



MULIAGLASS

***A reflection  
of quality***

## MULIAGLASS AT A GLANCE

Mulia Industrindo was established on November 5, 1986 and has been listed at The Jakarta Stock Exchange on January 17, 1994. The company has two operating subsidiaries, namely PT. Muliaglass and PT. Muliakeramik Indahraya located on a 200 hectares site in Mulia Industrial Estate, Cikarang, West Java.

Muliaglass produces float glass, glass containers, glass blocks, and safety glass. Our float glass products are exported to more than 50 countries with export volume reaching 50% of our production. Glass block and safety glass products are also marketed overseas.

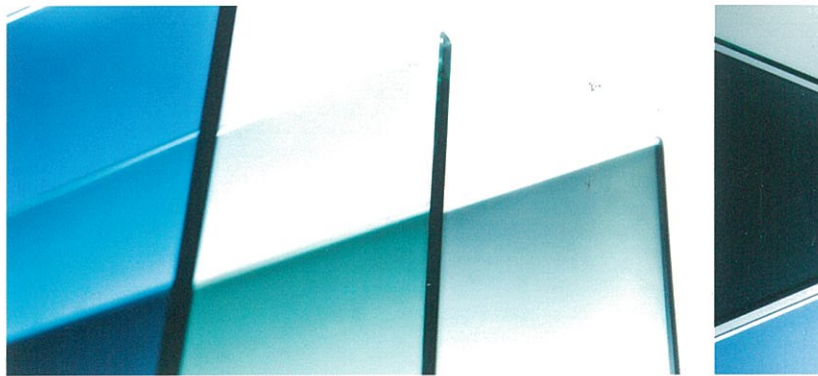
On the contrary, glass containers products are predominantly sold in the domestic market, catering to the consumer goods and pharmaceutical industries.



## FLOAT GLASS

The float glass division was established in 1989 with capacity of 612,500 tons annually. We produce float glass in the shade of clear, european grey, dark grey, light green, dark blue, and bronze with a thickness range from 2 to 12 mm. Also reflective glass in dark grey, light green, and dark blue colors with thickness range from 5 to 8 mm.

Keeping in line with our commitment to quality, we have succeeded to obtain ISO 9002 in November 1996 and ISO 19002:1994 in November 1999 (both these ISO versions have been replaced to the latest one that is ISO 9001:2008).



## SAFETY GLASS

The safety glass division was established on October 1997 with the capacity of 150,000 cars set annually.

Through the advance computerized technologies, world's best machineries with the support of highly qualified with experience management; the division has succeeded to achieve a good reputation with the major famous car manufacture as their OEM supplier.

Our products are produced according to the standard of ECE/TRANS/505 Regulation No. 43 (Economic Commission for Europe), ANSI/SAE Z.26.1-1996 (American National Standard Institute), JIS R 3211 (Japanese Standard Association), JASO M 501 (Japanese Automotive Standard Organization), and AS/NZS 2080 (Australia / New Zealand Standard) are exported to all over the world.



## GLASS CONTAINER

The glass container division has 2 subsidiaries which are bottles and glass blocks. The container division has 3 furnaces namely C1, C2, and C3.

C1 and C2 have a total capacity of 435 ton/day with 7 IS machines for manufacturing of bottles / jars, mugs / tumblers. Occasionally also can produce amber glass depending on condition and requirement. C3 was established in 1994 and has a capacity of 15 ton/day with 4 machines fully dedicated for manufacturing of glass blocks.

In order to provide the excellent quality product, our glass container products have managed to supply both local and domestic famous branding food and beverage industries. And our glass block products have also managed to keep the competitive and becoming one of world famous branding building materials.

Through our quality and management systems, both our products have been awarded with QMS (Quality Management Systems) ISO 2008, authorized by UKAS, ANAB & JAS - ANZ, and EMS ISO 14001:2004, authorized by UKAS for the quality provided.



VISTRAN

*Clear glass*

SOLES

*Tinted glass*

*A reflection  
of quality*

MULIA CLEAR & TINTED GLASS

# VISTRAN & SOLES

Clear Glass Tinted Glass

## A reflection of quality

### VISTRAN Clear Glass

Basically consists of silica sand with added alkaline salts such lime, potash, and soda. It is colorless and has a visible light transmittance.

Clear class type is ideal where high visibility and clarity are required as well as for windows, solariums, mirrors, safety glazing, sky lights, and certainly greenhouses.

Mulia Glass offered VISTRAN Clear Glass in a variety of thickness from 2mm up to 12mm.

### SOLES Tinted Glass

Tinted or heat absorbing glass is made by adding various colorants to the normal, clear glass batch, to create a desired color. Its color density is a function of thickness and increases as the thickness increases, likewise its visible light transmittance will decrease as thickness increases.

SOLES Tinted Glass reduces the solar transmittance of glass, has a little effect upon solar reflectance, hence increases solar heat absorption. This explains why heat-strengthening or tempering is sometimes required for tinted glasses.

Tinted glass is suitable where reduced light transmission and solar heat gain are mostly required or where color is desired to enhance aesthetics and increase design flexibility.

Soles Tinted Glass from Mulia Glass is available in several colors such as european grey, dark grey, light green, dark blue, and bronze.

