

Product LCA Declaration

Green Target has assessed the environmental impacts of the following product (in accordance with ISO 14040:2006 & ISO 14044:2006).

The calculations were done using OpenLCA software V2.0 and data from Ecoinvent database V3.8 (both in accordance with ISO 14040).

Company: *Plaskolite*

Product name: *Extruded Acrylic Sheet – OPTIX R®*

Product description: *Plaskolite Optix R sheets are produced from mechanically recycled PMMA. The sheets can be used both indoor and outdoor for a wide variety of domestic and industrial applications. Optix R is available in range of thicknesses and clear color. The complete range offers transparency, clarity, weathering and ageing resistance and can be easily machined or thermoformed by standard techniques.*

Product Category Rule (PCR): *Boards, blocks, panels, sheets of plastic, or in composite system, for structural application (non-construction), V1.0.2.*

****(currently being updated)****

UN CPC code: *36390 Other plates, sheets, film, foil and strip, of plastics*

Functional unit / declared unit: *1 kg of PMMA sheet*

System boundaries: *Cradle to gate. Includes upstream and core processes.*

- **Upstream processes:** *Includes extraction and production of raw material and packaging and their transportation to the plant.*
- **Core processes:** *Includes electricity consumption, water consumption and wastewater treatment.*

Data source: *Operational (received from the company)*

Time representativeness: *operational data – 2023*

3rd party verification by: *Tom Vaughan, Senior Environmental Consultant, Carbon Footprint Ltd*

Carbon Footprint Ltd has examined Plaskolite's GHG statement in relation to the ISO 14067:2018 reporting guidelines. The verification activities have shown that Plaskolite has met the verification criteria satisfactorily.



CO₂e
Assessed
Product



Content declaration:

Product components	Weight	%	CAS number
Virgin polymethyl methacrylate	0.1 kg	10	9011-87-4
Post-industrial recycled polymethyl methacrylate	0.9 kg	90	9011-87-4
TOTAL	1 kg	100	

Packaging components	Weight [kg]
Stretch foil	0.000117
Cardboard	0.009
Chamber	0.000115
Metal clips	0.000018
PP Pads	0.00022
Cardboard corners	0.000087
Wooden pallets	0.1
TOTAL	0.109557

Recycled material: This product is made from 10% virgin PMMA and 90% PMMA recycled in-plant.

Results:

Impact category indicators:

PARAMETER		UNIT	Upstream	Core	TOTAL
Global warming potential (GWP)	Fossil	kg CO ₂ eq.	1.00E+00	6.08E-01	1.61E+00
	Biogenic	kg CO ₂ eq.	-2.89E-01	-9.73E-04	-2.90E-01
	Land use and land transformation	kg CO ₂ eq.	2.79E-04	8.07E-05	3.60E-04
	TOTAL	kg CO₂ eq.	7.16E-01	6.07E-01	1.32E+00
Ozone layer depletion (ODP)		kg CFC 11 eq.	1.44E-08	6.39E-09	2.07E-08
Acidification potential (AP)		mol H ⁺ eq.	6.33E-03	3.98E-03	1.03E-02
Eutrophication potential (EP)	Aquatic freshwater	kg P eq.	7.78E-05	3.85E-04	4.63E-04
	Aquatic marine	kg N eq.	8.76E-04	6.50E-04	1.53E-03
	Aquatic terrestrial	mol N eq.	8.28E-03	6.38E-03	1.47E-02
Photochemical oxidant creation potential (POCP)		kg NMVOC eq.	4.10E-03	1.69E-03	5.79E-03
Abiotic depletion potential (ADP)*	Metals and minerals	kg Sb eq.	1.37E-06	2.39E-07	1.61E-06
	Fossil resources	MJ, net calorific value	1.25E+00	9.12E+00	1.04E+01
Water deprivation potential (WDP)*		m ³ world eq. deprived	1.90E-01	1.62E-01	3.53E-01



Resource use indicators:

PARAMETER		UNIT	Upstream	Core	TOTAL
<i>Primary energy resources – Renewable</i>	<i>Use as energy carrier</i>	<i>MJ, net calorific value</i>	9.80E-02	5.33E-01	6.31E-01
	<i>Used as raw materials</i>	<i>MJ, net calorific value</i>	3.61E+00	6.28E-02	3.67E+00
	<i>TOTAL</i>	<i>MJ, net calorific value</i>	3.70E+00	5.96E-01	4.30E+00
<i>Primary energy resources – Non-renewable</i>	<i>Use as energy carrier</i>	<i>MJ, net calorific value</i>	2.32E+00	1.29E+01	1.53E+01
	<i>Used as raw materials</i>	<i>MJ, net calorific value</i>	1.45E+01	4.68E-01	1.50E+01
	<i>TOTAL</i>	<i>MJ, net calorific value</i>	1.69E+01	1.34E+01	3.03E+01
<i>Secondary material</i>		<i>kg</i>	3.15E-02	1.60E-02	4.75E-02
<i>Renewable secondary fuels</i>		<i>MJ, net calorific value</i>	1.71E-03	5.82E-03	7.53E-03
<i>Non-renewable secondary fuels</i>		<i>MJ, net calorific value</i>	2.61E-03	7.30E-03	9.91E-03
<i>Net use of fresh water</i>		<i>m³</i>	4.47E-03	3.84E-03	8.31E-03

Waste indicators:

PARAMETER	UNIT	Upstream	Core	TOTAL
<i>Hazardous waste disposed</i>	<i>kg</i>	1.11E-01	1.93E+00	2.04E+00
<i>Non-hazardous waste disposed</i>	<i>kg</i>	3.08E-02	1.14E-02	4.22E-02
<i>Radioactive waste disposed</i>	<i>kg</i>	6.82E-05	2.37E-03	2.44E-03

Output flow indicators:

PARAMETER	UNIT	Upstream	Core	TOTAL
<i>Components for reuse</i>	<i>kg</i>	0.00E+00	0.00E+00	0.00E+00
<i>Material for recycling</i>	<i>kg</i>	4.56E-03	1.01E-02	1.47E-02
<i>Materials for energy recovery</i>	<i>kg</i>	0.00E+00	0.00E+00	0.00E+00
<i>Exported energy, electricity</i>	<i>MJ per energy carrier</i>	0.00E+00	0.00E+00	0.00E+00
<i>Exported energy, thermal</i>	<i>MJ per energy carrier</i>	0.00E+00	0.00E+00	0.00E+00

Study performed by:

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