

ASTARIGLAS®



HIGH QUALITY
RECYCLED AND RECYCLABLE
CAST ACRYLIC SHEET



Clearly
Friendly

ASTARIGLAS® ECO CAST®

MADE FROM HIGH PURITY DMMA EXCLUSIVELY PRODUCED BY ASTARI

ASTARIGLAS® ECO CAST

PT ASTARI NIAGARA INTERNASIONAL

Astari Niagara Internasional is one of the world's largest cast acrylic manufacturers, the pioneer of cast acrylic sheets in Indonesia, with market coverage in 60 countries and 350 cities globally.

"Sustainable" is one of our company values.

Presenting to you: ASTARIGLAS® ECO CAST, our latest innovation, as well as our commitment and participation in world sustainability.

Our Depolymerised Methyl Methacrylate (DMMA) plant uses innovative and state-of-the-art technology, through de-polymerisation and distillation processes, to achieve the purity equivalent to virgin MMA. This makes ASTARI one of the first companies in Asia to have the capability of producing superior quality recycled cast acrylic sheets.

In ASTARI, we understand the importance of producing only high-quality products. We produce the Depolymerised MMA in our own facility in order to ensure only selected PMMA scrap materials are used to produce DMMA, the raw material for ASTARIGLAS® ECO CAST.



ASTARIGLAS® ECO CAST



Today, sustainability is not just a concept but a way of living. The circular economy is an integral part of the concept. The idea of reducing, reusing, and recycling materials is a more productive and efficient way compared to the make-take-dispose approach and certainly more responsible.

In ASTARI, we use the circular economy concept to bring out our new innovation. Cast acrylic sheet is a performance plastic which, by design, can be recycled. In the Cradle to Cradle (C2C) concept, we use the acrylic waste from our own post-industrial scrap, our domestic customers and also from local post-consumer waste material. The recovered waste is then Depolymerised and distilled in our facility to produce high quality and high purity Depolymerised Methyl Methacrylate (DMMA), also known as Recycled Methyl Methacrylate (RMMA), which is the primary raw material for ASTARIGLAS® ECO CAST.

The usage of DMMA as the main raw material reduces the use of fossil-based virgin MMA, the usual primary resource. Reducing waste that ends up in landfills or incineration further reduces the carbon footprint of our products.

In the concept of sustainability, ASTARIGLAS® ECO CAST sheets are recycled and reused repeatedly. Not only are the sheets recycled, but the protective paper and film masking are both recyclable.

ASTARIGLAS® ECO CAST

Product

ASTARIGLAS® ECO CAST is a new innovation of high quality recycled and recyclable cast acrylic sheets. We use very high purity ($\geq 99\%$) Depolymerised-MMA (DMMA) as raw material exclusively made in our own facility to produce high quality recycled and recyclable cast acrylic sheets with the equal quality as cast acrylic sheets produced from virgin MMA.

ASTARIGLAS® ECO CAST is made of premium quality DMMA and can be recycled repeatedly without losing its important physical properties. ASTARIGLAS® ECO CAST sheet has the same optical, mechanical, and physical properties as cast acrylic sheet made from virgin MMA.

ASTARIGLAS® ECO CAST provides superior quality in optical clarity, weatherability, physical properties and chemical resistance, bringing the concept of recycled acrylic sheets to the next level.

The quality, fabrication, and durability of ASTARIGLAS® ECO CAST are identical to ASTARIGLAS® GP cast acrylic sheet.

Benefit of using ASTARIGLAS® ECO CAST

- Environmental friendly product
- $>92\%$ light transmission
- Optically Identical to ASTARIGLAS® GP Crystal Clear and no yellowing
- Easy to process and fabricate
- Outstanding indoor and outdoor weatherability

Applications

ASTARIGLAS® ECO CAST is a versatile high quality recycled and recyclable cast acrylic sheet. They are easily fabricated in all kinds of machine-CNC router and laser cutting, hot bending, solvent and polymerisable adhesives bonding, thermoforming, polishing, and digital flatbed printing.