### PRODUCT RANGE AND PERFORMANCES

Kind of Product	Thickness (mm)	Energy Characteristic				Light Characteristic		U Factor		Shading Coefficient	SHGC
		Transmittance	Reflectance	Absorb	Ultra Violet	Transmittance	Reflectance	Winter	Summer		
								W/sqm.K	W/sqm.K		
VISTRAN Clear	2	85	8	7	69	90	9	6.36	5.85	1.01	0.88
	3	82	8	7	60	89	9	6.30	5.85	0.99	0.86
	4	80	8	10	58	89	9	6.25	5.85	0.97	0.84
	5	80	8	12	54	89	8	6.25	5.85	0.96	0.84
	6	76	7	12	50	87	8	6.19	5.85	0.94	0.82
	8	70	7	17	43	86	8	6.13	5.85	0.90	0.78
	10	66	7	23	38	85	8	5.96	5.79	0.86	0.75
SOLES Dark Grey	12	66	7	27	36	84	8	5.91	5.74	0.85	0.74
	3	55	7	38	58	39	6	6.30	6.19	0.79	0.69
	4	50	6	44	51	31	5	6.25	6.25	0.73	0.64
SOLES Light Green	5	42	6	52	41	22	5	6.25	6.30	0.66	0.57
	6	34	5	61	38	15	5	6.19	6.30	0.60	0.52
	5	51	6	42	22	76	8	6.25	6.19	0.74	0.64
SOLES Dark Blue	6	47	6	47	21	74	7	6.25	6.19	0.71	0.62
	8	39	6	55	17	69	7	6.13	6.19	0.65	0.57
	10	33	5	61	12	64	7	5.96	6.19	0.60	0.52
SOLES European Grey	5	41	5	54	24	51	6	6.25	6.30	0.66	0.57
	6	36	7	57	20	46	7	6.19	6.30	0.61	0.53
	8	28	6	65	15	37	7	6.08	6.30	0.54	0.47
	10	21	6	73	11	29	8	6.02	6.25	0.48	0.42
SOLES Bronze	12	17	9	74	8	23	9	6.02	6.25	0.43	0.37
	4	56	6	37	24	57	6	6.25	6.19	0.78	0.68
	5	45	6	49	20	45	6	6.25	6.25	0.69	0.60
	6	44	6	50	17	44	6	6.19	6.25	0.65	0.57
	8	33	6	61	17	33	6	6.08	6.25	0.58	0.50
SOLES Dark Blue	10	22	6	72	9	24	5	6.02	6.25	0.49	0.43
	12	18	5	77	6	20	5	5.91	6.19	0.46	0.40
	5	50	6	44	18	52	6	6.25	6.25	0.73	0.64
	6	40	5	54	15	43	5	6.13	6.25	0.66	0.57
SOLES European Grey	8	35	5	60	10	38	5	6.08	6.25	0.62	0.54
	10	29	5	66	7	32	5	6.02	6.25	0.56	0.49
	12	21	5	74	5	23	5	5.91	6.19	0.51	0.44



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FLOAT DIVISION  
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Distributor





**MUREX MULFLEX**

# MULIA REFLECTIVE

*Solar control glass*

*A reflection  
of quality*

## MULIA REFLECTIVE GLASS

# MULIA REFLECTIVE

*A reflection of quality*

### DESCRIPTION

MULIA REFLECTIVE glass is manufactured by online pyrolytic coating wherein a silicon based coating is applied to the glass surface by means of pyrolysis. Also known as hard coating, the process fuses precious metal oxides on the surface of the float glass at high temperature while the glass is in formation.

### APPLICATION

MULIA REFLECTIVE glass the ideal glass for many architectural projects, such as office buildings, mixed used buildings, hotels, restaurants, etc.

### BENEFITS

- Total integration coating into the surface of the glass
- Strength and stability over time
- Easy to store, handle, and process
- Temperable and bendable glass

### PROCESSING

MULIA REFLECTIVE glass can be processed (e.g. tempered, laminated, bent, enamelled (ceramic frit), etc.), while still retaining its aesthetic and technical benefits. It can be used for single or double glazing, with the coating on face 2.

### PRODUCT RANGE AND PERFORMANCES

Colour	Light Factors									Energy Factors								
	Transm. (%)			Reflection (%)						Solar Factor			Shading Co-eff.			U Value		
				External			Internal			SHGC / SF			SC			W/sqm.K		
	5mm	6mm	8mm	5mm	6mm	8mm	5mm	6mm	8mm	5mm	6mm	8mm	5mm	6mm	8mm	5mm	6mm	8mm
Dark Grey	13	9	-	36	38	-	7	6	-	0.47	0.44	-	0.54	0.50	-	5.3	5.3	-
Dark Blue	32	29	19	30	31	41	12	11	11	0.46	0.43	0.35	0.53	0.49	0.40	5.3	5.3	5.2
Light Green	45	42	39	36	38	39	25	25	24	0.47	0.44	0.40	0.54	0.51	0.46	5.3	5.3	5.2



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Certificate No. ID08/74369



Certificate No. ID05/0532.1



Certificate No. AU96/827



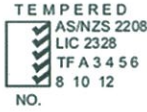
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Certificate No. ID96/1293



No. 15-0047-2005



LAMINATED AS1 M913 DOT 681

TEMPERED AS2 M823 DOT 681



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**SAFETY GLASS DIVISION**

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**CONTAINER AND GLASS BLOCK DIVISION**

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