicability	North America					
Date of Issue	10/1/2023					
Period of Validity	5 years from date of issue					
EPD Type	Manufacturer Specific					
EPD Scope	Cradle-to-Gate (A1 to A3 modules)					
Year of reported manufacturer primary data	2021					
LCA Software and Version Number	GaBi 10.7					
LCI Database and Version Number	GaBi Database 2022.2					
LCIA Methodology and Version Number	TRACI 2.1 + IPCC AR5					
LCIA Results Overview per 1 ft² (A1 to A3 modules)						
	GWP [kg CO₂ eq]	ODP [kg CFC 11 eq]	AP [kg SO₂ eq]	EP [kg N eq]	SFP [kg O₃ eq]	FFD [MJ]
PET Ceiling 01	1.56	7.42E-13	1.92E-03	2.16E-04	2.29E-02	1.23E+00
PET Ceiling 02	1.90	7.63E-13	3.04E-03	3.04E-04	3.81E-02	1.70E+00
PET Ceiling 03	1.48	4.77E-10	4.10E-03	4.20E-04	5.54E-02	2.26E+00
PET Ceiling 04	1.62	5.81E-10	4.26E-03	4.74E-04	6.18E-02	2.57E+00
PET Ceiling 05	1.69	3.44E-09	5.02E-03	5.24E-04	6.97E-02	2.59E+00
PET Ceiling 06	2.09	3.01E-09	6.55E-03	5.93E-04	8.57E-02	3.02E+00
PET Ceiling 07	2.25	3.66E-09	7.20E-03	6.34E-04	9.32E-02	3.22E+00
PET Ceiling 08	2.34	4.10E-09	7.43E-03	6.77E-04	9.85E-02	3.39E+00
PET Ceiling 09	2.29	7.09E-13	7.87E-03	6.52E-04	1.02E-01	3.24E+00
PET Ceiling 10	2.39	2.67E-09	7.19E-03	6.94E-04	9.94E-02	3.58E+00
PET Ceiling 11	2.49	7.21E-13	9.12E-03	7.03E-04	1.15E-01	3.41E+00
PET Ceiling 12	2.76	5.36E-09	8.72E-03	8.06E-04	1.18E-01	4.05E+00
PET Ceiling 13	2.75	7.36E-13	1.07E-02	7.68E-04	1.32E-01	3.62E+00
PET Ceiling 14	2.93	5.11E-09	9.42E-03	8.64E-04	1.28E-01	4.27E+00
PET Ceiling 15	2.83	8.93E-09	8.79E-03	9.43E-04	1.29E-01	4.40E+00
PET Ceiling 16	3.05	1.79E-12	9.73E-03	7.88E-04	1.24E-01	4.19E+00
PET Ceiling 17	3.10	1.51E-08	1.03E-02	1.06E-03	1.46E-01	4.74E+00
PET Ceiling 18	3.22	1.42E-12	9.57E-03	8.99E-04	1.35E-01	4.75E+00
PET Ceiling 19	3.57	1.22E-09	1.05E-02	1.07E-03	1.56E-01	5.56E+00
PET Ceiling 20	3.62	1.04E-12	1.17E-02	1.26E-03	1.77E-01	5.21E+00
PET Ceiling 21	4.71	1.29E-10	1.38E-02	1.33E-03	2.03E-01	6.70E+00
PET Ceiling 22	4.26	1.30E-10	1.30E-02	1.21E-03	1.83E-01	6.54E+00
PET Ceiling 23	4.02	1.31E-12	1.35E-02	1.38E-03	1.98E-01	5.63E+00
PET Ceiling 24	4.70	1.44E-10	1.47E-02	1.31E-03	2.02E-01	7.13E+00
PET Ceiling 25	4.55	1.64E-12	1.58E-02	1.53E-03	2.25E-01	6.17E+00
PET Ceiling 26	4.77	1.22E-12	1.67E-02	1.79E-03	2.52E-01	6.61E+00
PET Ceiling 27	5.18	1.10E-10	1.68E-02	1.36E-03	2.18E-01	7.73E+00
PET Ceiling 28	5.20	1.63E-12	1.86E-02	1.87E-03	2.70E-01	6.98E+00
PET Ceiling 29	6.47	7.67E-13	1.71E-02	1.65E-03	2.46E-01	8.07E+00
PET Ceiling 30	6.46	1.29E-12	1.90E-02	2.05E-03	2.88E-01	7.30E+00
PET Ceiling 31	5.95	2.25E-12	2.19E-02	2.04E-03	3.03E-01	7.69E+00
PET Ceiling 32	6.37	1.31E-10	2.17E-02	1.58E-03	2.67E-01	9.01E+00
PET Ceiling 33	5.88	1.39E-12	2.14E-02	2.30E-03	3.23E-01	7.96E+00
PET Ceiling 34	6.55	1.45E-12	2.41E-02	2.62E-03	3.68E-01	8.81E+00

The sub-category PCR review was conducted by:	Dr. Lindita Bushi Dr. Tom Gloria Olivia Palmer
Independent verification of the declaration and data, according to ISO 21930:2017, UL Part A, ISO 14025:2006, and UL Part B sub-category.	
<input type="checkbox"/> Internal <input checked="" type="checkbox"/> External	Tim Brooke, ASTM International
This life cycle assessment was conducted in accordance with ISO 14044 and the reference PCR by:	WAP Sustainability Consulting
This life cycle assessment was independently verified in accordance with ISO 14044 and the reference PCR by:	Lindita Bushi, Ph.D., Athena Sustainable Materials Institute
Limitations: <ul style="list-style-type: none"> • Environmental declarations from different programs (ISO 14025) may not be comparable. • Comparison of the environmental performance of Non-Metal Ceiling and Wall System Products using EPD information shall be based on the product’s use and impacts at the building level, and therefore EPDs may not be used for comparability purposes when not considering the building energy use phase as instructed under this PCR. • Full conformance with this PCR allows EPD comparability only when all stages of a life cycle have been considered. However, variations and deviations are possible”. Example of variations: Different LCA software and background LCI datasets may lead to differences results for upstream or downstream of the life cycle stages declared. 	

General Information

Company Description

At Arktura, we make design happen. For over a decade, Arktura has been at the forefront of architectural design and fabrication, delivering groundbreaking, award-winning products and custom projects, working in collaboration with architects and interior designers around the world.

Our architectural systems are devised with flexibility in mind, combining powerful design variables that allow each product to be tailored to a wide range of environments. Our growing line of offerings, including acoustic solutions, ceiling clouds and baffles, interior and exterior panel systems, and building façades set new standards across the A+D community in terms of design aesthetic, adaptability and product quality.

Each of our standardized products is an easy-to-use, highly flexible “tool set.” From overall configuration right down to attachment points, perforations, patterns, and finishes, the variables designed into each core product set can be adjusted to meet your requirements. Explore our products library to see the results—visual impact, simple refinement, and ease of installation.

All products are manufactured at Arktura’s Los Angeles factory.

Product Descriptions

Arborisa™'s biophilic acoustic modules channel natural inspirations to craft a collection of designs that combine organically angular accents and abstract linear forms. These large-scale acoustic clouds span across spaces, providing robust auditory coverage to inhabitants below. Designed to emulate the expansive look of a tree canopy, these modules, made of our Soft Sound® acoustic material, branch off in various directions, providing an array of acoustic coverage whether as a single module or grouped together. CSI 09 51 00, 09 54 00; UNSPSC 30161602





The complex interaction of variables lends power to design. Using our Soft Sound® acoustical material (100% PET plastic with up to 60% recycled content) and dimensional patterning, **SoftFold®** achieves acoustical dampening while creating a subtle play between light and shadow.

CSI 09 51 00, 09 54 00; UNSPSC 30161602

Whether using one module or many, the **SoftGrid®** family of ceiling elements opens up a multitude of possibilities for design and acoustical impact. Choose your pattern from our SoftGrid® library and rely on this simple-to-assemble, easy-to-hang approach that works with most ceiling types. Modules can be used as a singular feature or connected with our bridge clips to create a dynamic architectural field.

CSI 09 51 00, 09 54 00; UNSPSC 30161602



SoftSpan® is an award-winning, highly versatile, innovative acoustic baffle system, that delivers the look of coffered ceilings or large timber trellises without the weight, all while reducing the impact of noise across any interior space. Constructed from our high-performance PET Soft Sound® acoustical material, Softspan® is available in various colors and finishes to fit any design vision. Choose from a library of options to find a match to complement and enhance your space, including a lineup of Soft Sound® Wood Textures to replicate the character and warmth of timber ceiling trellises. SoftSpan® 24, 48, and 48A are now compatible with Arktura's own SoundBar® system. SoftSpan®

provides both stunning aesthetics and premier acoustics, delivering on both form and function.

CSI 09 51 00, 09 54 00; UNSPSC 30161602

SoftShapes™ brings a new angle to commercial acoustic design in three distinct form factors: Tri, Quad, and Hex for three, four, and six sides of auditory bliss. These versatile geometric building blocks, available in a wide range of sizes, can be wall or ceiling-mounted, supplying acoustic attenuation where you need it most. SoftShapes™ modules can be tiled across a space to create a continuous grid look, used as freestanding clouds, mixed with other Arktura Systems (TriSoft®, SoundStar®, SoftGrid®, etc.) or in dynamic clusters to adaptively maximize your design intent.

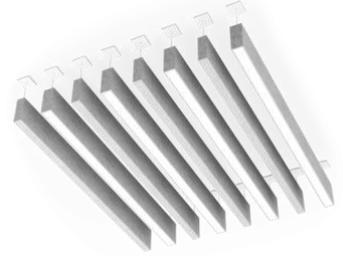
CSI 09 51 00, 09 54 00, 09 70 00, 09 78 00; UNSPSC 30161602



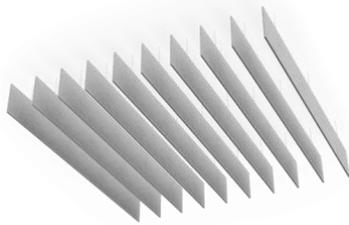
SoundAngle® ceiling system offers a perfectly scalable way to add dimensionality and high performance sound attenuation to any space. Its angled faces (available in 6 and 12 inch depths) reduce noise from all directions through use of our sound attenuating Soft Sound® acoustical material (100% PET plastic with up to 60% recycled content). Combine as many or as few of its singular V shaped baffles as desired for a project with ease.