It is a brilliant choice for:

- POP Displays
- Cosmetic Displays
- Signages



ASTARIGLAS® ECO CAST

Certification:
ISO 9001-2015 certified

Compliances:
ASTARIGLAS® ECO CAST complies to ISO 7823.1
ASTARIGLAS® ECO CAST complies to RoHs3
ASTARIGLAS® ECO CAST complies to REACH
ASTARIGLAS® ECO CAST complies to CAL Prop 65
ASTARIGLAS® ECO CAST is free of VOC's and HFC



ASTARIGLAS® ECO CAST

Crystal Clear

Colour	Colour Code	Light Transmission		Size (mm x mm)	Thickness (mm)						
					PE Film Masking						
					3	4	5	6	8	10	12
					Number of Sheets per pallet						
Crystal Clear	EC000	TR	>92%	2050 x 3050	40	30	25	20	15	12	10

Opal & White

Colour	Colour Code	Light Transmission			Size (mm x mm)	Thickness (mm)			
						PE Film Masking			
						3	4	5	6
						Number of Sheets per pallet			
Opal	EC422	TL	78%	b	2050 x 3050	40	30	25	20
	EC424		63%		2050 x 3050	40	30	25	20
	EC430		56%		2050 x 3050	40	30	25	20
	EC432		43%		2050 x 3050	40	30	25	20
	EC446		33%		2050 x 3050	40	30	25	20
White	EC401		8%		2050 x 3050	40	30	25	20

Transparent Colours

Colour	Colour Code	Light Transmission			Size (mm x mm)	Thickness (mm)			
						PE Film Masking			
						3	4	5	6
						Number of Sheets per pallet			
Green	EC304	TR	91%	a	2050 x 3050	40	30	25	20
	EC315		83%		2050 x 3050	40	30	25	20
	EC363		78%		2050 x 3050	40	30	25	20
	EC362		39%		2050 x 3050	40	30	25	20
Blue	EC310		87%		2050 x 3050	40	30	25	20
	EC300		80%		2050 x 3050	40	30	25	20
	EC301		64%		2050 x 3050	40	30	25	20
	EC302		41%		2050 x 3050	40	30	25	20
Violet	EC370		84%		2050 x 3050	40	30	25	20
	EC373		42%		2050 x 3050	40	30	25	20
Red	EC101		74%		2050 x 3050	40	30	25	20
	EC102		33%		2050 x 3050	40	30	25	20
Amber	EC202		75%		2050 x 3050	40	30	25	20
Yellow	EC212		78%		2050 x 3050	40	30	25	20

ASTARIGLAS® ECO CAST

Tinted Colours

Colour	Colour Code	Light Transmission			Size (mm x mm)	Thickness (mm)			
						PE Film Masking			
						3	4	5	6
						Number of Sheets per pallet			
Bronze	EC571	TR	72%	a	2050 x 3050	40	30	25	20
	EC572		64%		2050 x 3050	40	30	25	20
	EC573		32%		2050 x 3050	40	30	25	20
	EC574		14%		2050 x 3050	40	30	25	20
Grey	EC538		55%		2050 x 3050	40	30	25	20
	EC507		45%		2050 x 3050	40	30	25	20
	EC531		31%		2050 x 3050	40	30	25	20
	EC512		16%		2050 x 3050	40	30	25	20

- Also available in size: 1220mm x 2440mm
- Additional items and colours will be added to the product offering soon

TR	Transparent
TL	Translucent
OP	Opaque
a	Constant transmission for all thicknesses
b	Constant transmission for thicknesses 3 - 6 mm

On Request (additional charges, MOQ, other conditions may apply)*:

- Other thicknesses
- Other colours

*Notes:

- Please contact our local distributor/sales representative for inquiry
- ASTARI reserves the rights to make changes without prior notice

ASTARIGLAS® ECO CAST

Translucent & Opaque Colours

Colour	Colour Code	Light Transmission			Size (mm x mm)	Thickness (mm)			
						PE Film Masking			
						3	4	5	6
						Number of Sheets per pallet			
Green	EC619	TL	48%	b	2050 x 3050	40	30	25	20
	EC357		24%		2050 x 3050	40	30	25	20
	EC602		22%		2050 x 3050	40	30	25	20
	EC348		8%		2050 x 3050	40	30	25	20
Blue	EC324		51%		2050 x 3050	40	30	25	20
	EC327		17%		2050 x 3050	40	30	25	20
	EC322		13%		2050 x 3050	40	30	25	20
	EC835		10%		2050 x 3050	40	30	25	20
Red	EC115		63%		2050 x 3050	40	30	25	20
	EC136		30%		2050 x 3050	40	30	25	20
	EC128		28%		2050 x 3050	40	30	25	20
Orange	EC266		15%		2050 x 3050	40	30	25	20
Yellow	EC235		41%		2050 x 3050	40	30	25	20
	EC478		27%		2050 x 3050	40	30	25	20
Ivory	EC801		21%		2050 x 3050	40	30	25	20
Grey	EC504		2%		2050 x 3050	40	30	25	20
Brown	EC814	OP	0%	a	2050 x 3050	40	30	25	20
Black	EC502		0%		2050 x 3050	40	30	25	20

