

TO BUILD TRUST & COMMITMENT TOGETHER



AJIYA[®]
SAFETY GLASS

www.ajiya.com

AJIYA

To Build Trust and Commitment Together

GROUP OF COMPANIES

AJIYA BERHAD, an investment holding company based in Segamat, is listed on Bursa Malaysia, Malaysia.

The AJIYA group's activities include manufacturing and marketing of high-quality glass products, metal roofing, metal door & window frames, floor decks and other building materials.

AJIYA SAFETY GLASS SDN. BHD., a subsidiary of AJIYA Berhad, was formed in November 1995 and its principal activities are in the manufacturing of heat strengthened glass, tempered safety glass, insulating energy-saving safety glass, laminated safety glass, decorative coated safety glass, security safety glass and other high-quality glass products.

With modern production facilities, well-trained personnel and a dynamic management team, Ajiya is committed to provide high-quality glazing products, continuous innovation and outstanding service. Ajiya endeavours to be the best supplier of glass products and be the leader in the market in which it competes.

AJIYA FACTORIES



AJIYA SAFETY GLASS SDN. BHD. Puchong



AJIYA SAFETY GLASS SDN. BHD. Segamat



AJIYA GLASS INDUSTRIES SDN. BHD. Segamat



ASIA ROOFING INDUSTRIES SDN. BHD. Segamat LOT 29



ASIA ROOFING INDUSTRIES SDN. BHD. Segamat LOT 28



ASIA ROOFING INDUSTRIES SDN. BHD. Segamat LOT 152



ASIA ROOFING INDUSTRIES SDN. BHD. Segamat LOT 153



ASIA ROOFING INDUSTRIES SDN. BHD. Segamat LOT 142



ARI UTARA SDN. BHD. Sungai Petani, Kedah



ARI TIMUR (KB) SDN. BHD. Kota Bahru, Kelantan

GROUP OF COMPANIES - PRODUCTS

AJIYA SAFETY GLASS SDN. BHD.

- Tempered Safety Glass
- Heat Strengthened Glass
- Curved Tempered Safety Glass
- Laminated Safety Glass
- Insulating Energy-Saving Safety Glass Unit
- Decorative Coated Safety Glass
- Intrusion Resistant Safety Glass
- Bullet Resistant Safety Glass
- Blast Resistant Safety Glass
- Hurricane Resistant Safety Glass
- Low-E Energy Saving Glass
- And Other High Performance Glass

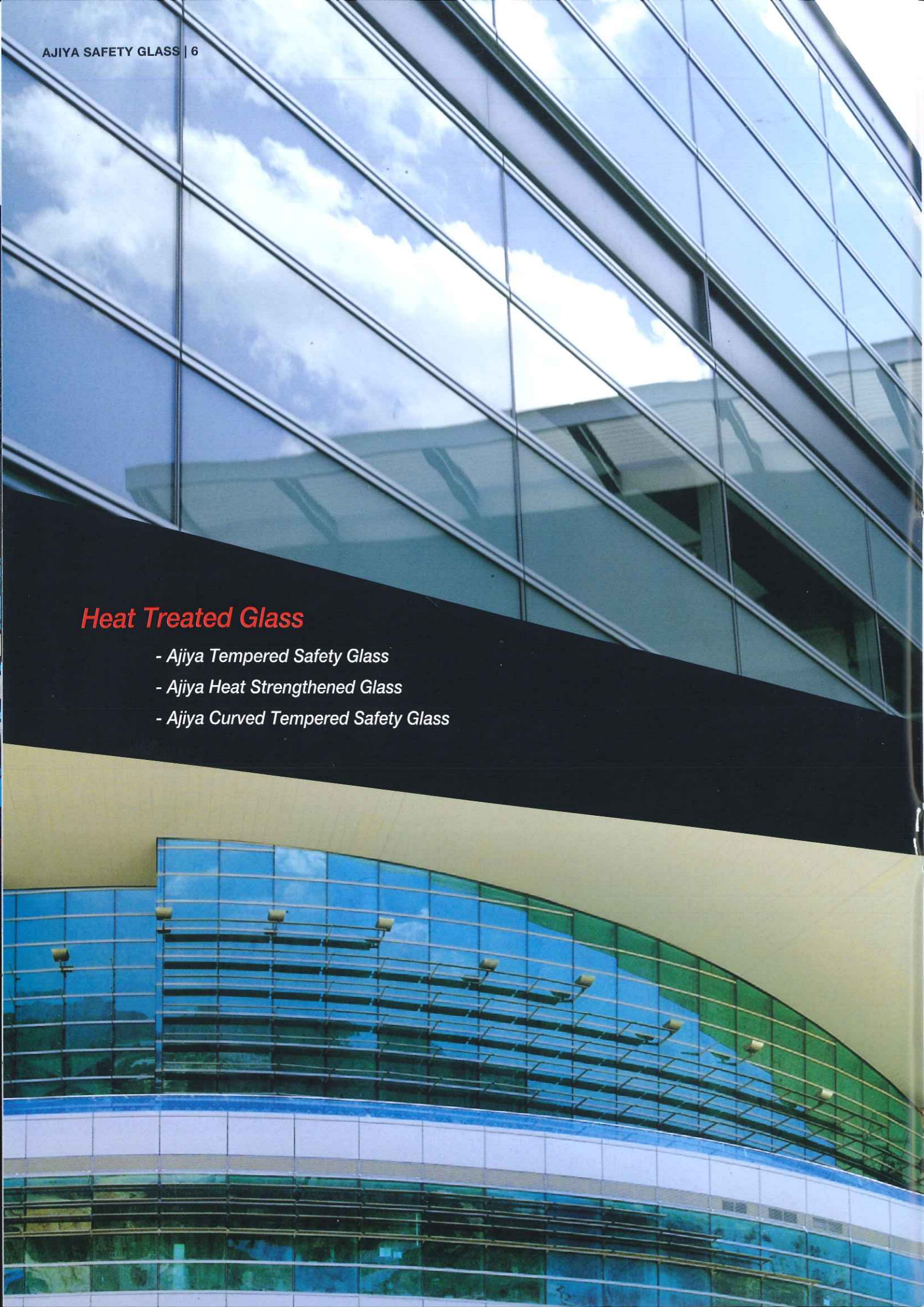
ASIA ROOFING INDUSTRIES SDN. BHD.

- Metal Roofing
- Metal Cladding
- Metal Door Frames
- Metal Window Frames
- Structural Floor Decks

AJIYA GLASS INDUSTRIES SDN. BHD.

- Tempered Glass, Insulating Glass etc. for Industrial Applications

high quality glazing products
outstanding service
continuous innovation



Heat Treated Glass

- Ajiya Tempered Safety Glass
- Ajiya Heat Strengthened Glass
- Ajiya Curved Tempered Safety Glass

Ajiya Tempered Safety Glass

Product Description

Ajiya Tempered Safety Glass is a heat treated glass with a residual surface compression in excess of 10,000 psi or an edge compression in excess of 9,700 psi. It is manufactured by heating ordinary float glass to its softening point (about 700 °C) and then cooling the glass rapidly by quenching it with a uniform blast of air on both surfaces simultaneously. Ajiya Tempered Safety Glass, when broken, breaks into a multitude of small fragments, thus protecting against serious injuries.

