

# Green Tick™ Acrylic

The conscious environmental tick of approval



Green  Tick Acrylic – Choosing the environment.

No. 186, Tongjiang Road, Economic Development Zone, Taixing City, Jiangsu Province, China 225400  
TEL: 0086-523-8767-6689, Fax: 0086-523-8796-8846



# Green Tick™ Acrylic

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Green Tick™ acrylic sheet is a recent proprietary development in specialty acrylics, utilizing innovative technology by incorporating both recycled & virgin raw materials, into a premium quality finished product.

Green Tick™ acrylic are leaders in the innovation of acrylic sheet products, with our production management identifying a recycling process, enabling the reproduction of a sustainable acrylic sheet product.

Green Tick™ acrylic invested in the further research to create a proprietary process of regeneration of acrylic sheet waste, into a high performing cast acrylic sheet product.

Green Tick™ is enabling the new generation of sustainable acrylic production, creating an environmental choice with the goal of assisting in the protection of our planet. The Green Tick™ acrylic proprietary process, simply enables scraps/waste to be chemically altered, further enabling the initial product to be regenerated back into a new sustainable finished material. We believe that the use of waste into society is an important process in addressing a sustainable environmental future. Currently plastic products are widely regarded as throw away items, where Green Tick™ acrylic enables:

- The Green Tick™ acrylic manufacturing process, substantially reduces our environmental impact.
- Green Tick™ acrylic contains no hazardous substances such as heavy metals, hormone type products (bisphenol A) & no CFC or PCB like products.
- Utilisation of scrap/waste, giving a new life to a finished product.
- Contribution to the protection of the environment.
- Free of VOC & HFC.
- Reduced consumption of new raw materials.
- Reduced demand for landfill.

Green Tick™ acrylic has excellent optical clarity, good mechanical properties, exceptional surface finish, is simple to fabricate (cut, bend & polish), superb ink & paint adhesion, whilst virtually eliminating the current

environmental issue, by utilizing waste & scrap. Green Tick™ acrylic has minimal effect on the environment, reducing our generations environmental footprint, making it the logical choice in acrylic POP/display fabrication.

Green Tick™ acrylic production is with a unique process which reduces the consumptions of water & energy, generating less CO2 emissions, further reducing our carbon footprint.



# Green ✓ Tick™ Acrylic

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Green ✓ Tick™ acrylic is the perfect solution for diverse applications including:

- Picture framing
- POP Displays
- Exhibit displays
- Display cases
- Poster advertising protection
- Signage

*Grades available:*

- Green ✓ Tick™ acrylic - Gloss.
- Green ✓ Tick™ acrylic Velvet – satin/Frost finish 1 & 2 sides.
- Green ✓ Tick™ acrylic Ezshape+ - Chemical resistant & thermoformable.

*Specialty Properties are:*

- Specially formulated proprietary technology.
- Excellent light transmission & optical clarity.
- Perfect cast acrylic finish (no manufacturing lines & inclusions).
- Good mechanical properties - shatter resistant.
- 100% recyclable product.