- Also available in size: 1220mm x 2440mm
- Additional items and colours will be added to the product offering soon

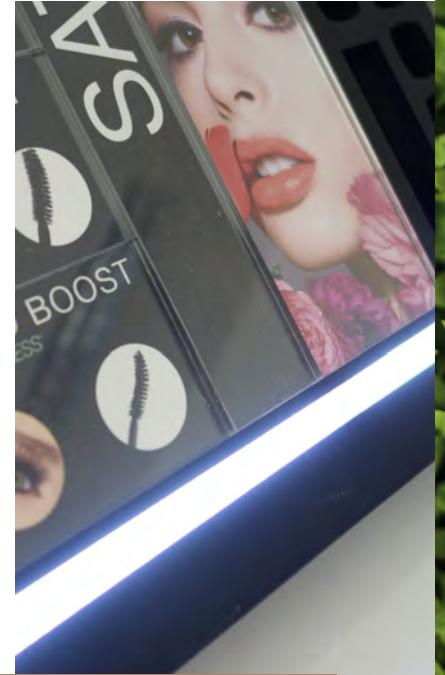
TR	Transparent
TL	Translucent
OP	Opaque
a	Constant transmission for all thicknesses
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On Request (additional charges, MOQ, other conditions may apply)*:

- Other thicknesses
- Other colours

*Notes:

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® = registered trademark. ASTARIGLAS® is a registered trademark of ASTARI GLOBAL Pte. Ltd.

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ENVIRONMENTAL PRODUCT DECLARATION



In accordance with ISO 14025:2006

**Programme**

The International EPD® System,
www.environdec.com

Regional Hub

EPD registered through the fully
aligned regional hub
EPD South East Asia
<https://www.epd-southeastasia.com/>

Programme Operator

EPD South East Asia

Publication Date

2022-11-08

Revision Date

2022-11-18

EPD Registration Number

S-P-06678

Valid Until

2027-10-31

An EPD should provide current information and may be updated if conditions change. The stated validity is therefore subject to the continued registration and publication at www.environdec.com

Programme Information

Programme	The International EPD[®] System EPD registered through the fully aligned regional hub: EPD Southeast Asia	
Address	EPD International AB Box 210 60, SE-100 31 Stockholm, Sweden EPD Southeast Asia Kencana Tower Level M, Business Park Kebon Jeruk Jl. Raya Meruya Ilir No. 89, Jakarta Barat 11620 Indonesia	Website www.environdec.com https://www.epd-southeastasia.com/ E-mail info@environdec.com

Product category rules (PCR):

Boards, blocks, panels, sheets of plastics, or in composite system, for structural application (non-construction)
 2018:10, version 1.01: UN CPC 36390

PCR review was conducted by:

International EPD[®] System Technical Committee. A full list of members available on www.environdec.com.
 The review panel may be contacted via info@environdec.com

Review chair:

Lars-Gunnar Lindfors

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

☒ External ☐ Internal

Covering

☐ EPD process certification ☒ EPD verification

Third party verifier:

Hüdai Kara, PhD, Metsims Sustainability Consulting, www.metsims.com, Oxford, U.K.

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.



About ASTARI



PT Astari Niagara Internasional (ASTARI) is one of the world's largest acrylic manufacturers and the pioneer of acrylic product in Indonesia. Established in 1980, ASTARI currently has more than 42 years of experience in cast acrylic manufacturing. ASTARI has built a strong presence in several key markets, including North America, Europe, the United Kingdom, the Asia Pacific, the Middle East and Africa. ASTARI strives to implement constant and ongoing innovation in its practices. One of the areas where this innovation can be seen is in the use of post-consumer, post-industrial scrap, and other acrylic waste to produce high-quality cast acrylic sheets, also known as ASTARIGLAS® ECO CAST, using 100 % recycled methyl methacrylate monomer (R-MMA).