Product Features

Safety & Standards

Ajiya Tempered Safety Glass is a safety glazing material, conforming to the requirements of ASTM C 1048, ANSI 97.1, BS 6206, etc.

Strength

Ajiya Tempered Safety Glass is approximately 4 to 5 times stronger than ordinary annealed glass. It has a higher bending strength and is more resistant to impact.



Breaking pattern of tempered safety glass

Thermal Stress Resistant

Ajiya Tempered Safety Glass is more resistant to thermally induced stress and can, therefore, resist thermal shock which can cause ordinary annealed glass to crack.

Fabrication

Ajiya Tempered Safety Glass cannot be drilled, cut or edged after being heat treated. All dimensions and specifications must be determined before the glass is tempered.

Colour

In addition to clear glass, Ajiya Tempered Safety Glass also comes in various colours or tints, and can be reflective and Low-E as well.





Special Heat Soaking

Ajiya also offers heat soaking for its tempered safety glass. This process potentially reduces the risk of spontaneous breakage from nickel sulfide inclusions in tempered safety glass.

Product Applications

- Curtain walls
- Balustrades
- Shop fronts
- Windows
- Frameless glass doors
- Greenhouses
- Showcases
- Escalator side panels

AJIYA TEMPERED SAFETY GLASS

Production	Size (mm)	Thickness (mm)
Minimum	180x180	3.0
Maximum	6000x3000	19



Ajiya Heat Strengthened Glass



Product Description

Ajiya Heat Strengthened Glass is a heat treated glass with a residual surface compression greater than 3,500 psi and less than 10,000 psi, or edge compression greater than 5,500 psi and less than 9,700 psi. It is manufactured similarly to Ajiya Tempered Safety Glass, except this glass is cooled less rapidly. When broken, the break pattern will vary according to the surface compression.

Product Applications

- Curtain walls
- Balustrades
- Windows

AJIYA HEAT STRENGTHENED GLASS

Production	Size (mm)	Thickness (mm)
Minimum	180x180	3.0
Maximum	6000x3000	10

Product Features

Safety & Standards

Ajiya Heat Strengthened Glass conforms to the requirements of ASTM C 1048, etc.

Strength

Ajiya Heat Strengthened Glass is approximately 2 times stronger than ordinary annealed glass. It has a higher bending strength and is more resistant to impact when compared with ordinary annealed glass.

Thermal Stress Resistant

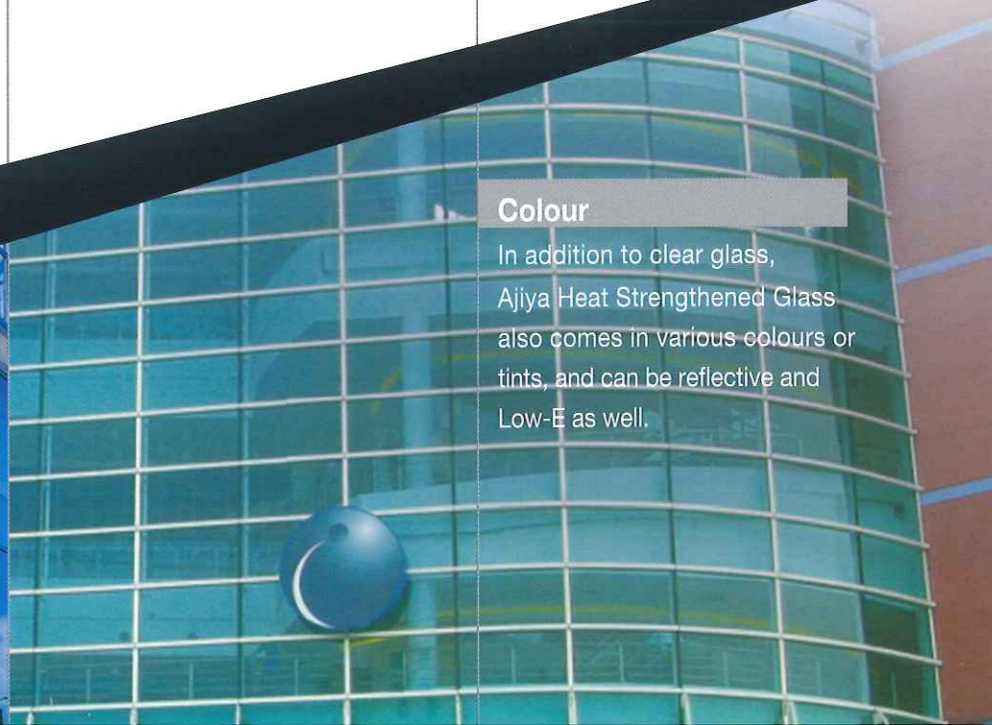
Ajiya Heat Strengthened Glass offers good resistance to thermal stress, although to a lesser degree than tempered glass.

Fabrication

Ajiya Heat Strengthened Glass cannot be drilled, cut or edged after being heat treated. All dimensions and specifications must be determined before the glass is heat treated.

Colour

In addition to clear glass, Ajiya Heat Strengthened Glass also comes in various colours or tints, and can be reflective and Low-E as well.



Ajiya Curved Tempered Safety Glass

Product Applications Product Description

Ajiya Curved Tempered Safety Glass is manufactured by heating the glass to its softening point and then forming the required shape in a special mould before being subjected to rapid cooling. This rapid cooling will result in the formation of high residual surface compression on the glass surfaces.

- Curtain walls
- Skylights
- Corner windows
- Curved shower screens
- Display windows
- Display showcases

AJIYA CURVED TEMPERED SAFETY GLASS

Production	Size (mm)	Thickness (mm)
Minimum	500x500	5
Maximum	3000x2500	19

Product Features

Safety

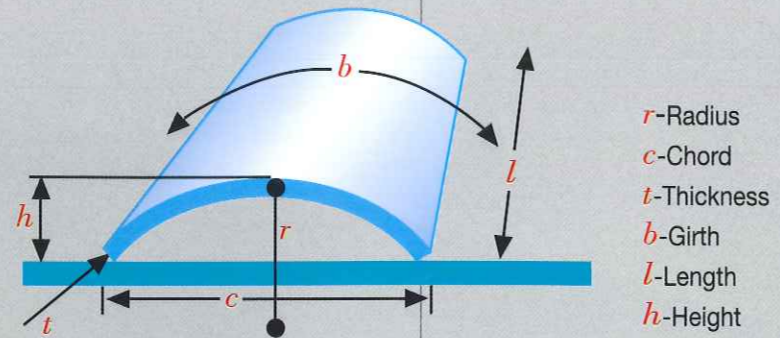
If broken, Ajiya Curved Tempered Safety Glass will break into a multitude of small fragments, thus preventing serious injuries.

Strength

Ajiya Curved Tempered Safety Glass is stronger and more resistant to impact when compared with ordinary annealed glass.