*Std. Dimensions/panel sizes: (Cut to Size Panels also available)*

- 1830mm x 1220mm
- 2440mm x 1220mm
- 3050mm x 2050mm

*Standard thicknesses: 2.8mm – 10mm (other gauges also available on request).*

*Masking: Pressure Sensitive PE thermoformable film.*

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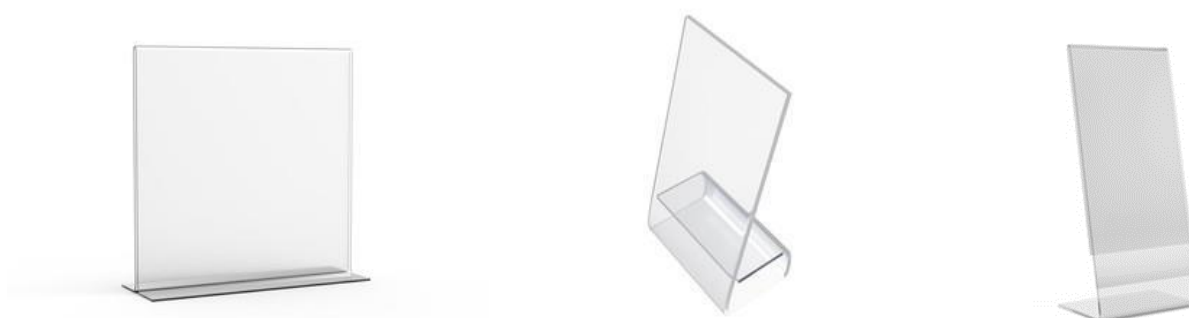
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PROPERTIES	TEST METHOD	GreenTick™	UNIT OF MEASURE
<b>PHYSICAL</b>			
Nominal Thickness	-	0.236" (6.0mm)	in (mm)
Specific Gravity	ASTM D792	1.19	-
Rockwell Hardness	ASTM D785	95	M scale
Poisson's Ratio	N/A	0.35	-
<b>OPTICAL</b>			
Reflective Index @ 73 °F / 22 °C	ASTM D542	1.49	-
Luminous Transmittance	ASTM D1003	91	%
Haze	ASTM D1003	<2.0	%
<b>MECHANICAL</b>			
Tensile Strength Max.	ASTM D683	10,000	psi
Tensile Strength Yield	ASTM D683	10,000	psi
Tensile Elongation	ASTM D683	2.7	%
Tensile Modulus Elasticity	ASTM D683	450,000	psi
Flexural Strength Max	ASTM D790	14,000	psi
Flexural Modulus Elasticity	ASTM D790	450,000	psi
Notched Izod Impact @ 73 °F / 22 °C	ASTM D256	0.3	ft-lb/in
Un-Notched Charpy @ 73 °F / 22 °C	ASTM D256	7	ft-lb/0.5"x1" section
<b>THERMAL</b>			
Deflection Temperature under Flexural Load @264 psi - not annealed	ASTM D648	200	°F
Coefficient of Thermal Expansion @ 60 °F / 15 °C	ASTM E831	3.5	1n/in/°F x10
Coefficient of Thermal Conductivity	ASTM C177	1.3	BTU/(hr)(ft)(°F/in)
U-Value (summer gain, winter-loss)	N/A	0.89-0.96	BTU/(hr)(ft)(°F/in)
Specific Heat Capacity @ 77 °F / 25 °C	N/A	0.35	BTU/(lb°F)
Maximum Recommended Continuous Service Temperature	N/A	170-190 (76 - 88)	°F / °C
Recommended Thermoforming Temperature	N/A	275-350 (135 - 176)	°F/ °C
<b>CRAZE RESISTANCE</b>			
Constant Stress Craze Resistance IPA	Mod ARTC Method Mil P6997	1,300	psi
Constant Stress Craze Resistance Aromatic/Alcohol beln	Mod ARTC Method Mil P6997	1,200	psi
<b>FLAMMABILITY AND SPECIFICATION COMPLIANCE</b>			
Horizontal Burn Rat	ASTM D635	1.1	in/min
Smoke Density	ASTM D2843	1.2	%
Self Ignition Temperature	ASTM D1929	860 / 455	°F / °C
Surface Burning Characteristics - Flame Spread	CAN/ULC S102.2-07 File R16786	110 (0.125"-0.250")	-
Surface Burning Characteristics - Smoke Developed	CAN/ULC S102.2-07 File R16786	>500 (0.125"-0.250")	-
Plastics Components QMFZ2.E39437 - Flammability Classification	UL94	94HB (≤0.060")	-
Plastics Components QMFZ2.E39437 - Outdoor Suitability	UL746C	060" colorless) f2 (≤0.06	-
International Building Code	IBC 2606.4	CC2 (0.080"-0.354")	-
American National Standard for Safety Glazing	ANSI Z97.1	PASS (≤0.080")	-
FMVSS205 - Federal Motor Vehicle Safety Glazing	ANSI Z26.1	AS-5 AS-6 AS-7	-
FAA (FAR) Section 25.853	Part 1 Para a1iv Proc b5 15 se	-	-
Standard Specification for PMMA Acrylic Plastic Sheet	ASTM D4802	Category B-1 Finish 1	-