ASTARIGLAS[®] ECO CAST



ASTARIGLAS[®] ECO CAST

Product name

ASTARIGLAS[®] ECO CAST Transparent using 100% recycled methyl methacrylate monomer (R-MMA).

Product identification

Transparent cast acrylic product made from 100% recycled MMA.

Product description

ASTARIGLAS[®] ECO CAST is a new innovation of high-quality recycled and recyclable cast acrylic sheets. ASTARI uses very high purity ($\geq 99\%$) Depolymerized-MMA (DMMA) as raw material exclusively made in their own facility to produce high-quality recycled and recyclable cast acrylic sheets with the equal quality as cast acrylic sheets produced from virgin MMA.

ASTARIGLAS[®] ECO CAST is made of premium quality DMMA and can be recycled repeatedly without losing its important physical properties while maintaining the same optical, mechanical, and physical properties as cast acrylic sheet made from virgin MMA.

ASTARIGLAS[®] ECO CAST provides superior quality in optical clarity, weatherability, physical properties, and chemical resistance, bringing the concept of recycled acrylic sheets to the next level.

Major application

ASTARIGLAS[®] ECO CAST is a versatile high quality recycled and recyclable cast acrylic sheet. They are easily fabricated in all kinds of machining - CNC router and laser cutting, hot bending, solvent, and polymerizable adhesives bonding, thermoforming, polishing, and digital flatbed printing.

ASTARIGLAS[®] ECO CAST product is a brilliant choice for:

- POP Displays
- Cosmetic Displays
- Signages

Technical Information

ASTARIGLAS® ECO CAST Transparent using 100% recycled methyl methacrylate monomer (R-MMA) produced from R-MMA material by PT Astari Niagara Internasional complies with ISO 7823.1 which ensures the ASTARIGLAS® ECO CAST product to provide the highest quality of optical clarity, weatherability, physical properties, and chemical resistance.

Available technical specifications for ASTARIGLAS® ECO CAST Transparent using 100% recycled MMA product are listed below:

Technical specifications	Standard	Value	Unit
General Properties			
Relative Density	ISO 1183	1.19	g/cm ³
Mechanical Properties			
Tensile Strength @23°C	ISO 527	69	MPa
Elongation at Break @23°C	ISO 527	4.2	%
Flexural Strength	ISO 178	116	MPa
Modulus of Elasticity	ASTM D638	460,000	psi
Flexural Modulus	ISO 178	3300	MPa
Impact Strength - Charpy-Unnotched	ISO 179 / I fu	12.5	kJ.m ⁻²

Note:

The standard values quoted are not always strictly equivalent and based on tests on representative samples. The information given in this publication is based on our general experience and given in good faith. It is intended as a general guide and must not be considered as a binding specification. No warranty is given or is to be implied. In no way does this information incur the liability of Astari Niagara Internasional, especially in infringement of the rights of a third party.

Content Declaration

ASTARIGLAS® ECO CAST product by ASTARI is made from R-MMA (Recycled methyl methacrylate monomer) produced from pre-consumer as well as post-consumer materials that were mixed with other additives to produce high quality product. ASTARIGLAS® ECO CAST product's typical product content can be seen in the table below.

Product Content	Concentration % (wt/wt)
R-MMA	>99%
Catalysts	<1%
UV Absorber	<1%
Mould Release Agent	<1%