CSI 09 51 00, 09 54 00; UNSPSC 30161602

SoundBar® acoustical baffle & lighting system delivers high performance noise reduction and sleek integrated illumination in a single cost-effective, versatile product. Choose from an assortment of lengths, widths, and depths, in Up or Down lighting configurations. Units are available in a wide range of colors, including wood textures, and can be easily mixed and arranged as desired to achieve an endless array of dynamic layouts. SoundBar® now also offers interconnectivity with SoftSpan® 24, 48, and 48A, to create unique configurations that utilize both acoustic and illuminated solutions, bringing an impactful combination of style & function to your next project.



CSI 09 51 00, 09 54 00, 09 70 00, 09 78 00; UNSPSC 30161602



SoundEdge® ceiling system offers flexible building blocks to easily achieve enhanced acoustical performance and design effects. Its modular single fin design, available in a multitude of lengths and depths, is easy to install, and can be mixed and matched in numerous configurations. SoundEdge® is constructed from our Soft Sound® acoustical material (100% PET plastic with up to 60% recycled content) to drastically reduce sound reverberation.

CSI 09 51 00, 09 54 00; UNSPSC 30161602

All products are intended for use in an interior, commercial setting.

Product Average

Product averages were developed to encompass all products that fall within +/-10% for all environmental impact indicators, excluding ODP. This was done by first grouping based on the mass of raw material and packaging, evaluated for each material. Further refinement was done by running LCA results for each first round grouping and combining results that were similar.

Table 1: Product groupings

PET Group 01	SoftSpan® Square 24 Infill Panel	PET Group 12	SoftGrid® Square 6
PET Group 02	SoftSpan® Square 24 Interior Corner		SoftSpan® Square 96 Closure Corner
	SoftShapes™ Hex 120 - 4" x 6" x 237"		SoftGrid® Tilt
	SoftShapes™ Hex 84 - 3" x 4" x 164"		SoftGrid® Trella
	SoftShapes™ Hex 108 - 3" x 6" x 212"		SoftShapes™ Quad 60 - 4" x 6" x 58"
PET Group 03	Arborisa™ Axil		SoftShapes™ Quad 60 - 3" x 6" x 57"
	Arborisa™ Nest		SoftShapes™ Quad 48 - 4" x 6" x 46"
	SoftSpan® 48A Interior Corner		SoftShapes™ Tri 96 - 4" x 6" x 92"
	SoftSpan® Square 48 Infill Panel		SoftShapes™ Quad 48 - 3" x 6" x 45"
	SoftSpan® Square 48 Interior Corner	PET Group 13	SoundEdge® 12mm 2'x6"
	SoftShapes™ Hex 96 - 3" x 10" x 188"		SoundEdge® 12mm 3'x6"
	SoftShapes™ Hex 48 - 3" x 4" x 92"		SoundEdge® 12mm 4'x6"
	SoftShapes™ Hex 96 - 4" x 10" x 189"		SoundEdge® 12mm 5'x6"
	SoftShapes™ Quad 84 - 3" x 4" x 81"		SoundEdge® 12mm 6'x6"
	SoftShapes™ Quad 108 - 3" x 6" x 105"		SoundEdge® 12mm 7'x6"

	SoftShapes™ Quad 108 - 4" x 6" x 106"		SoundEdge® 12mm 8'x6"
	SoftShapes™ Tri 120 - 3" x 4" x 118"		SoundEdge® 12mm 9'x6"
PET Group 04	Arborisa™ Aura	PET Group 14	SoftGrid® Square 7 Max
	SoftShapes™ Hex 84 - 3" x 10" x 164"		SoftSpan® 48A 4x10 Closure Beam
	SoftShapes™ Hex 84 - 4" x 10" x 165"		SoftSpan® Square 24 Closure Beam
PET Group 05	SoftGrid® Dome		SoftSpan® Square 48 Closure Beam
	SoftGrid® Scale		SoftShapes™ Quad 72 - 4" x 10" x 70"
	SoftGrid® Wave		SoftShapes™ Tri 108 - 4" x 10" x 104"
	SoftShapes™ Hex 60 - 3" x 6" x 116"		SoftShapes™ Tri 108 - 3" x 10" x 102"
	SoftShapes™ Hex 60 - 4" x 6" x 117"	PET Group 15	SoftGrid® Deca
	SoftShapes™ Hex 48 - 3" x 6" x 92"		SoftGrid® Orbit
	SoftShapes™ Tri 108 - 3" x 4" x 102"		SoftShapes™ Tri 84 - 4" x 6" x 80"
	SoftShapes™ Hex 36 - 3" x 4" x 68"		SoftShapes™ Tri 84 - 3" x 6" x 78"
	SoftShapes™ Hex 72 - 3" x 10" x 140"		SoftShapes™ Quad 36 - 3" x 4" x 33"
	SoftShapes™ Hex 72 - 4" x 10" x 141"		SoftShapes™ Hex 24 - 4" x 6" x 45"
	SoftShapes™ Quad 84 - 3" x 6" x 81"		SoftShapes™ Hex 24 - 3" x 6" x 44"
	SoftShapes™ Quad 108 - 3" x 10" x 105"		SoftShapes™ Tri 96 - 4" x 10" x 92"
	SoftShapes™ Quad 84 - 4" x 6" x 82"		SoftShapes™ Tri 96 - 3" x 10" x 90"
	SoftShapes™ Quad 108 - 4" x 10" x 106"		SoftShapes™ Tri 72 - 4" x 6" x 68"
PET Group 06	SoftGrid® Sine		SoftShapes™ Quad 48 - 3" x 10" x 45"
	SoftGrid® Skyline	PET Group 16	SoftSpan® Square 24 Closure Corner
	SoftGrid® Slope		SoftShapes™ Tri 60 - 3" x 4" x 54"
	SoftGrid® Switch		SoftShapes™ Quad 60 - 4" x 10" x 58"
	SoftGrid® Switch Max		SoftShapes™ Quad 60 - 3" x 10" x 57"
	SoftGrid® Wave Max	PET Group 17	SoftGrid® Forge
	SoftSpan® 24 Trellis	PET Group 18	SoftSpan® 48A Closure Corner
	SoftSpan® 96 Trellis		SoftSpan® Square 48 Closure Corner
	SoftShapes™ Tri 96 - 3" x 4" x 90"		SoftShapes™ Hex 24 - 3" x 10" x 44"
	SoftShapes™ Quad 60 - 3" x 4" x 57"	PET Group 19	SoftGrid® Flux
	SoftShapes™ Tri 120 - 3" x 6" x 118"		SoundBar® 3x10x 6'
	SoftShapes™ Tri 120 - 4" x 6" x 116"		SoundBar® 3x10x 7'
	SoftShapes™ Quad 96 - 3" x 10" x 93"		SoundBar® 3x10x 8'
PET Group 07	SoftGrid® Dome Max		SoundBar® 3x10x 9'
	SoftGrid® Round Max		SoundBar® 3x6x 9'
	SoftGrid® Square 9		SoundBar® 4x10x 8'
	SoftSpan® 48A Trellis		SoundBar® 4x10x 9'
	SoftGrid® Ridge		SoftShapes™ Tri 72 - 4" x 10" x 68"
	SoftShapes™ Quad 96 - 4" x 10" x 94"		SoftShapes™ Tri 72 - 3" x 10" x 66"
	SoftShapes™ Hex 36 - 3" x 6" x 68"	PET Group 20	SoundAngle® 12 x 9

	SoftShapes™ Hex 36 - 4" x 6" x 69"		SoftShapes™ Tri 36 - 3" x 4" x 30"
	SoftShapes™ Hex 60 - 3" x 10" x 116"		SoftShapes™ Quad 36 - 4" x 10" x 34"
	SoftShapes™ Quad 48 - 3" x 4" x 45"	PET Group 21	SoftFold® Full
	SoftShapes™ Hex 60 - 4" x 10" x 117"		SoundBar® 3x10x 3'
	SoftShapes™ Hex 48 - 3" x 10" x 92"		SoundBar® 3x10x 4'
	SoftShapes™ Hex 48 - 4" x 10" x 93"		SoundBar® 3x10x 5'
PET Group 08	SoftGrid® Round		SoundBar® 3x4x 8'
	SoftGrid® Scale Max		SoundBar® 3x4x 9'
	SoftGrid® Skyline Max		SoundBar® 3x6x 6'
	SoftGrid® Slope Max		SoundBar® 3x6x 7'
	SoftGrid® Square 12 Max		SoundBar® 3x6x 8'
	SoftSpan® 48 Trellis		SoundBar® 4x10x 4'
	SoftSpan® 48A 4x6 Closure Beam		SoundBar® 4x10x 5'
	SoftShapes™ Quad 72 - 4" x 6" x 70"		SoundBar® 4x10x 6'
	SoftShapes™ Quad 72 - 3" x 4" x 69"		SoundBar® 4x10x 7'
	SoftShapes™ Tri 108 - 3" x 6" x 102"		SoundBar® 4x6x 8'
	SoftShapes™ Tri 108 - 4" x 6" x 104"		SoundBar® 4x6x 9'
	SoftShapes™ Quad 84 - 3" x 10" x 81"	PET Group 22	SoundBar® 3x10x 2'
	SoftShapes™ Quad 84 - 4" x 10" x 82"		SoundBar® 3x4x 7'
PET Group 09	SoundEdge® 12mm 2'x10"		SoundBar® 3x6x 4'
	SoundEdge® 12mm 2'x12"		SoundBar® 3x6x 5'
	SoundEdge® 12mm 3'x10"		SoundBar® 4x10x 3'
	SoundEdge® 12mm 3'x12"		SoundBar® 4x6x 7'
	SoundEdge® 12mm 4'x10"	PET Group 23	SoundAngle® 12 x 3
	SoundEdge® 12mm 4'x12"		SoundAngle® 12 x 4
	SoundEdge® 12mm 5'x10"		SoundAngle® 12 x 7
	SoundEdge® 12mm 5'x12"		SoundAngle® 12 x 8
	SoundEdge® 12mm 6'x10"	PET Group 24	SoundBar® 3x4x 4'
	SoundEdge® 12mm 6'x12"		SoundBar® 3x4x 5'
	SoundEdge® 12mm 7'x10"		SoundBar® 3x6x 3'
	SoundEdge® 12mm 7'x12"		SoundBar® 4x6x 4'
	SoundEdge® 12mm 8'x10"		SoundBar® 4x6x 5'
	SoundEdge® 12mm 8'x12"		SoundBar® 4x6x 6'
	SoundEdge® 12mm 9'x10"		SoftShapes™ Quad 24 - 3" x 6" x 21"
	SoundEdge® 12mm 9'x12"		SoftShapes™ Tri 60 - 4" x 10" x 56"
	SoftShapes™ Tri 72 - 3" x 4" x 66"		SoftShapes™ Tri 60 - 3" x 10" x 54"
PET Group 10	Arborisa™ Denza	PET Group 25	SoundAngle® 12 x 2
	SoftSpan® Square 96 Closure Beam		SoundAngle® 12 x 6
	SoftGrid® Sine Max	PET Group 26	SoundAngle® 12 x 5