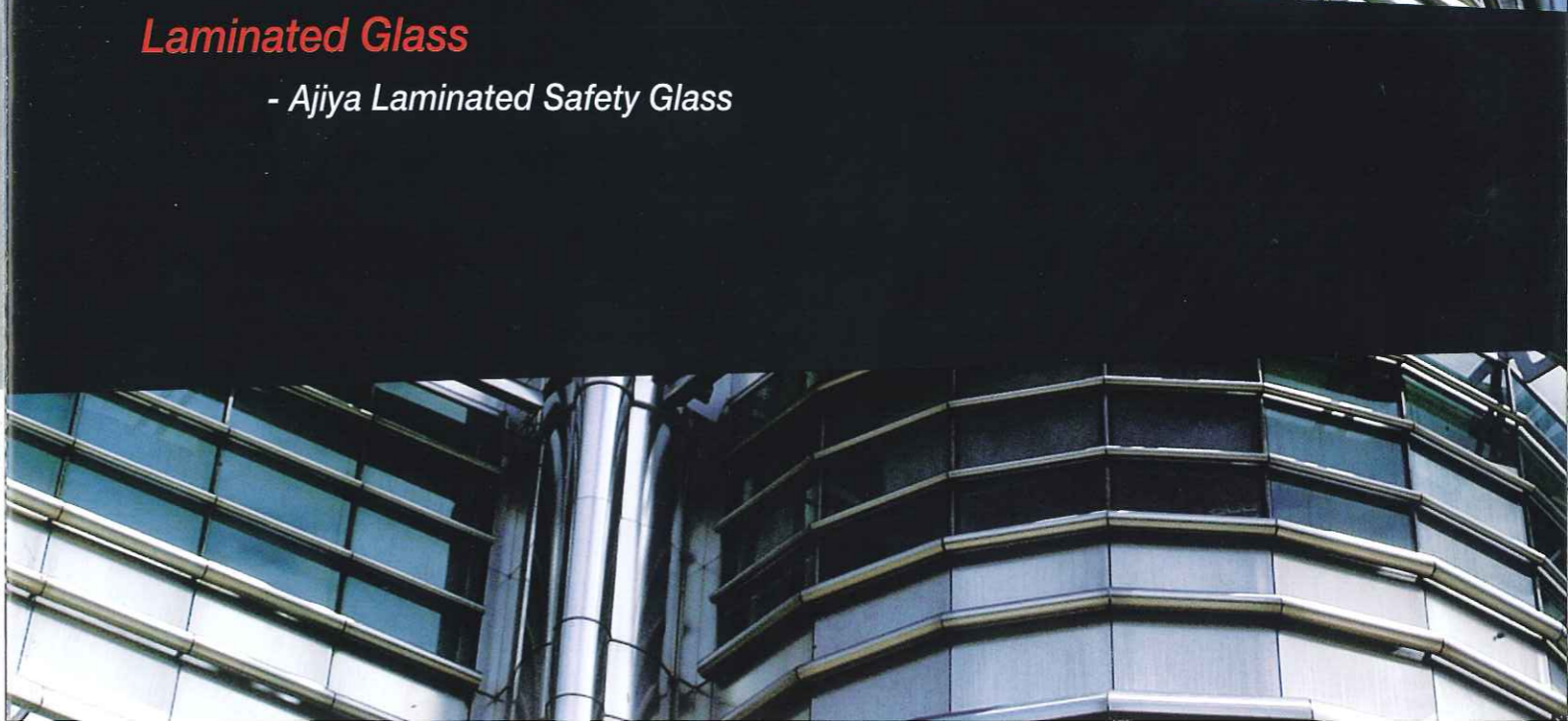
Thermal Stress Resistant

Ajiya Curved Tempered Safety Glass is more resistant to thermally induced stress when compared with ordinary annealed glass.



Laminated Glass

- Ajiya Laminated Safety Glass



Ajiya Laminated Safety Glass

Product Description

Ajiya Laminated Safety Glass is produced by permanently bonding two or more sheets of glass with one or more sheets of tough polyvinyl butyral (PVB) interlayer under heat and pressure. When broken, the glass fragments will adhere to the plastic interlayer and will continue to provide protection. Ajiya Laminated Safety Glass is available in a wide variety of design options, depending on the tint and thickness of both the glass and interlayers, and on the types of glass used.

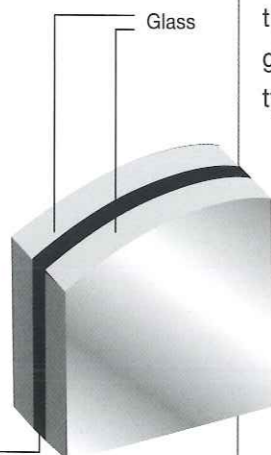


Diagram of a laminated safety glass

Product Features

Safety & Standards

Ajiya Laminated Safety Glass is a safety glazing material, conforming to the requirements of BS 6206, ANSI Z 97.1, etc.

Impact Performance

Under impact, Ajiya Laminated Safety Glass will resist penetration and will absorb the energy of the impact. The glass will remain intact when broken, with the glass fragments remaining firmly bonded to the interlayer, thus minimising the risk of injuries from sharp edges and falling glass.

Security

If broken, laminated safety glass will remain intact in its frame and will continue to safeguard the building until the glass is replaced. Due to the tough PVB interlayer used, it will continue to provide protection and resistance to entry after the glazing is broken.

Sound Reduction

The viscoelastic properties of the PVB interlayer used in Ajiya Laminated Safety Glass provide a dampening effect on the transmission of sound, thus reducing unwanted noise.

Solar Energy Control

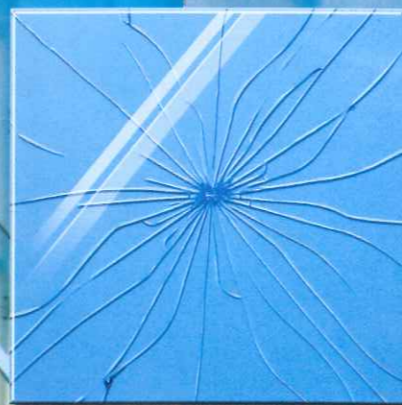
Laminated safety glass using tinted, reflective or Low-E glass can provide a wide range of aesthetic and solar performance options. In addition to reducing solar heat gain and glare, it can also enhance the appearance of buildings and meet energy management needs.

Design Versatility

Ajiya Laminated Safety Glass is available in a wide variety of design options and may be made with a variety of glass types, including annealed, tempered, heat strengthened, tinted, decorative ceramic coated reflective and Low-E glass.

UV Control

The UV absorbing additives in the PVB interlayer used by Ajiya Laminated Safety Glass can screen out almost all of the sun's damaging UV rays, thus providing protection against discoloration and damage to fabrics, furniture, wall coverings, furnishings, artworks, etc.