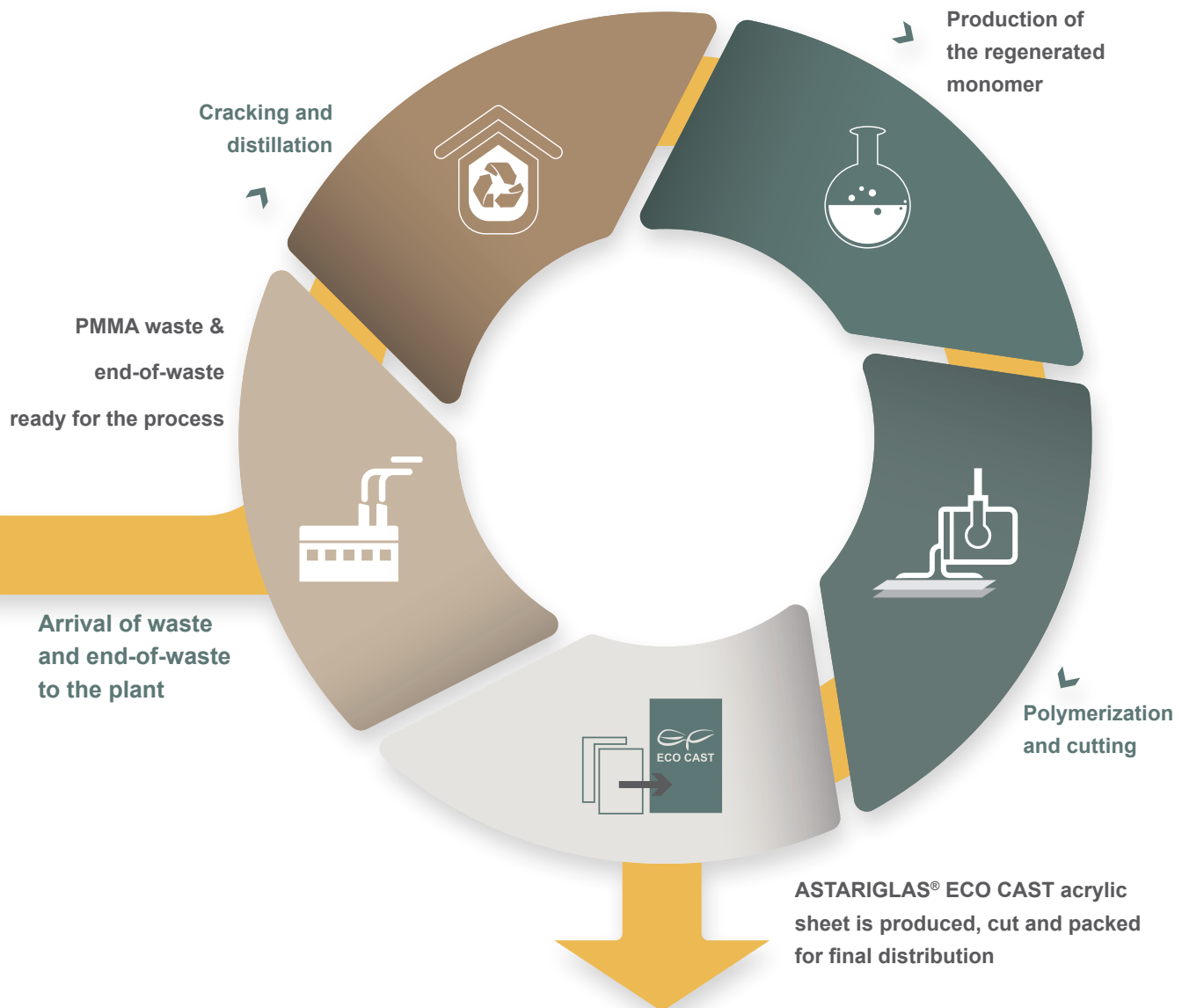
Dangerous substances from the candidate list of SVHC for Authorisation

ASTARIGLAS® ECO CAST Transparent using 100% recycled methyl methacrylate monomer (R-MMA) product does not contain substances listed on the candidate list of "Substance of Very High Concern (SVHC)", as published on the European Chemical Agency (ECA) website as well as substances listed on the most updated REACH regulation of "Substances of Very High Concern", in concentration exceeding 0.1% percentage by mass.

Packaging

Packaging materials for ASTARIGLAS® ECO CAST product ready to be shipped consist of wooden pallet, corrugated paper, strapping band, plastic, clear tape, and sticker. While consumer packaging only consists of masking material from kraft paper or PE film.

Production Process



Product Information

UN CPC code

36390 - Other plates, sheets, film, foil, and strips, of plastics.

Geographical Scope

ECO CAST product is produced in Indonesia and finished product is distributed to United States of America (USA), Europe, Australia and New Zealand (ANZ), as well as India.

LCA information

Declared unit: 1 m³ of ECO CAST product

Reference service life: Not applicable

Time representativeness

Specific primary data were collected from 2021-11-01 to 2022-04-31. Generic data from the database or other sources range from 2014-2021.