All the information provided within this document and any further related technical advice, is based on testing conducted & well-established industry knowledge. The supplied information is for suggested reference only & it does not alter the obligation of the customer/end user to conduct their own inspection and testing of any GreenTick acrylic™ products supplied. GreenTick acrylic™ advises that the performance results of the product/products referenced, require authentication by the customers/end users independent testing, where we suggest the testing analysis by an accredited testing authority, where this is the sole responsibility of the customer/end user. No warranty/guarantee is relating to the properties within this document, whether noted or otherwise implied. We advise that we reserve the right to make any changes in accordance with new developments in technology. Any reference to trade names/trademarks is not an endorsement & any deemed suggested products, not approved for use. Please note GreenTick acrylic™ accepts no liability or any other legal responsibility, relating to any current third-party intellectual property & or patent rights.

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Control Union Certifications B.V.  
Meeuwenlaan 4-6, 8011 BZ, Zwolle, Netherlands, NL  
+31 38 426 0100  
www.controlunion.com

## SCOPE CERTIFICATE

Scope Certificate Number: CU1112735GRS-2023-00032446

Control Union Certifications certifies that

**Taizhou City Yongning Acrylic Products Co., Ltd.**

License Number: CB-CUC-1112735

No.66 Chuanghui Road, Economic Development Zone  
225700 Xinghua, Jiangsu Sheng, CN-JS, China, CN

has been audited and found to be in conformity with the

**Global Recycled Standard (GRS)**  
- Version 4.0 -

Product categories mentioned below (and further specified in the product appendix) conform with the standard(s):  
Product categories: Industrial, technical (PC0019)

Process categories carried out under responsibility of the above-mentioned company for the certified products cover:  
Chemical recycling (PR0004), Collecting (PR0005), Molding (PR0018), Trading (PR0030)

\*The processes marked with an asterisk may be carried out by subcontractors.

This certificate is valid until:  
2024-04-16

Audit criteria:  
Global Recycled Standard V4.0; Content Claim Standard V3.1; Textile Exchange Standard Claims Policy V1.2

Place and date of issue:  


Certification Body  


Standard's logo  


Zwolle, 2023-04-17  
Last updated: 2023-05-04

On behalf of the Managing Director  
Ya Gao | Certifier

Certification Body Licensed by: Textile Exchange, Licensing Code: CB-CUC  
Accredited by: Sri Lanka Accreditation Board (SLAB), Accreditation No: CP 004-01  
Inspection Body: Control Union Certifications B.V.  
This Scope Certificate provides no proof that any goods delivered by its holder are GRS certified. Proof of GRS certification of goods delivered is provided by a valid Transaction Certificate (TC) covering them.  
The issuing body may withdraw this certificate before it expires if the declared conformity is no longer guaranteed.  
To authenticate this certificate, please visit [www.TextileExchange.org/Certificates](http://www.TextileExchange.org/Certificates).

 **CONTROLUNION**

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www.controlunion.com

Scope Certificate Number: CU1112735GRS-2023-00032446 (continued)  
Taizhou City Yongning Acrylic Products Co., Ltd.  
Global Recycled Standard (GRS)

## Products Appendix

Under the scope of this certificate, the following products are covered:

Product category	Product details	Material composition(*)	Label grade	Facility number
Industrial, technical (PC0019)	Building materials [Acrylic sheet] (PD0046)	100.0% Recycled post-consumer Acrylic (RM0159)	GRS	1112735
Industrial, technical (PC0019)	Building materials [Acrylic sheet] (PD0046)	50.0% Recycled post-consumer Acrylic (RM0159) 50.0% Acrylic (RM0156)	GRS	1112735
Industrial, technical (PC0019)	Building materials [Acrylic sheet] (PD0046)	20.0% Acrylic (RM0156) 80.0% Recycled post-consumer Acrylic (RM0159)	GRS	1112735

Note: \* Quantification (percentages) of material composition is optional. [] Square brackets refer to certified components of a product.