	SoftGrid® Tempo		SoundAngle® 6 x 8
	SoftShapes™ Hex 36 - 4" x 10" x 69"		SoundAngle® 6 x 9
	SoftShapes™ Hex 36 - 3" x 10" x 68"		SoftShapes™ Quad 24 - 4" x 10" x 22"
	SoftShapes™ Tri 120 - 3" x 10" x 118"	PET Group 27	SoundBar® 3x4x 3'
	SoftShapes™ Tri 120 - 4" x 10" x 116"		SoundBar® 3x6x 2'
PET Group 11	SoundEdge® 12mm 2'x8"		SoundBar® 4x10x 2'
	SoundEdge® 12mm 3'x8"		SoundBar® 4x6x 3'
	SoundEdge® 12mm 4'x8"	PET Group 28	SoundAngle® 6 x 3
	SoundEdge® 12mm 5'x8"		SoundAngle® 6 x 4
	SoundEdge® 12mm 6'x8"	PET Group 29	SoftFold® Half
	SoundEdge® 12mm 7'x8"	PET Group 30	SoundAngle® 6 x 7
	SoundEdge® 12mm 8'x8"	PET Group 31	SoundAngle® 6 x 2
	SoundEdge® 12mm 9'x8"	PET Group 32	SoundBar® 3x4x 2'
			SoundBar® 3x4x 6'
			SoundBar® 4x6x 2'
		PET Group 33	SoundAngle® 6 x 6
		PET Group 34	SoundAngle® 6 x 5

Product Composition

No substances required to be reported, per RCRA, Subtitle 3, as hazardous are associated with the production of this product.

Table 2: Product compositions

Mass %	PET (Soft Sound)	Aluminum	Stainless Steel	Steel	Brass	Other
<i>Recycled Content</i>	60%	25%	23%	22%	-	-
PET Group 01	100.0%	-	-	-	-	-
PET Group 02	83.2%	14.1%	-	1.6%	1.0%	0.1%
PET Group 03	90.0%	7.8%	0.1%	1.8%	0.2%	0.0%
PET Group 04	97.6%	0.9%	-	1.5%	-	0.0%
PET Group 05	93.1%	-	4.1%	1.8%	0.9%	0.1%
PET Group 06	91.8%	4.0%	2.1%	1.3%	0.8%	0.1%
PET Group 07	92.7%	3.8%	1.8%	1.0%	0.7%	0.0%
PET Group 08	93.3%	2.8%	2.1%	1.0%	0.8%	0.0%
PET Group 09	66.5%	-	18.4%	2.3%	12.7%	0.1%
PET Group 10	94.3%	3.7%	0.6%	1.3%	0.1%	0.0%
PET Group 11	58.9%	-	22.5%	2.8%	15.5%	0.2%
PET Group 12	96.5%	1.3%	1.4%	0.7%	0.2%	0.0%
PET Group 13	51.7%	-	26.5%	3.3%	18.2%	0.2%
PET Group 14	92.7%	4.1%	1.5%	1.1%	0.6%	0.0%
PET Group 15	97.8%	-	1.4%	0.4%	0.3%	0.0%
PET Group 16	72.4%	22.0%	-	2.4%	3.0%	0.2%

Mass %	PET (Soft Sound)	Aluminum	Stainless Steel	Steel	Brass	Other
PET Group 17	96.2%	-	2.0%	1.7%	-	0.1%
PET Group 18	86.5%	12.1%	-	0.6%	0.7%	0.0%
PET Group 19	94.5%	3.2%	0.3%	1.2%	0.8%	0.1%
PET Group 20	89.9%	7.4%	-	1.5%	1.1%	0.1%
PET Group 21	75.5%	4.3%	-	18.7%	0.9%	0.7%
PET Group 22	85.2%	9.7%	-	2.8%	2.1%	0.2%
PET Group 23	85.4%	11.1%	-	2.1%	1.4%	0.1%
PET Group 24	82.6%	11.7%	-	3.2%	2.3%	0.2%
PET Group 25	81.1%	14.4%	-	2.5%	1.8%	0.1%
PET Group 26	85.5%	9.9%	-	2.6%	1.9%	0.1%
PET Group 27	76.1%	16.2%	-	4.1%	3.3%	0.3%
PET Group 28	75.1%	16.5%	-	5.0%	3.2%	0.2%
PET Group 29	65.8%	-	-	32.2%	-	2.0%
PET Group 30	83.3%	10.4%	-	3.6%	2.6%	0.2%
PET Group 31	63.3%	24.3%	-	7.4%	4.7%	0.3%
PET Group 32	67.0%	25.9%	-	3.8%	3.0%	0.3%
PET Group 33	81.1%	11.7%	-	4.0%	3.0%	0.2%
PET Group 34	81.6%	12.2%	-	3.7%	2.4%	0.1%

Technical Requirements

Table 3: Technical requirements

Name and Standard	Sound absorption coefficient (ASTM C423)	Surface burning characteristics of building materials (ASTM E84)		
		Class	Wall	Ceiling
PET Group 01	N/A	Class A	x	x
PET Group 02	Not Available	Class A	x	x
PET Group 03	.55-.6	Class A	x	x
PET Group 04	0.55	Class A	x	x
PET Group 05	.5-.9	Class A	x	x
PET Group 06	0.4-.7	Class A	x	x
PET Group 07	.35-1.1	Class A	x	x
PET Group 08	.4-0.6	Class A	x	x
PET Group 09	.75-.9	Class A	x	x
PET Group 10	.4-0.9	Class A	x	x
PET Group 11	.75-.9	Class A		x
PET Group 12	.6-1.1	Class A	x	x
PET Group 13	.75-.9	Class A		x
PET Group 14	0.5	Class A	x	x
PET Group 15	.6-1.1	Class A	x	x
PET Group 16	Not Available	Class A	x	x
PET Group 17	Not Available	Class A	x	x
PET Group 18	1.05	Class A		x

Name and Standard	Sound absorption coefficient (ASTM C423)	Surface burning characteristics of building materials (ASTM E84)		
		Class	Wall	Ceiling
PET Group 19	0.6-1.15	Class A	x	x
PET Group 20	.65-1.25	Class A	x	x
PET Group 21	.4-.1.15	Class A	x	x
PET Group 22	.4-.1.15	Class A	x	x
PET Group 23	.65-.95	Class A		x
PET Group 24	.4-1.3	Class A	x	x
PET Group 25	.65-.95	Class A		x
PET Group 26	.55-1.3	Class A		x
PET Group 27	.4-1.15	Class A	x	x
PET Group 28	.55-.95	Class A		x
PET Group 29	0.75	Class A		x
PET Group 30	.55-.95	Class A		x
PET Group 31	.55-.95	Class A		x
PET Group 32	.4-1.15	Class A	x	x
PET Group 33	.55-.95	Class A		x
PET Group 34	.55-.95	Class A		x

LCA Methodology

Declared Unit

Table 4: Declared unit details

	Weight [kg/1 ft ²]	Weight [kg/m ²]	Weight [lbs/ft ²]	Thickness [in] Average [Range]	Thickness [cm] Average [Range]
PET Group 01	0.0128	0.138	0.0283	0.5	1.27
PET Group 02	0.0800	0.861	0.176	6.5 [4-10]	16.5 [10.2-25.4]
PET Group 03	0.155	1.67	0.342	6.42 [1.25-10]	16.3 [3.2-25.4]
PET Group 04	0.204	2.19	0.449	8.25 [4.75-10]	21 [12.1-25.4]
PET Group 05	0.190	2.04	0.418	7.77 [4-12.4]	19.7 [10.2-31.4]
PET Group 06	0.245	2.64	0.541	7.6 [4-14]	19.5 [10.2-35.6]
PET Group 07	0.269	2.89	0.592	8.64 [4-12.4]	21.9 [10.2-31.4]
PET Group 08	0.288	3.10	0.636	7.85 [4-10]	19.9 [10.2-25.4]
PET Group 09	0.355	3.82	0.783	0.68 [0.472-4]	1.7 [1.2-10.2]
PET Group 10	0.323	3.48	0.712	9.35 [4.75-14]	23.8 [12.1-35.6]
PET Group 11	0.399	4.30	0.880	1.41 [0.472-8]	3.6 [1.2-20.3]
PET Group 12	0.376	4.05	0.829	7.51 [6-14]	19.1 [15.2-35.6]
PET Group 13	0.454	4.89	1.00	0.5	1.2
PET Group 14	0.402	4.33	0.887	8.82 [4-10]	22.4 [10.2-25.4]
PET Group 15	0.400	4.31	0.883	7.22 [4-10]	18.3 [10.2-25.4]
PET Group 16	0.418	4.50	0.922	7.00 [4-10]	17.8 [10.2-25.4]
PET Group 17	0.431	4.64	0.951	7.5	19.1
PET Group 18	0.485	5.22	1.07	10.0	25.4