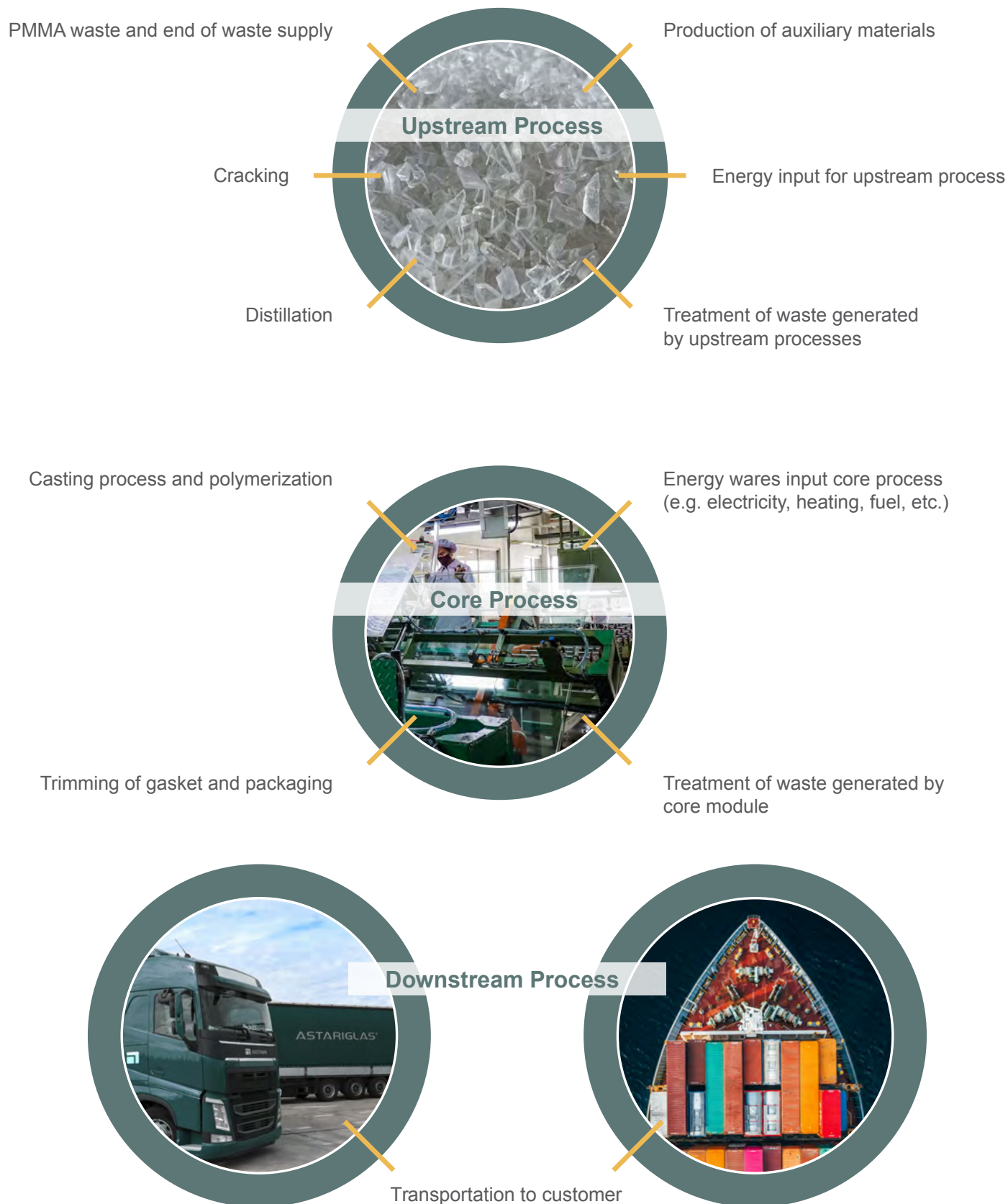
Database(s) and LCA software used

Generic data for upstream and downstream processes use Ecoinvent 3.8 database and modelled by using SimaPro Developer software version 9.3.0.3. No datasets older than 10 years were used.

Description of system boundaries

The system boundary was chosen based on the goal and scope of the study and in accordance with standards set in PCR Boards, blocks, panels, sheets of plastics, or in composite system, for structural application (non-construction) 2018:10, version 1.01. i.e. "cradle-to-grave".