## Site Appendix

Under the scope of this certificate, the following facilities have been audited and found to be in conformity:

Facility name & number	Address	Process categories
Taizhou City Yongning Acrylic Products Co., Ltd. (main) 1112735	No.66 Chuanghui Road, Economic Development Zone 225700 Xinghua Jiangsu Sheng, CN-JS China, CN	Chemical recycling (PR0004) Collecting (PR0005) Molding (PR0018) Trading (PR0030)

## Associated Subcontractor Appendix

Subcontractor name & number	Address	Process categories
No subcontractors		

## Independently Certified Subcontractor Appendix

Subcontractor name & number	Certification body	Expiry date	Address	Process categories
No certified subcontractors				

Place and date of issue:



Zwolle, 2023-04-17

Last updated: 2023-05-04

On behalf of the Managing Director  
Ya Gao | Certifier

Certification Body



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## *Statement of Conformance*

Mechanical engineers, construction co., transport producers & POP / exhibition displays, are all required to meet rising sustainability demands. Protective equipment has to offer durability, safety & security, whilst also providing an appearance that harmonizes with the application.

That is why increasing professionals are often choosing Green ✓ Tick™ Acrylic sheet, for machine guards, glazing in the transportation & construction sector, for ice-rink barriers in ice hockey stadiums, or in store security applications.

Green ✓ Tick™ Acrylic is one of the leading high qualities & most versatile plastics. It can meet with general wear & tear workshop treatment & is simple to fabricate.

Green ✓ Tick™ Acrylic sheets are used in a variety of different applications, in the segments such as transport, signage, furniture, exhibitions & POP, sanitary ware, domestic applications, with also commercial architecture & construction, industrial applications, and a wide range of lighting applications. Quality, distribution of light, plus the energy efficiency created with LED illumination, are key requirements in modern lighting systems.

Green ✓ Tick™ Acrylic is the ideal substrate to meet these requirements. Its properties with unsurpassed transparency & brilliance, a variety of surfaces, ease of thermo-forming, meets with majority of the technical & design requirements of lighting engineers, illuminated advertising/signage, light fixture manufacturers & specialist architects.

Green ✓ Tick™ Acrylic materials can be safely used as a product group in applications with the demand on the market for compliance, in all relevant health and safety aspects. Due to the manufacturing process, Green ✓ Tick™ Acrylic contains no plasticizers, heavy metal salts or halogens, & no levels of chlorine.

Green ✓ Tick™ Acrylic basic chemical structure, contains no nitrogen compounds or bisphenol A.

Green ✓ Tick™ Acrylic normally emits no toxic or cancerogenic, mutagenic, teratogenic, even in the application of above the service & distortion temperature (around 100 °C - one hundred degrees Celsius). Due to the chemical chain structure, Green ✓ Tick™ Acrylic does not react with water, where it is widely used in aquatic applications. Green ✓ Tick™ Acrylic solid sheets are extremely resistant to normal mechanical methods during installation & in application. Green ✓ Tick™ Acrylic offers 11 (eleven) times the impact strength of conventional domestic glass.



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Green ✓ Tick™ cast Acrylic is a recent proprietary development in specialty acrylics, utilizing innovative technology, by incorporating both recycled & virgin raw materials, into a premium quality finished product.



DMMA production: Pressure Vessel  
Scrap applying heat & chemicals.