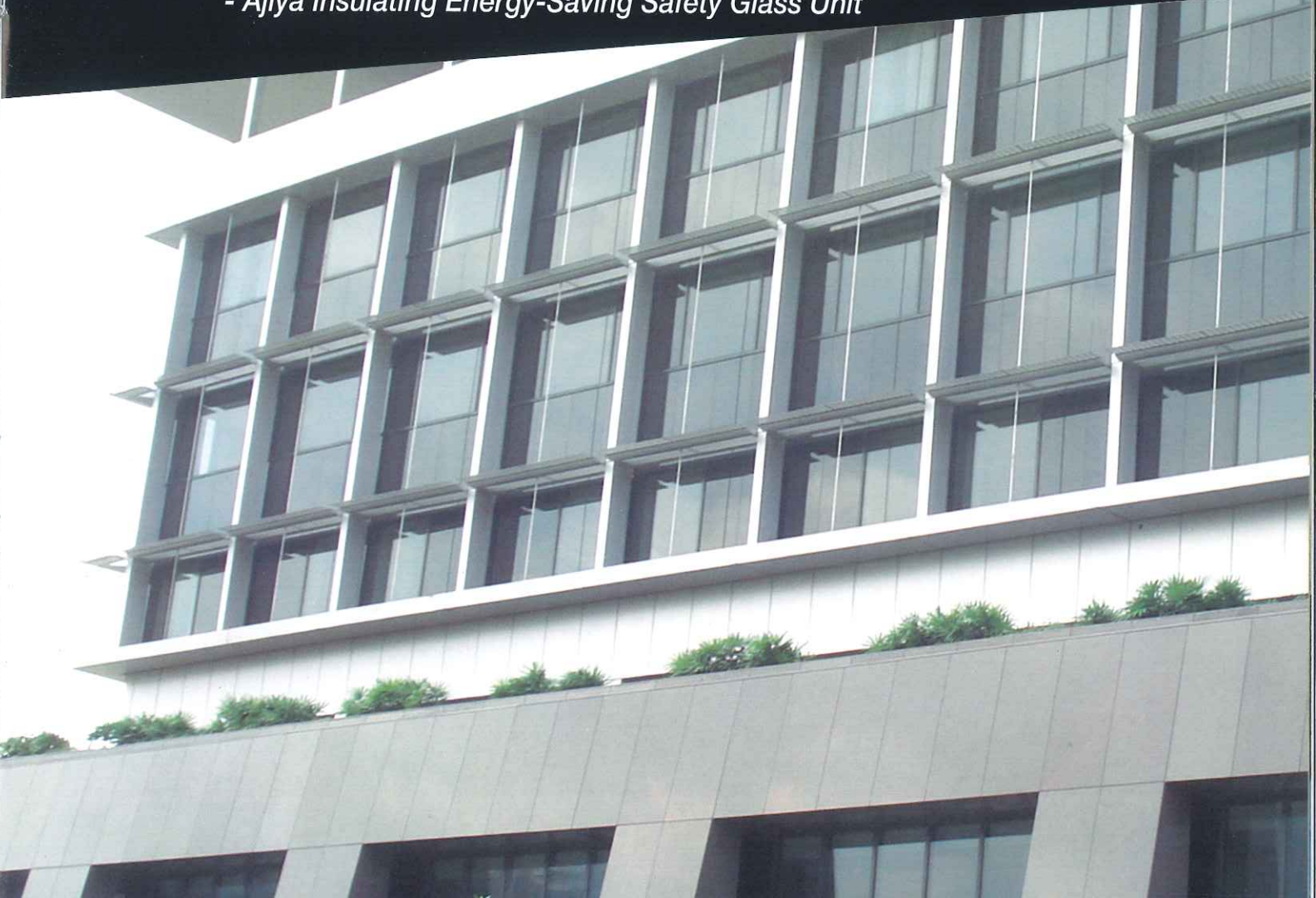
Breaking pattern of laminated safety glass





Insulating Glass

- Ajiya Insulating Energy-Saving Safety Glass Unit



Product Features

Durability

Ajiya Laminated Safety Glass will maintain its colour and strength for the life of the building.

Fire Retardancy

While standard laminated safety glass does not meet code requirements as a fire-resistant glass when exposed to flames and heat, it does not disintegrate easily like ordinary annealed glass, thus confining the fire longer, and giving more time for detection, evacuation and extinguishing.

Installation Versatility

Ajiya Laminated Safety Glass using annealed glass can be cut to size on site and can also be drilled or notched.

Product Applications

- Curtain walls
- Balustrades
- Spandrel glass
- Skylights
- Slope glazing
- Greenhouses

AJIYA LAMINATED SAFETY GLASS		
Production	Size (mm)	Thickness (mm)
Minimum	300x300	4.38
Maximum	5000x2250 4500x2400	80

Ajiya Insulating Energy-Saving Safety Glass Unit



Product Description

Ajiya Insulating Energy-Saving Safety Glass Unit is constructed from two or more plies of glass, separated by a desiccant-filled spacer and sealed with sealant. Ajiya Insulating Energy-Saving Safety Glass Unit can be constructed from a wide variety of combination options, depending on the tint and thickness of the glass, and the types of glass used.

- Curtain walls
- Windows

AJIYA INSULATING ENERGY-SAVING SAFETY GLASS UNIT

Production	Size (mm)	Thickness (mm)
Minimum	250x150	10
Maximum	3600x2400	52

Product Features

Thermal & Sound Insulation

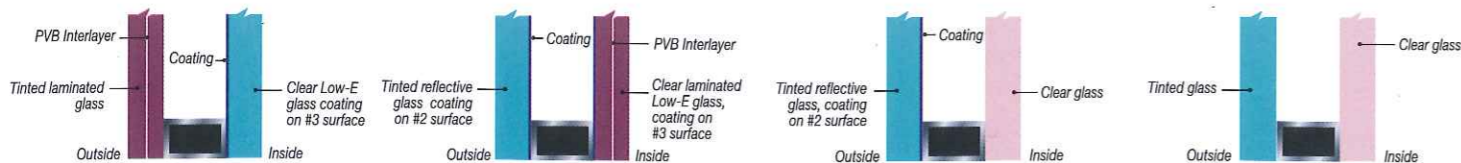
The enclosed layer of air in the insulating unit will improve the thermal and sound insulation capability of the insulating unit when compared with that of monolithic glass.

Prevention of Condensation

The insulating unit prevents dew condensation on the hot air side, thus ensuring perfect transparency.



EXAMPLES OF IGU CONFIGURATION



Decorative Glass

- Ajiya Decorative Coated Safety Glass



**Ajiya
Decorative
Coated
Safety Glass**

Product Description

Ajiya Decorative Coated Safety Glass is produced by applying ceramic or enamel paint onto the glass surface before being heat treated in a tempering furnace. A full range of decorative designs and colours can be created to suit every need. It can be used monolithically, laminated or double glazed.

- Curtain walls
- Windows
- Shower screens
- Canopies
- Privacy screens
- Doors
- Partitions
- Spandrel glass

Product Applications

Product Features

Scratch Resistant

After curing, the coating is fused to the glass and cannot be scratched off.

Fade Resistant

The colour of the coating is highly durable and will not fade even in harsh climates.

Reduce Glare

The patterned glass can be designed to reduce glare.

Reduce Solar Transmission

The patterned glass can also be designed to reduce solar transmission.