	Weight [kg/1 ft ²]	Weight [kg/m ²]	Weight [lbs/ft ²]	Thickness [in] Average [Range]	Thickness [cm] Average [Range]
PET Group 19	0.572	6.15	1.26	7.66 [3-10]	19.5 [7.6-25.4]
PET Group 20	0.372	4.01	0.820	9 [5-12]	22.9 [12.7-30.5]
PET Group 21	0.885	9.53	1.95	5.16 [3-10]	13.1 [7.6-25.4]
PET Group 22	0.672	7.24	1.48	4.5 [3-10]	11.4 [7.6-25.4]
PET Group 23	0.401	4.32	0.884	12	30.5
PET Group 24	0.738	7.94	1.63	5.22 [3-10]	13.3 [7.6-25.4]
PET Group 25	0.438	4.72	0.966	12	30.5
PET Group 26	0.391	4.21	0.862	8.5 [6-12]	21.6 [15.2-30.5]
PET Group 27	0.805	8.66	1.77	3.5 [3-4]	8.9 [7.6-10.2]
PET Group 28	0.443	4.76	0.976	6	15.2
PET Group 29	1.04	11.2	2.28	8.38	21.3
PET Group 30	0.401	4.32	0.885	6	15.2
PET Group 31	0.524	5.64	1.16	6	15.2
PET Group 32	0.943	10.2	2.08	3.33 [3-4]	8.47 [7.62-10.2]
PET Group 33	0.415	4.47	0.915	6	15.2
PET Group 34	0.418	4.49	0.921	6	15.2

System Boundary

Table 5. Description of the system boundary modules

Production			Construction		Use							End of Life				Benefits & Loads Beyond System Boundary
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
Raw Material Supply	Transport	Manufacturing	Transport to Site	Assembly/Install	Use	Maintenance	Repair	Replacement	Refurbishment	Operational Energy Use	Operational Water Use	Deconstruction	Transport	Waste Processing	Disposal	Reuse, Recovery, Recycling Potential
X	X	X	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND

*MND = not declared

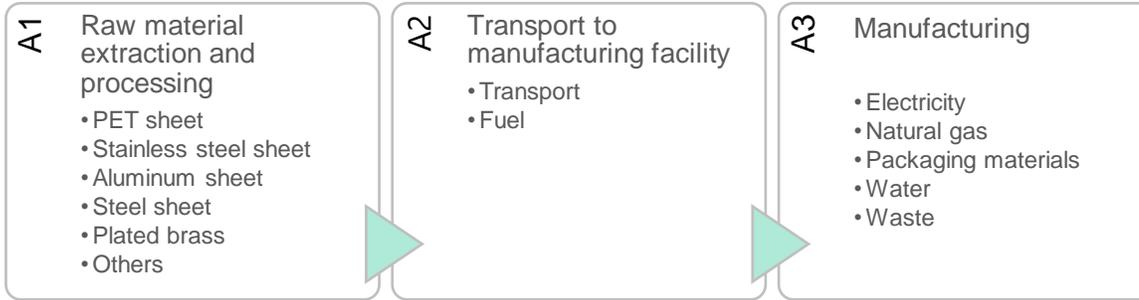


Figure 1: System boundary diagram

Note that hanger wires, molding, and/or attachment/hold down clips are excluded from the system boundary.

Allocation

General principles of allocation were based on ISO 14040/44. To derive a per-unit value for manufacturing inputs such as electricity, thermal energy and water, allocation based on total production by area was adopted, as this is the basis on which products are processed and sold, regardless of product weight. As a default, secondary GaBi datasets use a physical basis for allocation.

Cut-off Rules

Material inputs greater than 1% (based on total mass of the final product) were included within the scope of analysis. Material inputs less than 1% were included if sufficient data was available to warrant inclusion and/or the material input was thought to have significant environmental impact. Cumulative excluded material inputs and environmental impacts are less than 5% based on total weight of the functional unit. No known flows are deliberately excluded from this EPD.

Period Under Review

Data were obtained from Arktura for calendar year 2021.

Technical Information and Scenarios

Manufacturing

Arktura’s PET-based ceiling and wall panels are manufactured primarily from 60% recycled PET (Polyethylene) acoustical boards. PET sheets are cut to shape, labeled, and combined with any necessary structural or framing components. The products are packaged and then shipped and installed.

Packaging

Packaging requirements are presented in Table 5, per functional unit.

Table 6: Packaging per 1 ft²

[kg/1 ft ²]	Packaging Lumber	Packaging Plywood	Packaging Cardboard	Packaging LDPE Film	Packaging Paper	Packaging Polystyrene
PET Group 01	2.62E-03	2.74E-03		2.21E-04	9.60E-03	2.74E-03
PET Group 02	1.05E-02	1.12E-02		1.95E-05	1.19E-03	5.40E-04
PET Group 03	2.20E-02	2.36E-02	6.97E-03	3.97E-05	1.70E-03	1.20E-03
PET Group 04	1.91E-02	1.53E-02	8.48E-03			
PET Group 05	4.93E-02	1.37E-02	5.02E-02	1.61E-04	4.52E-03	
PET Group 06	4.56E-02	1.87E-02	4.41E-02	1.27E-04	4.56E-03	1.37E-03
PET Group 07	4.79E-02	1.81E-02	5.36E-02	1.21E-04	4.69E-03	1.34E-03
PET Group 08	5.78E-02	2.83E-02	5.99E-02	1.30E-04	5.64E-03	2.44E-03

[kg/1 ft ²]	Packaging Lumber	Packaging Plywood	Packaging Cardboard	Packaging LDPE Film	Packaging Paper	Packaging Polystyrene
PET Group 09	1.79E-02	2.15E-02		1.14E-04	3.31E-03	6.50E-04
PET Group 10	5.16E-02	3.05E-02	3.90E-02	1.20E-04	4.45E-03	2.61E-03
PET Group 11	1.75E-02	2.13E-02		1.56E-04	3.80E-03	6.34E-04
PET Group 12	6.15E-02	2.59E-02	7.84E-02	1.14E-04	3.74E-03	2.22E-03
PET Group 13	1.73E-02	2.10E-02		2.07E-04	4.42E-03	6.11E-04
PET Group 14	7.37E-02	7.07E-02	7.48E-02	1.41E-04	6.15E-03	3.97E-03
PET Group 15	1.28E-01	3.56E-02	1.31E-01	4.19E-04	1.17E-02	
PET Group 16	5.28E-02	5.20E-02		1.02E-04	5.31E-03	2.47E-03
PET Group 17	1.28E-01	2.79E-02	2.21E-01		8.48E-03	
PET Group 18	7.02E-02	7.64E-02		1.33E-04	4.76E-03	3.76E-03
PET Group 19	1.26E-01	7.89E-02	1.78E-02	1.45E-02	3.65E-03	2.59E-03
PET Group 20	6.61E-01	7.08E-02				1.14E-03
PET Group 21	1.44E-01	1.22E-01	1.86E-03	2.78E-02	4.19E-03	6.70E-03
PET Group 22	1.43E-01	9.64E-02	1.88E-03	4.35E-02	6.55E-03	2.93E-03
PET Group 23	7.50E-01	8.03E-02				1.68E-03
PET Group 24	1.58E-01	1.07E-01	2.08E-03	5.41E-02	8.14E-03	3.25E-03
PET Group 25	8.68E-01	9.30E-02				2.33E-03
PET Group 26	1.22E+00	1.31E-01				1.68E-03
PET Group 27	1.20E-01	8.07E-02	1.57E-03	8.15E-02	1.23E-02	2.45E-03
PET Group 28	1.23E+00	1.32E-01				1.95E-03
PET Group 29	1.92E-01	4.20E-01				5.98E-02
PET Group 30	1.50E+00	1.60E-01				1.82E-03
PET Group 31	1.31E+00	1.40E-01				2.57E-03
PET Group 32	1.42E-01	9.60E-02	1.87E-03	9.98E-02	1.50E-02	2.92E-03
PET Group 33	1.75E+00	1.87E-01				2.12E-03
PET Group 34	2.09E+00	2.24E-01				2.55E-03

Results

Environmental impacts were calculated using the GaBi software platform. Impact results have been calculated using IPCC AR5 and TRACI 2.1 characterization factors. Results presented in this report are relative expressions and do not predict impacts on category endpoints, the exceeding of thresholds, safety margins, or risks.

Acronym [Unit]	Environmental Indicators	Methodology
GWP [kg CO ₂ eq]	Global Warming Potential, excl biogenic carbon	IPCC AR5
ODP [kg CFC-11 eq]	Ozone Depletion Air	TRACI 2.1
AP [kg SO ₂ eq]	Acidification Potential	TRACI 2.1
EP [kg N eq]	Eutrophication Potential	TRACI 2.1
SFP [kg O ₃ eq]	Smog Formation Potential	TRACI 2.1
FFD [MJ, Surplus Energy]	Fossil Fuel Depletion	TRACI 2.1
Resource Use Indicators		
RPRE [MJ]	Use of renewable primary energy	

Acronym [Unit]	Environmental Indicators	Methodology
RPRM [MJ]	Renewable primary energy resources used as raw materials	
RPRT [MJ]	Total use of renewable primary energy resources	
NRPRE [MJ]	Use of non-renewable primary energy	
NRPRM [MJ]	Non-renewable primary energy resources used as raw materials	
NRPRT [MJ]	Total use of non-renewable primary energy resources	
SM [kg]	Input of secondary material	
RSF [MJ]	Use of renewable secondary fuels	
NRSF [MJ]	Use of non renewable secondary fuels	
RE [MJ]	Recovered energy	
FW [m ³]	Use of net fresh water	
Output Flows and Waste Categories		
HWD [kg]	Hazardous waste disposed	
NHWD [kg]	Non-hazardous waste disposed	
HLRW [kg]	High-level radioactive waste, conditioned, to final repository	
ILLRW [kg]	Intermediate- and low-level radioactive waste, conditioned, to final repository	
CRU [kg]	Components for re-use	
MR [kg]	Materials for Recycling	
MER [kg]	Material for Energy Recovery	
EEE [MJ]	Exported electrical energy	
EET [MJ]	Exported thermal energy	

LCA Results, per Functional Unit (1 ft²)