Distillation/filtration



GreenTick™ Production: Renewable Solar Energy

Green ✓ Tick™ Acrylic is enabling the new generation of sustainable acrylic production, creating an environmental choice with the goal of assisting in the protection of our planet. The Green ✓ Tick™ Acrylic proprietary process, simply enables the scrap/waste chemical alteration, further enabling the initial product regeneration, back into a newly produced sustainable finished material. We believe that the use of waste into society is an important process in addressing a sustainable environmental future. Currently plastic products are categorized as throw away items, where Green ✓ Tick™ Acrylic enables:

- Utilisation of scrap/waste, enabling a new life to a finished product.
- Reduced consumption of virgin raw materials.
- Reduced demand for landfill.
- Contribution to the protection of the environment.
- Free of VOC & HFC.
- The Green ✓ Tick™ Acrylic manufacturing, reduces our environmental impact. Substantially reduced infrastructure requirement & power consumption.
- Green ✓ Tick™ Acrylic contains no hazardous substances such as heavy metals, hormone type products (bisphenol A) & no CFC or PCB like products.

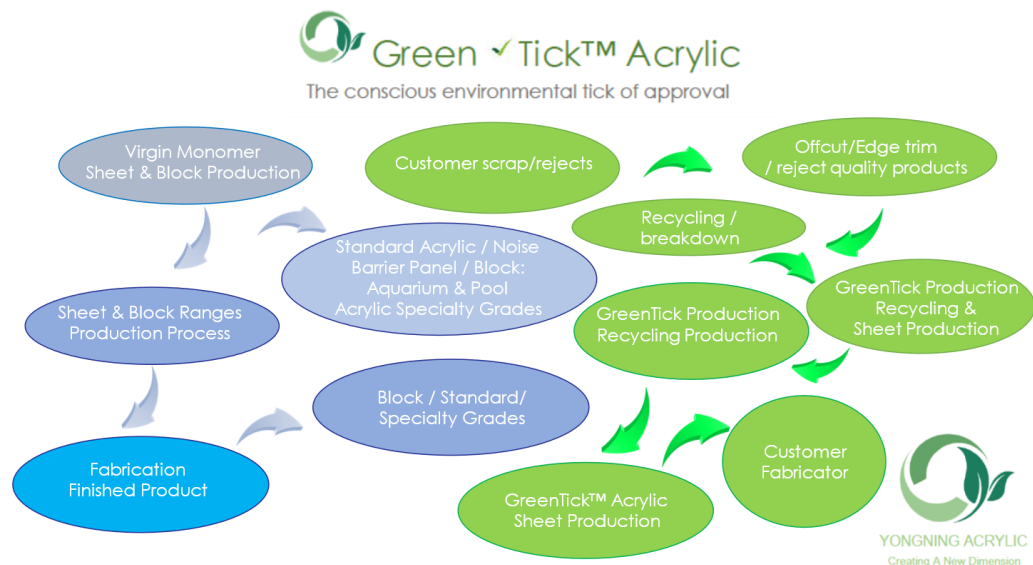
Green ✓ Tick™ Acrylic has minimal effect on the environment, reducing our generations environmental footprint, making it the logical choice in fabrication.

Green ✓ Tick™ Acrylic manufacturing process is unique, in reducing the consumption of water & energy, generating less CO2 emissions, further reducing our carbon footprint.



# Green ✓ Tick™ Acrylic

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Green ✓ Tick™ Acrylic sheet sustainability feature points:

- Manufactured from a high percentage % of recycled acrylic monomer/raw material (recycled Methyl Methacrylate - MMA), where the recycling process is continuous, through various finished products.
- Green ✓ Tick Acrylic™ sheet using existing materials & with a depolymerisation process, breaking the material down in one process to raw material. New MMA production requires feed additives which requires their manufacturing process, then the further extensive processing with MMA production, where they are both long & detailed processes requiring extensive infrastructure & energy consumption.



MMA production  
Considerable infrastructure & energy consumption

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- Depolymerisation is a simple chemical process, breaking down the previous polymerisation (curing) into pure raw MMA, with:
  1. Less infrastructure & energy.
  2. Reduction in previous prevalent issue with growing levels of land fill.
- VOC & HFC free.
- Reduced water consumption, where it generates decreased levels of carbon dioxide in the production process, as opposed to alternative virgin monomer cast acrylic sheet.
- Manufactured with internally altered raw material, which creates a reduction in our carbon footprint.
- Changes the process of processing of acrylic waste, which would be disposed of as landfill or even further incinerated.

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