Wide Range of Colours

A wide range of standard colours are available. Custom colour is available upon special request.

Wide Range of Patterns

A wide range of standard patterns are available. Custom pattern is available upon special request.



Square



Polka-dot



Polka-dot



Lines

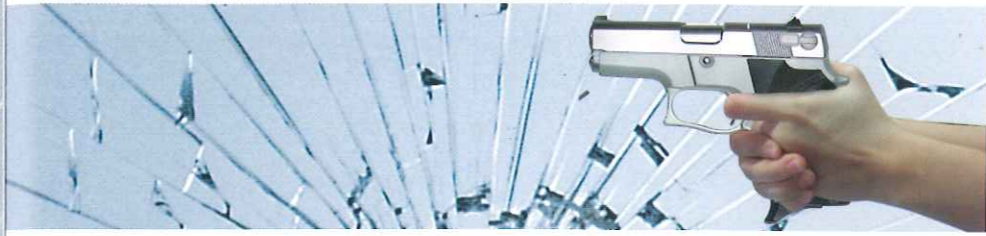
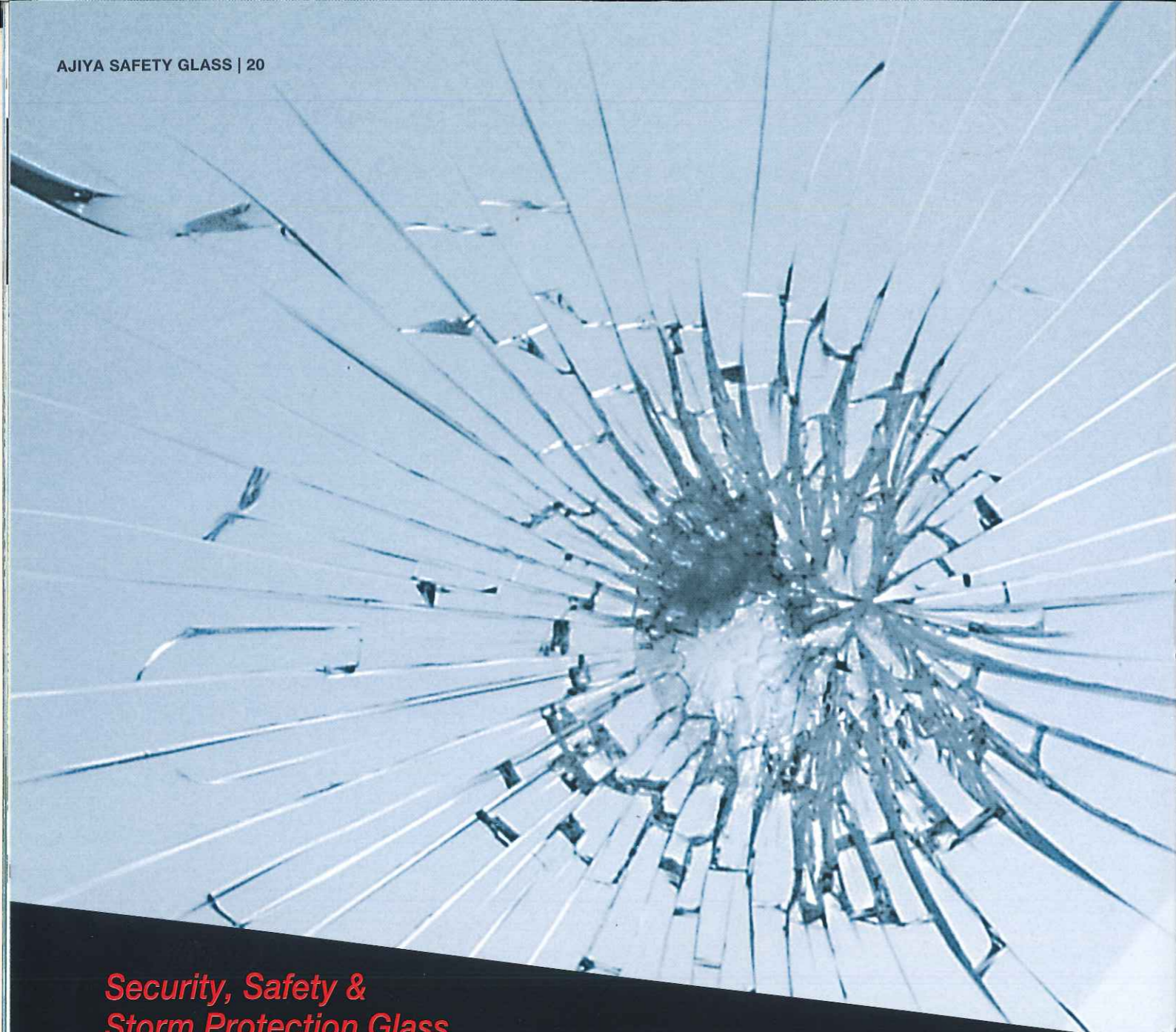


Lines



Solid Colours





Ajiya Bullet Resistant Safety Glass

Product Description

Ajiya Bullet Resistant Safety Glass range is designed to stop bullets and prevent spalling on the opposite side of the impact, while maintaining complete visibility and light transmission.

Ajiya Bullet Resistant Safety Glass is a high-quality composite that combines the properties of DuPont SentryGlas® Plus and Spallshield® with the abrasion resistance of glass. These laminated glass vary in thickness and composition according to the type of weapon and ammunition protected against, and the degree of protection required.

Product Features

Non-Spalling

The Spallshield® at the back face of the panel will provide anti-spalling protection.

Anti-Lacerative

Due to Spallshield®, a person impacting the glass on the protected side will not be lacerated by broken glass.

UV Protection

Nearly all the sun's damaging UV rays will be filtered out by the panel, thus providing protection against discolouration and damage to fabrics, furniture, wall coverings, furnishings, artworks, etc.

Thinner Panel

Ajiya Bullet Resistant Safety Glass is currently one of the thinnest bullet resistant glass in the market for the respective protection levels.

- Banks
- Cash counters
- Jewellery stores

Product Applications

Security, Safety & Storm Protection Glass

- Ajiya Bullet Resistant Safety Glass
- Ajiya Intrusion Resistant Safety Glass
- Ajiya Blast Resistant Safety Glass
- Ajiya Hurricane Resistant Safety Glass

CLASSIFICATION OF PANEL	TYPE OF WEAPON	CALIBRE	AMMUNITION	RANGE	NUMBER OF STRIKES	PANEL THICKNESS (mm)
G0	9mm Handgun	9mm Parabellum	8.0g FMJ	3m	3	16.78
G1	0.357 Magnum Handgun	0.357 Magnum	10.2g JSP	3m	3	25.06
G2	0.44 Magnum Handgun	0.44 Magnum	15.6g SWC	3m	3	32.06
R1	5.56 Rifle	5.56mm x 45	M193 3.6g	10m	3	37.06
R2	7.62 Rifle	7.62mm x 51	Nato Standard 9.3g	10m	3	48.34

Notes : The above protection levels are based in part on the Australian Standards ASNZS2343-1997. Due to research and development, the above specifications are subject to change.
 Abbreviations : FMJ - Full Metal Jacket, JSP - Jacketed Soft Point, SWC - Semi Wadcutter

Ajiya Blast Resistant Safety Glass

Introduction

Bomb blasts can kill and injure many people. It can destroy properties and cause massive damage. A small explosion can cause glass breakage in buildings several hundred feet away. Due to the ease in which an explosive device can be built, there has been an increase in bomb attacks world-wide.