Table 7: LCA Results, per 1 ft² panels (A1 to A3), 1/5

Impact Categories	PET Group 01	PET Group 02	PET Group 03	PET Group 04	PET Group 05	PET Group 06	PET Group 07
GWP [kg CO ₂ eq]	1.56	1.90	1.48	1.62	1.69	2.09	2.25
ODP [kg CFC 11 eq]	7.42E-13	7.63E-13	4.77E-10	5.81E-10	3.44E-09	3.01E-09	3.66E-09
AP [kg SO ₂ eq]	1.92E-03	3.04E-03	4.10E-03	4.26E-03	5.02E-03	6.55E-03	7.20E-03
EP [kg N eq]	2.16E-04	3.04E-04	4.20E-04	4.74E-04	5.24E-04	5.93E-04	6.34E-04
SFP [kg O ₃ eq]	2.29E-02	3.81E-02	5.54E-02	6.18E-02	6.97E-02	8.57E-02	9.32E-02
FFD [MJ]	1.23E+00	1.70E+00	2.26E+00	2.57E+00	2.59E+00	3.02E+00	3.22E+00
Resource Use Indicators							
RPRE [MJ]	1.22E+01	1.33E+01	1.42E+01	1.39E+01	1.46E+01	1.65E+01	1.72E+01
RPRM [MJ]	2.28E-01	3.94E-01	8.18E-01	5.91E-01	1.10E+00	1.14E+00	1.16E+00
RPRT [MJ]	1.24E+01	1.37E+01	1.50E+01	1.44E+01	1.57E+01	1.77E+01	1.84E+01
NRPRE [MJ]	1.20E+01	1.54E+01	1.90E+01	2.02E+01	2.15E+01	2.54E+01	2.71E+01
NRPRM [MJ]	5.06E-01	2.02E+00	4.24E+00	5.96E+00	5.30E+00	6.07E+00	6.52E+00
NRPRT [MJ]	1.25E+01	1.74E+01	2.32E+01	2.61E+01	2.63E+01	3.11E+01	3.32E+01
SM [kg]	1.25E-02	6.84E-02	1.39E-01	1.94E-01	1.73E-01	2.07E-01	2.25E-01
RSF [MJ]	0.00E+00						

Impact Categories	PET Group 01	PET Group 02	PET Group 03	PET Group 04	PET Group 05	PET Group 06	PET Group 07
<i>NRSF [MJ]</i>	0.00E+00						
<i>RE [MJ]</i>	0.00E+00						
<i>FW [m³]</i>	1.22E-02	1.59E-02	1.84E-02	1.83E-02	1.86E-02	2.51E-02	2.73E-02
Output Flows and Waste Categories							
<i>HWD [kg]</i>	8.75E-05	4.53E-04	9.52E-04	1.36E-03	1.22E-03	1.38E-03	1.48E-03
<i>NHWD [kg]</i>	2.02E-02	8.36E-02	1.16E-01	1.07E-01	9.54E-02	2.20E-01	2.59E-01
<i>HLRW [kg]</i>	9.44E-07	1.07E-06	1.23E-06	1.29E-06	1.34E-06	1.43E-06	1.48E-06
<i>ILLRW [kg]</i>	7.90E-04	8.96E-04	1.02E-03	1.08E-03	1.12E-03	1.19E-03	1.23E-03
<i>CRU [kg]</i>	0.00E+00						
<i>MR [kg]</i>	4.06E-03	2.53E-02	4.91E-02	6.44E-02	6.00E-02	7.75E-02	8.49E-02
<i>MER [kg]</i>	0.00E+00						
<i>EEE [MJ]</i>	4.49E-04	2.80E-03	5.43E-03	7.13E-03	6.64E-03	8.58E-03	9.40E-03
<i>EET [MJ]</i>	2.11E-04	1.32E-03	2.55E-03	3.35E-03	3.12E-03	4.04E-03	4.42E-03

Table 8: LCA Results, per 1 ft² panels (A1 to A3), 2/5

Impact Categories	PET Group 08	PET Group 09	PET Group 10	PET Group 11	PET Group 12	PET Group 13	PET Group 14
<i>GWP [kg CO₂ eq]</i>	2.34	2.29	2.39	2.49	2.76	2.75	2.93
<i>ODP [kg CFC 11 eq]</i>	4.10E-09	7.09E-13	2.67E-09	7.21E-13	5.36E-09	7.36E-13	5.11E-09
<i>AP [kg SO₂ eq]</i>	7.43E-03	7.87E-03	7.19E-03	9.12E-03	8.72E-03	1.07E-02	9.42E-03
<i>EP [kg N eq]</i>	6.77E-04	6.52E-04	6.94E-04	7.03E-04	8.06E-04	7.68E-04	8.64E-04
<i>SFP [kg O₃ eq]</i>	9.85E-02	1.02E-01	9.94E-02	1.15E-01	1.18E-01	1.32E-01	1.28E-01
<i>FFD [MJ]</i>	3.39E+00	3.24E+00	3.58E+00	3.41E+00	4.05E+00	3.62E+00	4.27E+00
Resource Use Indicators							
<i>RPRE [MJ]</i>	1.74E+01	1.50E+01	1.70E+01	1.53E+01	1.83E+01	1.58E+01	1.92E+01
<i>RPRM [MJ]</i>	1.53E+00	7.37E-01	1.45E+00	7.34E-01	1.51E+00	7.33E-01	2.59E+00
<i>RPRT [MJ]</i>	1.89E+01	1.57E+01	1.85E+01	1.61E+01	1.98E+01	1.65E+01	2.18E+01
<i>NRPRE [MJ]</i>	2.80E+01	2.82E+01	2.83E+01	3.08E+01	3.22E+01	3.40E+01	3.41E+01
<i>NRPRM [MJ]</i>	7.31E+00	7.00E+00	8.67E+00	6.98E+00	9.86E+00	6.95E+00	1.04E+01
<i>NRPRT [MJ]</i>	3.48E+01	3.52E+01	3.66E+01	3.78E+01	4.13E+01	4.10E+01	4.39E+01
<i>SM [kg]</i>	2.47E-01	2.38E-01	2.87E-01	2.42E-01	3.31E-01	2.46E-01	3.47E-01
<i>RSF [MJ]</i>	0.00E+00						
<i>NRSF [MJ]</i>	0.00E+00						
<i>RE [MJ]</i>	0.00E+00						
<i>FW [m³]</i>	2.72E-02	2.42E-02	2.67E-02	2.61E-02	3.06E-02	2.85E-02	3.21E-02
Output Flows and Waste Categories							
<i>HWD [kg]</i>	1.65E-03	1.63E-03	1.95E-03	1.64E-03	2.23E-03	1.66E-03	2.34E-03

Impact Categories	PET Group 08	PET Group 09	PET Group 10	PET Group 11	PET Group 12	PET Group 13	PET Group 14
<i>NHWD [kg]</i>	2.48E-01	1.62E-01	2.40E-01	1.79E-01	3.00E-01	2.02E-01	3.19E-01
<i>HLRW [kg]</i>	1.54E-06	1.60E-06	1.57E-06	1.69E-06	1.68E-06	1.81E-06	1.78E-06
<i>ILLRW [kg]</i>	1.28E-03	1.34E-03	1.31E-03	1.42E-03	1.40E-03	1.52E-03	1.48E-03
<i>CRU [kg]</i>	0.00E+00						
<i>MR [kg]</i>	9.12E-02	1.12E-01	1.02E-01	1.26E-01	1.19E-01	1.44E-01	1.27E-01
<i>MER [kg]</i>	0.00E+00						
<i>EEE [MJ]</i>	1.01E-02	1.24E-02	1.13E-02	1.40E-02	1.32E-02	1.59E-02	1.41E-02
<i>EET [MJ]</i>	4.75E-03	5.85E-03	5.32E-03	6.57E-03	6.19E-03	7.47E-03	6.62E-03

Table 9: LCA Results, per 1 ft² panels (A1 to A3), 3/5

Impact Categories	PET Group 15	PET Group 16	PET Group 17	PET Group 18	PET Group 19	PET Group 20	PET Group 21
<i>GWP [kg CO₂ eq]</i>	2.83	3.05	3.10	3.22	3.57	3.62	4.71
<i>ODP [kg CFC 11 eq]</i>	8.93E-09	1.79E-12	1.51E-08	1.42E-12	1.22E-09	1.04E-12	1.29E-10
<i>AP [kg SO₂ eq]</i>	8.79E-03	9.73E-03	1.03E-02	9.57E-03	1.05E-02	1.17E-02	1.38E-02
<i>EP [kg N eq]</i>	9.43E-04	7.88E-04	1.06E-03	8.99E-04	1.07E-03	1.26E-03	1.33E-03
<i>SFP [kg O₃ eq]</i>	1.29E-01	1.24E-01	1.46E-01	1.35E-01	1.56E-01	1.77E-01	2.03E-01
<i>FFD [MJ]</i>	4.40E+00	4.19E+00	4.74E+00	4.75E+00	5.56E+00	5.21E+00	6.70E+00
Resource Use Indicators							
<i>RPRE [MJ]</i>	1.84E+01	2.08E+01	1.87E+01	2.02E+01	2.07E+01	3.27E+01	2.30E+01
<i>RPRM [MJ]</i>	2.86E+00	1.89E+00	2.66E+00	2.62E+00	3.53E+00	1.18E+01	4.63E+00
<i>RPRT [MJ]</i>	2.12E+01	2.27E+01	2.13E+01	2.29E+01	2.42E+01	4.45E+01	2.77E+01
<i>NRPRE [MJ]</i>	3.35E+01	3.49E+01	3.65E+01	3.64E+01	4.05E+01	4.60E+01	5.34E+01
<i>NRPRM [MJ]</i>	1.18E+01	9.20E+00	1.24E+01	1.27E+01	1.65E+01	1.01E+01	1.79E+01
<i>NRPRT [MJ]</i>	4.41E+01	4.41E+01	4.70E+01	4.91E+01	5.69E+01	5.61E+01	7.13E+01
<i>SM [kg]</i>	3.82E-01	3.25E-01	4.05E-01	4.27E-01	5.22E-01	3.34E-01	6.73E-01
<i>RSF [MJ]</i>	0.00E+00						
<i>NRSF [MJ]</i>	0.00E+00						
<i>RE [MJ]</i>	0.00E+00						
<i>FW [m³]</i>	2.64E-02	3.83E-02	2.81E-02	3.59E-02	3.50E-02	3.45E-02	4.37E-02
Output Flows and Waste Categories							
<i>HWD [kg]</i>	2.69E-03	2.06E-03	2.86E-03	2.86E-03	3.59E-03	2.28E-03	3.74E-03
<i>NHWD [kg]</i>	1.87E-01	4.79E-01	2.00E-01	4.03E-01	3.40E-01	2.84E-01	5.20E-01
<i>HLRW [kg]</i>	1.87E-06	1.74E-06	1.91E-06	1.90E-06	2.16E-06	3.02E-06	2.55E-06
<i>ILLRW [kg]</i>	1.56E-03	1.45E-03	1.60E-03	1.58E-03	1.80E-03	2.53E-03	2.14E-03
<i>CRU [kg]</i>	0.00E+00						
<i>MR [kg]</i>	1.27E-01	1.32E-01	1.36E-01	1.53E-01	1.81E-01	1.18E-01	2.80E-01
<i>MER [kg]</i>	0.00E+00						