The processes below are included in the product system to be studied:



LCA Information

Key Assumptions and Limitations

- Production processes of all auxiliary materials (e.g. Chemicals, steel, etc.) use generic data from commercial databases. Datasets used for these materials, mainly for electricity and water have been modified according to the country where the material is manufactured to make the dataset more representative.
- Electricity from national power grid is calculated using Ecoinvent 3.8 dataset of “Electricity, medium voltage {ID} market for | Cut-off, U” to represent medium voltage electricity generated by national power grid used in the manufacturing process of ASTARIGLAS[®] ECO CAST product
- Distribution of assessed products are only measured to the port of direct customers, e.g. industries, product distributors, etc located on United States of America (USA), Europe, Australia and New Zealand (ANZ), as well as India.
- As ASTARIGLAS[®] ECO CAST Transparent using 100 % recycled MMA is a new available product in the market, the Life Cycle Inventory data is based on 6-month production data starting from November 2021 to April 2022. Hence the result of the study for ASTARIGLAS[®] ECO CAST Transparent using 100 % recycled MMA shall be updated and re-verified when data from 1 year of production is available

Cut-off rules

In case of insufficient input data or data gaps for a unit process, the cut-off criteria shall be 1% of renewable and non-renewable primary energy usage and 1% of the total mass input of that unit process. The total of neglected input flows per module, e.g., per module upstream to downstream shall be a maximum of 5% of energy usage and mass. In this study, all data in the product system is included. If there is missing specific data, generic data from the database or literature were used.

Data Quality

- Time related coverage: specific data were collected from 2021-11-01 to 2022-04-31.
- Geographic coverage: specific data were collected from the area under study, i.e., Cikupa, Tangerang, Banten Regency, Indonesia. Electricity production as a key input is sourced from Indonesia’s national power grid, calculated using electricity mix {ID} available as dataset in Ecoinvent 3.8.
- Technological coverage: specific data were collected from ASTARIGLAS[®] ECO CAST product manufacturing process under study. Production activities take place since 2021. There is no specific data for upstream except R-MMA manufacturing by the company, therefore generic data from the global average was used with similar technology aspects to describe the process under study.

Data quality for both specific and generic data were sufficient to conduct life cycle assessment in accordance with the defined goal and scope.

Allocation

In this study, allocation is avoided as much as possible by dividing the process unit to be allocated into two or more sub-processes and collecting input and output data related to these sub-processes. If allocation is unavoidable, the inputs and outputs of a process unit will be divided based on the mass allocation. Data provided by the company for the inputs and outputs of ECO CAST product is already specific data for ECO CAST product only, hence no allocation was applied for ECO CAST product in this study.

Environmental Performance

The potential environmental impact indicators along with the characterization method are described in the table below:

Impact Indicator		Abbreviation	Unit	Characterization Method
Potential Environmental Impact Indicators, in accordance with PCR 2018:10, Version 1.01				
Global Warming Potential	Fossil	GWP-fossil	kg CO ₂ eq.	IPCC 2013
	Biogenic	GWP-biogenic	kg CO ₂ eq.	IPCC 2013
	Land use and land use change	GWP-luluc	kg CO ₂ eq.	IPCC 2013
	TOTAL	GWP-total	kg CO ₂ eq.	IPCC 2013
Acidification potential		AP	mol H ⁺ eq.	Accumulated Exceedance
Eutrophication potential	Eutrophication potential - freshwater	EP-freshwater	kg P eq.	EUTREND model (ReCiPe)
	Eutrophication potential - marine	EP-marine	kg N eq	EUTREND model (ReCiPe)
	Eutrophication potential - terrestrial	EP-terrestrial	mol N eq	Accumulated Exceedance
Photochemical oxidation creation potential		POCP	kg NMVOC eq.	LOTUS-EUROS
Ozone depletion potential		ODP	kg CFC 11	WMO 2014
Abiotic depletion potential	Metals and minerals / elements	ADPE	kg Sb eq.	CML 2002a
	Fossil resources	ADPF	MJ, net calorific value	CML 2002a
Water deprivation potential		WDP	m ³ world eq.	AWARE
Resource Use Parameters				
Use of renewable primary energy excluding renewable primary energy resources used as raw materials		PERE	MJ	N/A
Use of renewable primary energy resources used as raw materials		PERM	MJ	N/A
Total use of renewable primary energy resources		PERT	MJ	N/A
Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials		PENRE	MJ	N/A
Use of non-renewable primary energy resources used as raw materials		PENRM	MJ	N/A
Total use of non-renewable primary energy resources		PENRT	MJ	N/A
Use of secondary material		SM	kg	N/A
Use of renewable secondary fuels		RSF	MJ	N/A
Use of non-renewable secondary fuels		NRSF	MJ	N/A
Use of net fresh water		FW	m ³	N/A