Product Applications

- Embassies
- Police stations
- Military installations

Product Description

Ajiya has developed a range of blast resistant window systems to counter this threat. This system will consist of a multilaminated glazing comprising several layers of glass and DuPont Sentryglas® Plus ionoplast interlayer, backed up by a special window muntin system. This entire blast resistant window system is designed to sustain large elastic deformation prior to failure and will provide a safe and cost-effective solution.

Ajiya can advise on your requirements and conduct tests according to your specifications.

Ajiya Intrusion Resistant Safety Glass



Product Description

Ajiya Intrusion Resistant Safety Glass range is designed to protect against forced entry and physical attack.

Ajiya Intrusion Resistant Safety Glass is a high-quality composite that combines the properties of DuPont SentryGlas® Plus and Spallshield® with the abrasion resistance of glass. The thickness and composition of the glass will depend on the degree of protection required. It can withstand prolonged attack from heavy objects, axes, crow bars and other hand tools.

Product Applications

- Airports
- Hotels
- Homes
- Museums
- Retail outlets
- Prisons

Product Features

Non-Spalling
The Spallshield® at the back face of the panel will provide anti-spalling protection.

Anti-Lacerative
Due to Spallshield®, a person impacting the glass on the protected side will not be lacerated by broken glass.

UV Protection
Nearly all the sun's damaging UV rays will be filtered out by the panel, thus providing protection against discolouration and damage to fabrics, wall coverings, furnishings, artworks, etc.

Ajiya Hurricane Resistant Safety Glass

Product Description

Ajiya Hurricane Resistant Safety Glass is designed specifically for hurricane-prone areas. It is a high-quality composite that combines the extremely tough properties of DuPont SentryGlas® Plus with the abrasion resistance of glass. It is a product that offers glass on both the exterior and interior surfaces.

Product Applications

- Airports
- Hotels
- Homes
- Hospitals

Product Features

UV Protection

Nearly all the sun's damaging UV rays will be filtered out by the panel, thus providing protection against discoloration and damage to fabrics, furniture, wall coverings, furnishings, artworks, etc.

Withstand High Cyclic Pressures

Ajiya Hurricane Resistant Safety Glass can withstand the high cyclic wind pressures of a hurricane.

Technical Data

- General Properties
- Bending Strength
- Wind Pressure Resistance
- Sound Transmission
- Light And Heat Control

Technical Data

General Properties of Glass

Refractive Index	1.52
Hardness	6.0 - 6.5° (Mohs' scale)
Specific Heat	0.18 - 0.20 Kcal/kg°C (0 - 50°C)
Softening Temperature	720 - 730°C
Thermal Conductivity	0.65 - 0.68 Kcal/mh°C
Coefficient of Linear Expansion	8.5 - 8.9 x 10 ⁻⁶ /°C
Specific Gravity	2.5
Average Breaking Stress	500 kg/cm ²
Poisson's Ratio	0.23 - 0.25
Young's Modulus	720,000 - 730,000 kg/cm ²
Weather Resistance	Excellent

Bending Strength of Glass

Unit: kg/cm²

Glass Type	Thickness (mm)	Average Breaking Stress		Allowable Stress			
		Surface (σc)	Surface (σe)	Short Term		Long Term	
				Surface (σac)	Surface (σae)	Surface (σac)	Surface (σae)
Float	3, 5, 6, 8	500	360	250	180	100	70
	10	450	360	250	180	100	70
	12, 15, 19	375	360	200	180	80	70
Heat Strengthened	6, 8, 10	800	720	450	360	300	250
Tempered	4, 5, 6, 8, 10, 12, 15, 19	1500	1100	750	500	500	350

Note: Glass must be clean cut for applicability of table values.

Wind Pressure Resistance of Glass

Glass Type	Thickness (mm)	Average Failure Load (kg)	Allowable Load (kg)
Float	3	450	180
	4	650	260
	5	900	360
	6	1100	440
	8	2000	800
	10	2500	1000
	12	3000	1200
Tempered	4	1950	780
	5	2700	1080
	6	3300	1320
	8	6000	2400
	10	7500	3000
	12	9000	3600
	15	12750	5100
Annealed Laminated	3+3	625	250
	5+5	1350	540
	6+6	1800	720
	8+8	2875	1150
	10+10	4200	1680
	12+12	5750	2300
	15+15	8550	3420

Note: Allowable Failure Load = Average wind pressure (kg/m²) x Area of glass (m²) , Allowable Load = Allowable wind pressure (kg/m²) x Area of glass

Terms and Definitions

Relative Heat Gain (RHG)

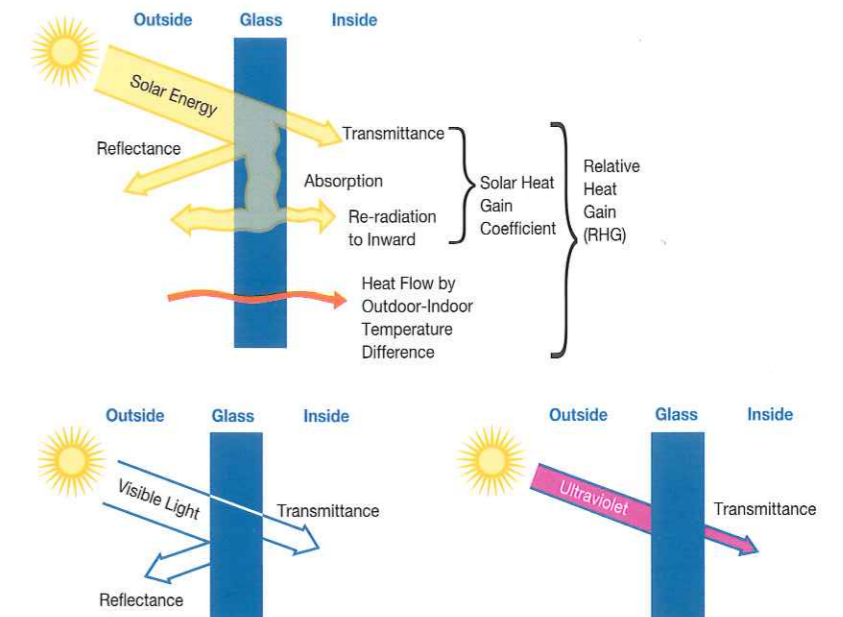
The amount of heat gained through glass taking into consideration U-value and shading coefficient. Using the ASHRAE standard, relative heat gain is calculated as follows:

$$RHG = \text{Summer U-value} \times 7.8 + \text{shading coefficient} \times 630$$