Impact Categories	PET Group 15	PET Group 16	PET Group 17	PET Group 18	PET Group 19	PET Group 20	PET Group 21
EEE [MJ]	1.40E-02	1.46E-02	1.51E-02	1.70E-02	2.00E-02	1.30E-02	3.10E-02
EET [MJ]	6.59E-03	6.88E-03	7.10E-03	7.99E-03	9.41E-03	6.13E-03	1.46E-02

Table 10: LCA Results, per 1 ft² panels (A1 to A3), 4/5

Impact Categories	PET Group 22	PET Group 23	PET Group 24	PET Group 25	PET Group 26	PET Group 27	PET Group 28
GWP [kg CO ₂ eq]	4.26	4.02	4.70	4.55	4.77	5.18	5.20
ODP [kg CFC 11 eq]	1.30E-10	1.31E-12	1.44E-10	1.64E-12	1.22E-12	1.10E-10	1.63E-12
AP [kg SO ₂ eq]	1.30E-02	1.35E-02	1.47E-02	1.58E-02	1.67E-02	1.68E-02	1.86E-02
EP [kg N eq]	1.21E-03	1.38E-03	1.31E-03	1.53E-03	1.79E-03	1.36E-03	1.87E-03
SFP [kg O ₃ eq]	1.83E-01	1.98E-01	2.02E-01	2.25E-01	2.52E-01	2.18E-01	2.70E-01
FFD [MJ]	6.54E+00	5.63E+00	7.13E+00	6.17E+00	6.61E+00	7.73E+00	6.98E+00
Resource Use Indicators							
RPRE [MJ]	2.39E+01	3.63E+01	2.59E+01	4.10E+01	4.78E+01	2.75E+01	5.03E+01
RPRM [MJ]	4.17E+00	1.33E+01	4.63E+00	1.54E+01	2.17E+01	3.59E+00	2.20E+01
RPRT [MJ]	2.81E+01	4.96E+01	3.06E+01	5.64E+01	6.95E+01	3.10E+01	7.23E+01
NRPRE [MJ]	4.79E+01	5.10E+01	5.26E+01	5.74E+01	6.29E+01	5.75E+01	6.76E+01
NRPRM [MJ]	1.91E+01	1.01E+01	2.06E+01	1.02E+01	1.01E+01	2.19E+01	1.00E+01
NRPRT [MJ]	6.70E+01	6.11E+01	7.32E+01	6.76E+01	7.30E+01	7.94E+01	7.76E+01
SM [kg]	5.76E-01	3.43E-01	6.17E-01	3.53E-01	3.37E-01	6.36E-01	3.46E-01
RSF [MJ]	0.00E+00						
NRSF [MJ]	0.00E+00						
RE [MJ]	0.00E+00						
FW [m ³]	4.46E-02	3.97E-02	5.03E-02	4.63E-02	4.31E-02	5.88E-02	5.00E-02
Output Flows and Waste Categories							
HWD [kg]	3.88E-03	2.29E-03	4.12E-03	2.29E-03	2.28E-03	4.15E-03	2.25E-03
NHWD [kg]	5.11E-01	3.70E-01	6.07E-01	4.79E-01	3.49E-01	7.65E-01	4.87E-01
HLRW [kg]	2.35E-06	3.27E-06	2.50E-06	3.60E-06	4.32E-06	2.50E-06	4.44E-06
ILLRW [kg]	1.97E-03	2.73E-03	2.09E-03	3.01E-03	3.62E-03	2.09E-03	3.72E-03
CRU [kg]	0.00E+00						
MR [kg]	2.13E-01	1.27E-01	2.33E-01	1.39E-01	1.24E-01	2.54E-01	1.40E-01
MER [kg]	0.00E+00						
EEE [MJ]	2.35E-02	1.40E-02	2.58E-02	1.53E-02	1.37E-02	2.82E-02	1.55E-02
EET [MJ]	1.11E-02	6.60E-03	1.21E-02	7.21E-03	6.43E-03	1.32E-02	7.29E-03

Table 11: LCA Results, per 1 ft² panels (A1 to A3), 5/5

Impact Categories	PET Group 29	PET Group 30	PET Group 31	PET Group 32	PET Group 33	PET Group 34
<i>GWP [kg CO₂ eq]</i>	6.47	6.46	5.95	6.37	5.88	6.55
<i>ODP [kg CFC 11 eq]</i>	7.67E-13	1.29E-12	2.25E-12	1.31E-10	1.39E-12	1.45E-12
<i>AP [kg SO₂ eq]</i>	1.71E-02	1.90E-02	2.19E-02	2.17E-02	2.14E-02	2.41E-02
<i>EP [kg N eq]</i>	1.65E-03	2.05E-03	2.04E-03	1.58E-03	2.30E-03	2.62E-03
<i>SFP [kg O₃ eq]</i>	2.46E-01	2.88E-01	3.03E-01	2.67E-01	3.23E-01	3.68E-01
<i>FFD [MJ]</i>	8.07E+00	7.30E+00	7.69E+00	9.01E+00	7.96E+00	8.81E+00
Resource Use Indicators						
<i>RPRE [MJ]</i>	2.48E+01	5.52E+01	5.55E+01	3.37E+01	6.21E+01	7.12E+01
<i>RPRM [MJ]</i>	1.10E+01	2.66E+01	2.33E+01	4.27E+00	3.10E+01	3.72E+01
<i>RPRT [MJ]</i>	3.58E+01	8.18E+01	7.87E+01	3.80E+01	9.31E+01	1.08E+02
<i>NRPRE [MJ]</i>	6.19E+01	7.12E+01	7.61E+01	6.99E+01	7.91E+01	8.91E+01
<i>NRPRM [MJ]</i>	2.29E+01	1.01E+01	1.01E+01	2.36E+01	1.02E+01	1.03E+01
<i>NRPRT [MJ]</i>	8.48E+01	8.13E+01	8.62E+01	9.35E+01	8.93E+01	9.94E+01
<i>SM [kg]</i>	8.12E-01	3.38E-01	3.65E-01	6.96E-01	3.43E-01	3.48E-01
<i>RSF [MJ]</i>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
<i>NRSF [MJ]</i>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
<i>RE [MJ]</i>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
<i>FW [m³]</i>	4.20E-02	4.71E-02	6.09E-02	7.79E-02	5.14E-02	5.60E-02
Output Flows and Waste Categories						
<i>HWD [kg]</i>	4.64E-03	2.28E-03	2.26E-03	4.35E-03	2.29E-03	2.32E-03
<i>NHWD [kg]</i>	4.47E-01	3.77E-01	6.94E-01	1.12E+00	4.15E-01	4.37E-01
<i>HLRW [kg]</i>	3.07E-06	4.97E-06	4.74E-06	2.78E-06	5.56E-06	6.36E-06
<i>ILLRW [kg]</i>	2.58E-03	4.16E-03	3.97E-03	2.32E-03	4.66E-03	5.33E-03
<i>CRU [kg]</i>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
<i>MR [kg]</i>	3.28E-01	1.27E-01	1.66E-01	2.98E-01	1.31E-01	1.32E-01
<i>MER [kg]</i>	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
<i>EEE [MJ]</i>	3.62E-02	1.40E-02	1.83E-02	3.30E-02	1.45E-02	1.46E-02
<i>EET [MJ]</i>	1.71E-02	6.60E-03	8.63E-03	1.55E-02	6.83E-03	6.87E-03

LCA Results, per Alternate Unit (1 m²)

Table 12: LCA Results, per 1 m² panels (A1 to A3), 1/5

Impact Categories	PET Group 01	PET Group 02	PET Group 03	PET Group 04	PET Group 05	PET Group 06	PET Group 07
<i>GWP [kg CO₂ eq]</i>	16.7	20.5	15.9	17.4	18.2	22.5	24.3
<i>ODP [kg CFC 11 eq]</i>	7.98E-12	8.22E-12	5.14E-09	6.25E-09	3.70E-08	3.24E-08	3.94E-08
<i>AP [kg SO₂ eq]</i>	2.07E-02	3.27E-02	4.41E-02	4.58E-02	5.40E-02	7.05E-02	7.75E-02

Impact Categories	PET Group 01	PET Group 02	PET Group 03	PET Group 04	PET Group 05	PET Group 06	PET Group 07
<i>EP [kg N eq]</i>	2.32E-03	3.28E-03	4.52E-03	5.10E-03	5.64E-03	6.38E-03	6.82E-03
<i>SFP [kg O₃ eq]</i>	2.47E-01	4.10E-01	5.97E-01	6.65E-01	7.50E-01	9.23E-01	1.00E+00
<i>FFD [MJ]</i>	1.32E+01	1.83E+01	2.44E+01	2.76E+01	2.79E+01	3.25E+01	3.46E+01
Resource Use Indicators							
<i>RPRE [MJ]</i>	1.31E+02	1.43E+02	1.52E+02	1.49E+02	1.57E+02	1.78E+02	1.85E+02
<i>RPRM [MJ]</i>	2.45E+00	4.25E+00	8.81E+00	6.36E+00	1.18E+01	1.22E+01	1.25E+01
<i>RPRT [MJ]</i>	1.33E+02	1.47E+02	1.61E+02	1.56E+02	1.69E+02	1.90E+02	1.98E+02
<i>NRPRE [MJ]</i>	1.29E+02	1.66E+02	2.04E+02	2.17E+02	2.31E+02	2.74E+02	2.92E+02
<i>NRPRM [MJ]</i>	5.44E+00	2.17E+01	4.56E+01	6.42E+01	5.71E+01	6.54E+01	7.02E+01
<i>NRPRT [MJ]</i>	1.34E+02	1.88E+02	2.49E+02	2.81E+02	2.84E+02	3.35E+02	3.57E+02
<i>SM [kg]</i>	1.34E-01	7.37E-01	1.50E+00	2.09E+00	1.86E+00	2.23E+00	2.42E+00
<i>RSF [MJ]</i>	0.00E+00						
<i>NRSF [MJ]</i>	0.00E+00						
<i>RE [MJ]</i>	0.00E+00						
<i>FW [m³]</i>	1.32E-01	1.71E-01	1.98E-01	1.97E-01	2.00E-01	2.71E-01	2.94E-01
Output Flows and Waste Categories							
<i>HWD [kg]</i>	9.42E-04	4.88E-03	1.03E-02	1.46E-02	1.31E-02	1.48E-02	1.59E-02
<i>NHWD [kg]</i>	2.18E-01	8.99E-01	1.24E+00	1.15E+00	1.03E+00	2.37E+00	2.79E+00
<i>HLRW [kg]</i>	1.02E-05	1.15E-05	1.32E-05	1.39E-05	1.45E-05	1.54E-05	1.59E-05
<i>ILLRW [kg]</i>	8.50E-03	9.64E-03	1.10E-02	1.16E-02	1.21E-02	1.28E-02	1.32E-02
<i>CRU [kg]</i>	0.00E+00						
<i>MR [kg]</i>	4.37E-02	2.72E-01	5.28E-01	6.93E-01	6.46E-01	8.34E-01	9.14E-01
<i>MER [kg]</i>	0.00E+00						
<i>EEE [MJ]</i>	4.84E-03	3.01E-02	5.84E-02	7.67E-02	7.14E-02	9.23E-02	1.01E-01
<i>EET [MJ]</i>	2.28E-03	1.42E-02	2.75E-02	3.61E-02	3.36E-02	4.34E-02	4.76E-02