Environmental Performance

Impact Indicator	Abbreviation	Unit	Characterization Method
Waste Categories and Output Flows			
Hazardous waste disposed	HWD	kg	N/A
Non-hazardous waste disposed	NHWD	kg	N/A
Radioactive waste disposed	RWD	kg	N/A
Components for reuse	CRU	kg	N/A
Materials for recycling	MFR	kg	N/A
Materials for energy recovery	MER	kg	N/A
Exported electrical energy	EEE	MJ	N/A
Exported thermal energy	EET	MJ	N/A

Potential environmental impact – environmental information according to PCR 2018:10, Boards, Blocks, Panels, Sheets of Plastics, or in Composite System, for Structural Application (Non-Construction) Version 1.01

Results for 1 m ³ ASTARIGLAS [®] ECO CAST Product					
Impact Indicator	Unit	Upstream	Core	Downstream	Total
GWP-fossil	kg CO ₂ eq.	2.99E+03	1.26E+02	1.34E+02	3.25E+03
GWP-biogenic	kg CO ₂ eq.	-5.08E+01	3.53E-02	3.29E-02	-5.07E+01
GWP-luluc	kg CO ₂ eq.	4.89E+00	3.48E-03	2.14E-03	4.90E+00
GWP-total	kg CO ₂ eq.	2.94E+03	1.26E+02	1.34E+02	3.20E+03
AP	mol H ⁺ eq.	1.98E+01	2.47E-01	4.33E+00	2.44E+01
EP-freshwater	kg P eq.	4.87E-01	1.04E-04	9.39E-05	4.87E-01
EP-marine	kg N eq.	3.14E+00	5.04E-01	1.08E+00	4.72E+00
EP-terrestrial	mol N eq.	3.45E+01	8.46E-01	1.20E+01	4.73E+01
POCP	kg NMVOC eq.	9.30E+00	2.60E-01	3.05E+00	1.26E+01
ODP	kg CFC 11	1.89E-04	1.10E-05	2.81E-05	2.28E-04
ADPE	kg Sb eq.	3.56E-01	8.58E-07	2.21E-06	3.56E-01
ADPF	MJ, net calorific value	3.11E+04	1.96E+03	1.74E+03	3.48E+04
WDP	m ³ world eq.	3.49E+02	1.38E+01	-2.32E-01	3.62E+02

Resource Use

Results for 1 m³ ASTARIGLAS® ECO CAST Product					
Parameter	Unit	Upstream	Core	Downstream	Total
PERE	MJ	3.61E+03	2.99E+01	2.32E+00	3.64E+03
PERM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PERT	MJ	3.61E+03	2.99E+01	2.32E+00	3.64E+03
PENRE	MJ	4.74E+04	2.77E+03	1.85E+03	5.20E+04
PENRM	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PENRT	MJ	4.74E+04	2.77E+03	1.85E+03	5.20E+04
SM	kg	0.00E+00	1.65E+03	0.00E+00	1.65E+03
RSF	MJ	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
FW	m3	2.56E+02	1.01E+01	2.99E-01	2.67E+02

Waste Production and Output Flows

Waste production

Results for 1 m³ ASTARIGLAS® ECO CAST Product					
Parameter	Unit	Upstream	Core	Downstream	Total
HWD	kg	0.00E+00	4.82E+02	0.00E+00	4.82E+02
NHWD	kg	0.00E+00	2.10E+01	0.00E+00	2.10E+01
RWD	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Output flows

Results for 1 m³ ASTARIGLAS® ECO CAST Product					
Parameter	Unit	Upstream	Core	Downstream	Total
CRU	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
MFR	kg	0.00E+00	6.42E+01	0.00E+00	6.42E+01
MER	kg	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EEE	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00
EET	MJ	0.00E+00	0.00E+00	0.00E+00	0.00E+00

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Differences Versus Previous Versions

An update on the image of the cover, and the image on page #06, 2022-11-18.

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THE INTERNATIONAL EPD® SYSTEM

ENVIRONMENTAL PRODUCT DECLARATION

ASTARIGLAS®



ECO CAST



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