Shading coefficient

Shading coefficient is the ratio of solar heat gain coefficient of a specific type of glass to the solar heat gain coefficient of a 1/8" (3mm) clear glass. (=0.87)

$$\text{Shading coefficient} = \frac{\text{solar heat gain coefficient}}{0.87}$$



Technical Data

Sound Transmission Loss (TL) Measurements of Glass

Glass Type	Thick-ness (mm)	Frequency (Hertz)																STC (dB)
		100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	

Monolithic

3mm	3	10	20	19	19	20	22	23	25	26	28	30	31	32	33	34	32	22	26	26
6mm	6	15	25	24	24	25	27	28	30	32	33	34	34	33	27	28	30	34	37	31
10mm	10	19	28	28	28	29	30	33	34	35	35	33	29	32	34	38	40	44	47	33
12mm	12	21	30	29	30	29	32	33	34	35	34	29	32	36	38	40	43	47	50	34

Laminated - 2 Ply

3/0.38/3	6.38	15	25	24	24	25	26	28	29	32	33	35	34	33	29	30	32	37	41	32
3/0.76/3	6.76	14	25	25	24	25	27	28	29	32	33	34	34	33	30	31	33	38	42	32
4/0.38/4	8.38	20	27	27	27	28	31	32	34	36	37	36	35	32	34	34	39	44	46	35
6/0.38/6	12.38	23	30	30	30	31	33	35	35	36	36	33	35	36	39	43	45	48	50	37
6/0.76/6	12.76	23	30	30	30	31	33	35	35	36	36	33	35	37	40	49	45	48	50	37

Laminated - 3 Ply

3/0.76/6 0.76/4	14.52	24	32	31	31	32	35	35	35	35	33	35	37	41	46	46	48	50	52	38
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Insulating Glass Unit (IGU)

3+A12+3	18	15	23	23	18	17	16	17	21	24	29	34	37	40	39	40	37	26	34	26
6+A12+6	24	19	27	26	19	22	23	27	30	35	37	40	41	40	31	33	38	43	49	33

Single Laminated (IGU)

3/.76/3+ A12+6	24.76	22	27	27	22	23	24	28	31	36	38	41	43	41	34	35	40	46	53	34
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Note: The above data are based on tested samples or calculated estimation.

Light & Heat Control Characteristics of Glass

Glass Type	Thick-ness (mm)	Visible Light		Solar Energy			Relative Heat Gain (W/m ²)	Shading Coefficient	U-value (W/m ² k)
		Trn (%)	Ref (%)	Trn (%)	Ref (%)	Abs (%)			

Monolithic Clear

3mm	3	91	8	88	8	4	681	1.01	5.82
6mm	6	89	8	80	7	13	651	0.96	5.79
10mm	10	87	8	73	7	20	612	0.90	5.70
12mm	12	86	8	70	7	23	595	0.87	5.66

Monolithic Tinted

6mm Bronze	6	48	6	50	6	44	498	0.71	6.14
6mm Dark Grey	6	13	4	31	5	64	404	0.56	6.31

Laminated - 2 Ply (Clear Glass with Clear PVB)

3/0.38/3	6.38	89	8	78	8	14	637	0.94	5.73
5/0.38/5	10.38	86	8	72	7	22	599	0.88	5.66
6/0.38/6	12.38	86	8	67	7	16	580	0.85	5.62

Laminated - 2 Ply (Clear Glass with Tinted PVB)

3/0.38/3 A.Blue	6.38	76	7	68	7	25	589	0.86	5.86
3/0.38/3 Bronze	6.38	52	6	50	6	44	498	0.71	6.07
3/0.38/3 T.White	6.38	66	13	58	9	32	532	0.77	5.95

Clear Insulating Glass Unit (IGU)

6+A12+6	24	80	14	64	11	24	549	0.83	3.11
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Based on the following conditions	Solar Intensity	Outside Air Temperature	Inside Air Temperature
	782 W/m ²	32°C	24°C

- Notes:
 1. The above tables contain just some of the glass being offered by Ajija. Please contact Ajija's Technical Services Department for performance information of glass not listed above.
 2. The value and performance shown in the above tables are typical values only. Individual measurements may vary slightly from these values.

Double Glazed

Description of Glass	Visible Light (%)			Solar Energy (%)			American U-value (W/m ² k)	Shading Coefficient
	Transmittance	Reflectance		Transmittance	Reflectance	Absorption		
		Outdoor	Indoor				Summer Daylight	
Double glazed glass consisting of: 8mm ASG Blue Float with 30% ceramic coverage on surface #2 + 12mm Airspace + 8mm ASG Clear Low E#3	24.18	9.89	21.01	13.74	7.50	78.76	2.59	0.32
Double glazed glass consisting of: 8mm ASG Green Float with 30% ceramic coverage on surface #2 + 12mm Airspace + 8mm ASG Clear Low E#3	30.19	13.40	21.66	12.12	7.24	80.64	2.62	0.28
Double glazed glass consisting of: 8mm ASG Green Float with 100% ceramic coverage on surface #2 + 12mm Airspace + 8mm ASG Clear Float	0.22	23.00	74.45	0.10	10.32	89.58	3.30	0.15
Double glazed glass consisting of: 8mm ASG Solar Control Green #2 + 12mm Airspace + 8mm ASG Green Float	19.41	16.37	19.05	7.04	8.07	84.89	3.33	0.26
Double glazed glass consisting of: 8mm ASG Green Float with 30% coverage ceramic printing on surface #2 + 12mm Airspace + 8mm ASG Clear Low E Float #3	33.35	12.65	22.09	11.85	7.31	80.84	1.92	0.21

Glass Reference	Visible Light Transmittance (%)	Visible Light Reflectance (%)	Solar Direct Transmittance (%)	Solar Direct Reflectance (%)	Solar Direct Absorption (%)	U factor (W/m ² .°C)	Shading Coefficient
8mm ASG Solar Control Green #2 + 1.52 mm Clear PVB + 8mm ASG Green Low-E #4	18.94	12.96	6.84	7.16	86.00	3.84	0.25

Note: 1. Sample size was limited to 100 x 100mm to fit into the spectrometer. 2. Test was conducted at NMC, 1 Science Park Drive, Singapore 118221.