Table 13: LCA Results, per 1 m² panels (A1 to A3), 2/5

Impact Categories	PET Group 08	PET Group 09	PET Group 10	PET Group 11	PET Group 12	PET Group 13	PET Group 14
<i>GWP [kg CO₂ eq]</i>	25.2	24.6	25.7	26.8	29.7	29.6	31.5
<i>ODP [kg CFC 11 eq]</i>	4.41E-08	7.63E-12	2.87E-08	7.76E-12	5.77E-08	7.93E-12	5.50E-08
<i>AP [kg SO₂ eq]</i>	8.00E-02	8.48E-02	7.73E-02	9.82E-02	9.38E-02	1.15E-01	1.01E-01
<i>EP [kg N eq]</i>	7.29E-03	7.01E-03	7.47E-03	7.57E-03	8.67E-03	8.27E-03	9.30E-03
<i>SFP [kg O₃ eq]</i>	1.06E+00	1.10E+00	1.07E+00	1.24E+00	1.27E+00	1.42E+00	1.38E+00
<i>FFD [MJ]</i>	3.65E+01	3.49E+01	3.85E+01	3.67E+01	4.36E+01	3.90E+01	4.60E+01
Resource Use Indicators							
<i>RPRE [MJ]</i>	1.87E+02	1.61E+02	1.83E+02	1.65E+02	1.96E+02	1.70E+02	2.06E+02
<i>RPRM [MJ]</i>	1.64E+01	7.94E+00	1.56E+01	7.91E+00	1.63E+01	7.89E+00	2.79E+01

Impact Categories	PET Group 08	PET Group 09	PET Group 10	PET Group 11	PET Group 12	PET Group 13	PET Group 14
<i>RPRT [MJ]</i>	2.03E+02	1.69E+02	1.99E+02	1.73E+02	2.13E+02	1.78E+02	2.34E+02
<i>NRPRE [MJ]</i>	3.02E+02	3.04E+02	3.04E+02	3.31E+02	3.46E+02	3.66E+02	3.67E+02
<i>NRPRM [MJ]</i>	7.87E+01	7.53E+01	9.33E+01	7.51E+01	1.06E+02	7.49E+01	1.12E+02
<i>NRPRT [MJ]</i>	3.75E+02	3.79E+02	3.94E+02	4.07E+02	4.45E+02	4.41E+02	4.72E+02
<i>SM [kg]</i>	2.66E+00	2.56E+00	3.09E+00	2.60E+00	3.57E+00	2.65E+00	3.74E+00
<i>RSF [MJ]</i>	0.00E+00						
<i>NRSF [MJ]</i>	0.00E+00						
<i>RE [MJ]</i>	0.00E+00						
<i>FW [m³]</i>	2.93E-01	2.61E-01	2.87E-01	2.81E-01	3.30E-01	3.07E-01	3.45E-01
Output Flows and Waste Categories							
<i>HWD [kg]</i>	1.78E-02	1.76E-02	2.10E-02	1.77E-02	2.40E-02	1.79E-02	2.52E-02
<i>NHWD [kg]</i>	2.67E+00	1.74E+00	2.58E+00	1.93E+00	3.22E+00	2.17E+00	3.43E+00
<i>HLRW [kg]</i>	1.65E-05	1.72E-05	1.69E-05	1.82E-05	1.81E-05	1.95E-05	1.92E-05
<i>ILLRW [kg]</i>	1.38E-02	1.45E-02	1.41E-02	1.53E-02	1.51E-02	1.64E-02	1.60E-02
<i>CRU [kg]</i>	0.00E+00						
<i>MR [kg]</i>	9.81E-01	1.21E+00	1.10E+00	1.36E+00	1.28E+00	1.54E+00	1.37E+00
<i>MER [kg]</i>	0.00E+00						
<i>EEE [MJ]</i>	1.09E-01	1.34E-01	1.22E-01	1.50E-01	1.42E-01	1.71E-01	1.51E-01
<i>EET [MJ]</i>	5.11E-02	6.29E-02	5.72E-02	7.07E-02	6.66E-02	8.04E-02	7.13E-02

Table 14: LCA Results, per 1 m² panels (A1 to A3), 3/5

Impact Categories	PET Group 15	PET Group 16	PET Group 17	PET Group 18	PET Group 19	PET Group 20	PET Group 21
<i>GWP [kg CO₂ eq]</i>	30.4	32.9	33.3	34.6	38.4	38.9	50.7
<i>ODP [kg CFC 11 eq]</i>	9.61E-08	1.93E-11	1.63E-07	1.53E-11	1.31E-08	1.12E-11	1.38E-09
<i>AP [kg SO₂ eq]</i>	9.46E-02	1.05E-01	1.11E-01	1.03E-01	1.13E-01	1.26E-01	1.48E-01
<i>EP [kg N eq]</i>	1.01E-02	8.49E-03	1.14E-02	9.67E-03	1.15E-02	1.36E-02	1.43E-02
<i>SFP [kg O₃ eq]</i>	1.39E+00	1.33E+00	1.57E+00	1.45E+00	1.67E+00	1.90E+00	2.18E+00
<i>FFD [MJ]</i>	4.73E+01	4.51E+01	5.10E+01	5.11E+01	5.99E+01	5.60E+01	7.21E+01
Resource Use Indicators							
<i>RPRE [MJ]</i>	1.98E+02	2.24E+02	2.01E+02	2.18E+02	2.23E+02	3.52E+02	2.48E+02
<i>RPRM [MJ]</i>	3.07E+01	2.04E+01	2.86E+01	2.82E+01	3.81E+01	1.27E+02	4.99E+01
<i>RPRT [MJ]</i>	2.29E+02	2.45E+02	2.30E+02	2.46E+02	2.61E+02	4.79E+02	2.98E+02
<i>NRPRE [MJ]</i>	3.60E+02	3.76E+02	3.93E+02	3.92E+02	4.36E+02	4.95E+02	5.75E+02
<i>NRPRM [MJ]</i>	1.27E+02	9.90E+01	1.34E+02	1.37E+02	1.78E+02	1.09E+02	1.93E+02
<i>NRPRT [MJ]</i>	4.74E+02	4.75E+02	5.06E+02	5.29E+02	6.12E+02	6.03E+02	7.68E+02
<i>SM [kg]</i>	4.11E+00	3.49E+00	4.36E+00	4.60E+00	5.61E+00	3.60E+00	7.24E+00
<i>RSF [MJ]</i>	0.00E+00						

Impact Categories	PET Group 15	PET Group 16	PET Group 17	PET Group 18	PET Group 19	PET Group 20	PET Group 21
<i>NRSF [MJ]</i>	0.00E+00						
<i>RE [MJ]</i>	0.00E+00						
<i>FW [m³]</i>	2.85E-01	4.12E-01	3.03E-01	3.86E-01	3.77E-01	3.71E-01	4.70E-01
Output Flows and Waste Categories							
<i>HWD [kg]</i>	2.89E-02	2.22E-02	3.08E-02	3.08E-02	3.87E-02	2.45E-02	4.03E-02
<i>NHWD [kg]</i>	2.01E+00	5.15E+00	2.15E+00	4.34E+00	3.66E+00	3.05E+00	5.60E+00
<i>HLRW [kg]</i>	2.01E-05	1.87E-05	2.06E-05	2.05E-05	2.32E-05	3.25E-05	2.75E-05
<i>ILLRW [kg]</i>	1.68E-02	1.56E-02	1.72E-02	1.70E-02	1.94E-02	2.72E-02	2.30E-02
<i>CRU [kg]</i>	0.00E+00						
<i>MR [kg]</i>	1.36E+00	1.42E+00	1.47E+00	1.65E+00	1.94E+00	1.27E+00	3.01E+00
<i>MER [kg]</i>	0.00E+00						
<i>EEE [MJ]</i>	1.51E-01	1.57E-01	1.62E-01	1.83E-01	2.15E-01	1.40E-01	3.33E-01
<i>EET [MJ]</i>	7.09E-02	7.41E-02	7.64E-02	8.60E-02	1.01E-01	6.59E-02	1.57E-01

Table 15: LCA Results, per 1 m² panels (A1 to A3), 4/5

Impact Categories	PET Group 22	PET Group 23	PET Group 24	PET Group 25	PET Group 26	PET Group 27	PET Group 28
<i>GWP [kg CO₂ eq]</i>	45.8	43.3	50.6	48.9	51.4	55.8	56.0
<i>ODP [kg CFC 11 eq]</i>	1.40E-09	1.41E-11	1.55E-09	1.77E-11	1.31E-11	1.18E-09	1.76E-11
<i>AP [kg SO₂ eq]</i>	1.40E-01	1.45E-01	1.58E-01	1.70E-01	1.79E-01	1.80E-01	2.00E-01
<i>EP [kg N eq]</i>	1.30E-02	1.48E-02	1.41E-02	1.65E-02	1.93E-02	1.46E-02	2.01E-02
<i>SFP [kg O₃ eq]</i>	1.97E+00	2.13E+00	2.17E+00	2.42E+00	2.71E+00	2.35E+00	2.90E+00
<i>FFD [MJ]</i>	7.04E+01	6.06E+01	7.68E+01	6.64E+01	7.12E+01	8.32E+01	7.51E+01
Resource Use Indicators							
<i>RPRE [MJ]</i>	2.58E+02	3.91E+02	2.79E+02	4.41E+02	5.15E+02	2.96E+02	5.42E+02
<i>RPRM [MJ]</i>	4.49E+01	1.43E+02	4.99E+01	1.66E+02	2.34E+02	3.86E+01	2.36E+02
<i>RPRT [MJ]</i>	3.03E+02	5.34E+02	3.29E+02	6.07E+02	7.48E+02	3.34E+02	7.78E+02
<i>NRPRE [MJ]</i>	5.15E+02	5.48E+02	5.66E+02	6.18E+02	6.77E+02	6.19E+02	7.27E+02
<i>NRPRM [MJ]</i>	2.06E+02	1.09E+02	2.22E+02	1.10E+02	1.09E+02	2.36E+02	1.08E+02
<i>NRPRT [MJ]</i>	7.21E+02	6.58E+02	7.88E+02	7.28E+02	7.86E+02	8.55E+02	8.35E+02
<i>SM [kg]</i>	6.20E+00	3.69E+00	6.64E+00	3.80E+00	3.63E+00	6.84E+00	3.72E+00
<i>RSF [MJ]</i>	0.00E+00						
<i>NRSF [MJ]</i>	0.00E+00						
<i>RE [MJ]</i>	0.00E+00						
<i>FW [m³]</i>	4.81E-01	4.28E-01	5.41E-01	4.98E-01	4.64E-01	6.33E-01	5.38E-01
Output Flows and Waste Categories							
<i>HWD [kg]</i>	4.18E-02	2.46E-02	4.43E-02	2.47E-02	2.45E-02	4.47E-02	2.42E-02

Impact Categories	PET Group 22	PET Group 23	PET Group 24	PET Group 25	PET Group 26	PET Group 27	PET Group 28
NHWD [kg]	5.50E+00	3.99E+00	6.53E+00	5.15E+00	3.76E+00	8.23E+00	5.24E+00
HLRW [kg]	2.53E-05	3.52E-05	2.69E-05	3.88E-05	4.65E-05	2.69E-05	4.78E-05
ILLRW [kg]	2.12E-02	2.94E-02	2.25E-02	3.24E-02	3.90E-02	2.25E-02	4.00E-02
CRU [kg]	0.00E+00						
MR [kg]	2.29E+00	1.37E+00	2.51E+00	1.49E+00	1.33E+00	2.74E+00	1.51E+00
MER [kg]	0.00E+00						
EEE [MJ]	2.53E-01	1.51E-01	2.78E-01	1.65E-01	1.47E-01	3.03E-01	1.67E-01
EET [MJ]	1.19E-01	7.11E-02	1.31E-01	7.76E-02	6.93E-02	1.43E-01	7.84E-02

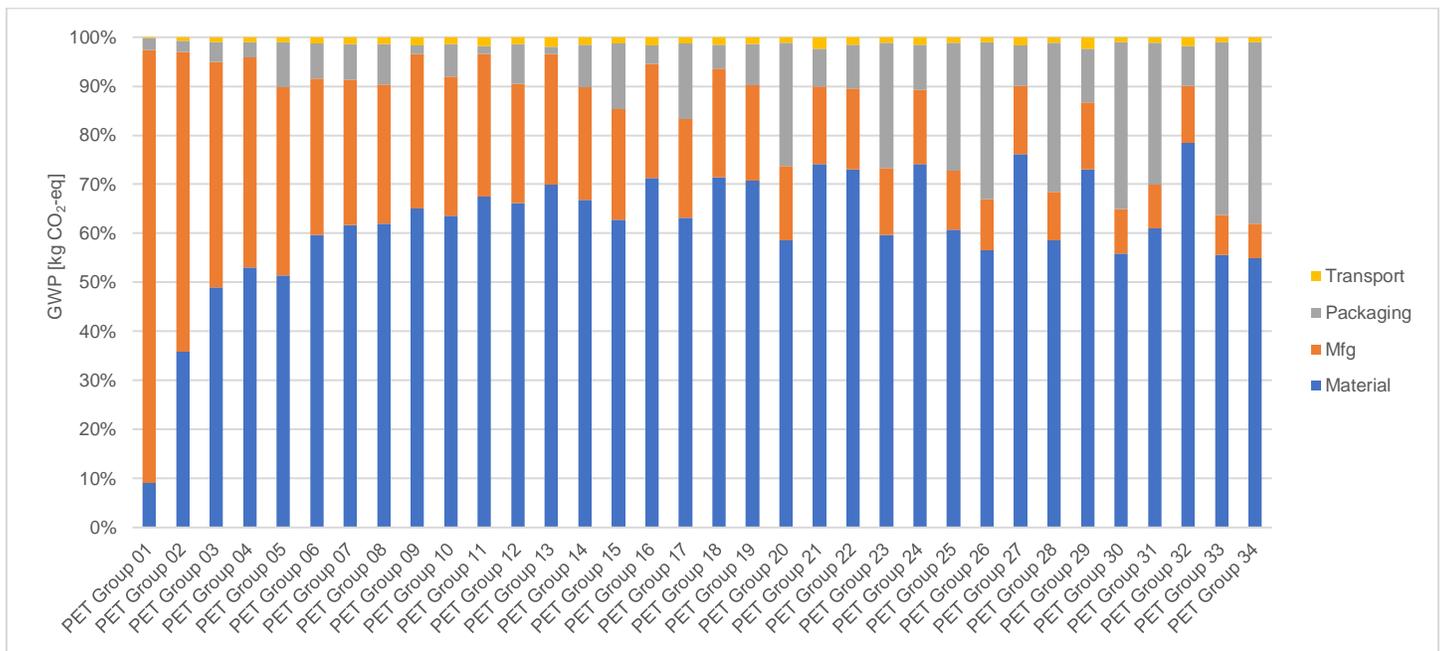
Table 16: LCA Results, per 1 m² panels (A1 to A3), 5/5

Impact Categories	PET Group 29	PET Group 30	PET Group 31	PET Group 32	PET Group 33	PET Group 34
GWP [kg CO ₂ eq]	69.7	69.5	64.1	68.5	63.3	70.5
ODP [kg CFC 11 eq]	8.26E-12	1.39E-11	2.43E-11	1.41E-09	1.50E-11	1.56E-11
AP [kg SO ₂ eq]	1.84E-01	2.05E-01	2.36E-01	2.33E-01	2.30E-01	2.60E-01
EP [kg N eq]	1.78E-02	2.21E-02	2.19E-02	1.70E-02	2.47E-02	2.82E-02
SFP [kg O ₃ eq]	2.65E+00	3.11E+00	3.27E+00	2.87E+00	3.48E+00	3.96E+00
FFD [MJ]	8.69E+01	7.86E+01	8.27E+01	9.70E+01	8.57E+01	9.48E+01
Resource Use Indicators						
RPRE [MJ]	2.67E+02	5.94E+02	5.97E+02	3.63E+02	6.68E+02	7.66E+02
RPRM [MJ]	1.18E+02	2.86E+02	2.50E+02	4.60E+01	3.34E+02	4.01E+02
RPRT [MJ]	3.85E+02	8.81E+02	8.47E+02	4.09E+02	1.00E+03	1.17E+03
NRPRE [MJ]	6.66E+02	7.67E+02	8.19E+02	7.52E+02	8.51E+02	9.59E+02
NRPRM [MJ]	2.46E+02	1.09E+02	1.09E+02	2.54E+02	1.10E+02	1.11E+02
NRPRT [MJ]	9.12E+02	8.75E+02	9.27E+02	1.01E+03	9.61E+02	1.07E+03
SM [kg]	8.74E+00	3.64E+00	3.93E+00	7.49E+00	3.70E+00	3.75E+00
RSF [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
NRSF [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
RE [MJ]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FW [m ³]	4.52E-01	5.07E-01	6.55E-01	8.38E-01	5.54E-01	6.03E-01
Output Flows and Waste Categories						
HWD [kg]	5.00E-02	2.45E-02	2.43E-02	4.69E-02	2.47E-02	2.50E-02
NHWD [kg]	4.81E+00	4.06E+00	7.47E+00	1.20E+01	4.47E+00	4.70E+00
HLRW [kg]	3.30E-05	5.35E-05	5.10E-05	3.00E-05	5.98E-05	6.84E-05
ILLRW [kg]	2.78E-02	4.48E-02	4.28E-02	2.50E-02	5.01E-02	5.74E-02
CRU [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MR [kg]	3.53E+00	1.37E+00	1.78E+00	3.21E+00	1.41E+00	1.42E+00
MER [kg]	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Impact Categories	PET Group 29	PET Group 30	PET Group 31	PET Group 32	PET Group 33	PET Group 34
EEE [MJ]	3.90E-01	1.51E-01	1.97E-01	3.55E-01	1.56E-01	1.57E-01
EET [MJ]	1.84E-01	7.11E-02	9.28E-02	1.67E-01	7.35E-02	7.40E-02

Interpretation

A dominance analysis for Global Warming Potential was conducted for all products. For the majority of panels, upstream production of raw materials is the largest contributor, followed by manufacturing or packaging, depending on the product group. As manufacturing utilities were allocated on a per m² basis, products with overall lower impacts show a higher contribution from manufacturing.



Additional Environmental Information

Environment and Health During Manufacturing

Arktura prioritizes environmental sustainability, health, and safety throughout its manufacturing processes. From product design to waste reduction initiatives, Arktura integrates responsible practices to minimize environmental impact. The company is committed to ensuring a safe working environment for its employees and strives to optimize energy and water usage while promoting recycling and responsible disposal practices.

Environment and Health During Installation

All recommendations shall be utilized as indicated by SDS and installation guidelines. Specific product SDS and installation instructions can be requested directly from Arktura.

Environmental Activities and Certifications

Additional environmental certifications for Arktura's products such as Declare Labels, HPD, SDS, VOC Testing, acoustical performance and light reflectance can be requested directly from Arktura.

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