Quality Assurance

Ajiya is committed to producing products of the highest quality and has been awarded the following certifications :



SIRIM QAS
INTERNATIONAL

NO. PENDAFTARAN: AR 2562
Registration No.:

SIJIL PENDAFTARAN SISTEM KUALITI
Quality System Registration Certificate

SIRIM QAS International Sdn. Bhd. dengan ini mengesahkan bahawa SIRIM QAS International Sdn. Bhd. hereby certifies that

AJIYA SAFETY GLASS SDN. BHD.
LOT 676, 1KM, LEBUH RAYA SEGAMAT-KUANTAN
85000 SEGAMAT JOHOR DARUL TAKZIM
MALAYSIA

telah melaksanakan Sistem Kualiti yang menepati has implemented a Quality System complying with

MS ISO 9001 : 2000 Quality Management Systems - Requirements

Skop Pendaftaran
Scope of Registration

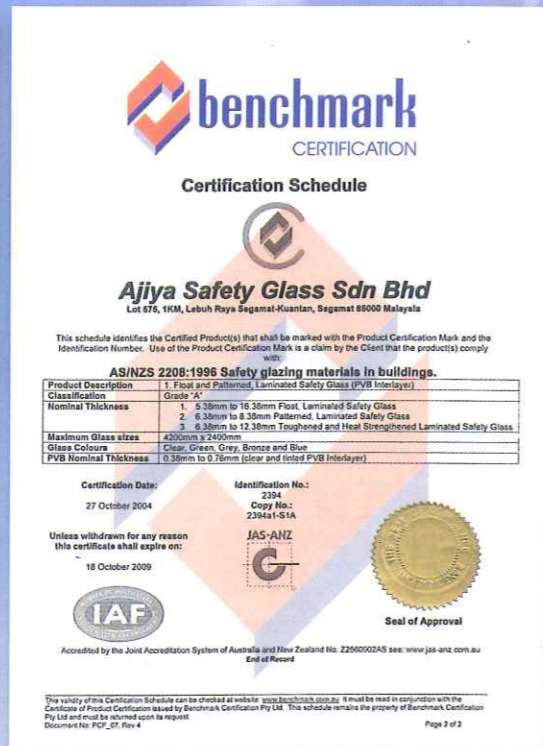
MANUFACTURE OF TEMPERED SAFETY GLASS, LAMINATED SAFETY GLASS, DOUBLE-GLAZING UNITS AND CERAMIC FRIT COATED TEMPERED SAFETY GLASS FOR VARIOUS INDUSTRIES SUCH AS BUILDING, MARINE, FURNITURE AND HOME APPLIANCES.

Hj. Ab. Razak bin Ballim
Pangarah Eksekutif
Executive Director
SIRIM QAS International Sdn. Bhd.

Dato' Dr. Mohd. Arifin bin H. Aton
Pangarah
Chairman
SIRIM QAS International Sdn. Bhd.

Tarikh Persejian :
Certification Date : 21 January 2002

Bah Bahnggan :
Copy Date : 20 January 2008 No. SH : 0837
Serial No. :



benchmark
CERTIFICATION

Certification Schedule

Ajiya Safety Glass Sdn Bhd
Lot 676, 1KM, Lebu Raya Segamat-Kuantan, Segamat 85000 Malaysia

This schedule identifies the Certified Product(s) that shall be marked with the Product Certification Mark and the Identification Number. Use of the Product Certification Mark is a claim by the Client that the product(s) comply with:

AS/NZS 2208:1996 Safety glazing materials in buildings.

Product Description	1. Float and Patterned, Laminated Safety Glass (PVB Interlayer)
Classification	Grade 'A'
Nominal Thickness	1. 6.38mm to 16.38mm Float, Laminated Safety Glass 2. 6.38mm to 9.38mm Patterned, Laminated Safety Glass 3. 6.38mm to 12.38mm Toughened and Heat Strengthened Laminated Safety Glass
Maximum Glass sizes	4200mm x 2400mm
Glass Colours	Clear, Green, Grey, Bronze and Blue
PVB Nominal Thickness	0.38mm to 0.76mm (clear and tinted PVB Interlayer)

Certification Date: 27 October 2004
Identification No.: 2394
Copy No.: 2394s1-S1A

Unless withdrawn for any reason this certificate shall expire on: 18 October 2009

IAF **JAS-ANZ** **Seal of Approval**

Accredited by the Joint Accreditation System of Australia and New Zealand No. Z256002AS see: www.jas-anz.com.au
End of Record

The validity of this Certification Schedule can be checked at website: www.benchmark.com.au. It must be read in conjunction with the Certificate of Product Certification issued by Benchmark Certification Pty Ltd. This schedule remains the property of Benchmark Certification Pty Ltd and must be returned upon its request.
Document No. PCF_27_Rev 4 Page 2 of 2



benchmark
CERTIFICATION

Certification Schedule

Ajiya Safety Glass Sdn Bhd
Lot 676, 1KM, Lebu Raya Segamat-Kuantan, Segamat 85000 Malaysia

This schedule identifies the Certified Product(s) that shall be marked with the Product Certification Mark and the Identification Number. Use of the Product Certification Mark is a claim by the Client that the product(s) comply with:

AS/NZS 2208:1996 Safety glazing materials in buildings.

Product Description	1. Float and Patterned, Toughened Safety Glass
Classification	Grade 'A'
Nominal Thickness	3mm to 12mm (Float glass) 4mm to 8mm (Pattern glass)
Maximum Glass sizes	Length 4800mm x Width 2400mm (Furniture 1&2) Length 3400mm x Width 1200mm (Furniture 3)
Glass Colours	Clear, Green, Grey, Blue and Bronze
Patterns	Multiple

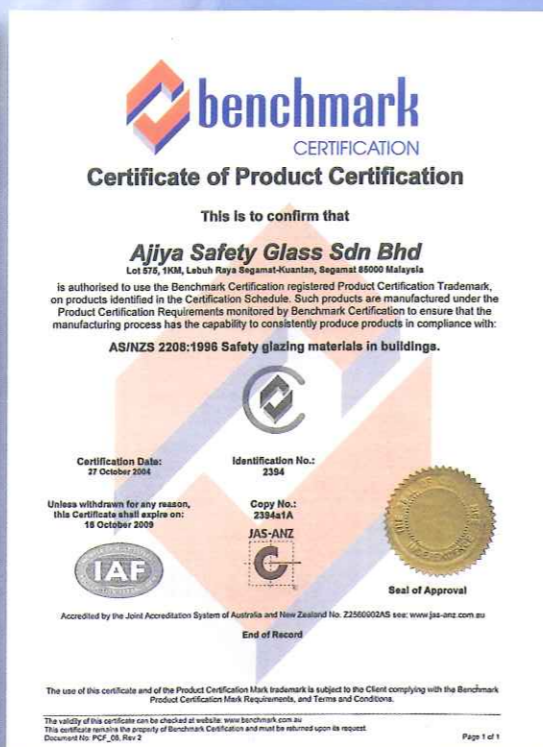
Certification Date: 27 October 2004
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Document No. PCF_27_Rev 4 Page 1 of 2



benchmark
CERTIFICATION

Certificate of Product Certification

This is to confirm that

Ajiya Safety Glass Sdn Bhd
Lot 676, 1KM, Lebu Raya Segamat-Kuantan, Segamat 85000 Malaysia

is authorized to use the Benchmark Certification registered Product Certification Trademark, on products identified in the Certification Schedule. Such products are manufactured under the Product Certification Requirements monitored by Benchmark Certification to ensure that the manufacturing process has the capability to consistently produce products in compliance with:

AS/NZS 2208:1996 Safety glazing materials in buildings.

Certification Date: 27 October 2004
Identification No.: 2394
Copy No.: 2394s1A

Unless withdrawn for any reason, this Certificate shall expire on: 18 October 2009

IAF **JAS-ANZ** **Seal of Approval**

Accredited by the Joint Accreditation System of Australia and New Zealand No. Z256002AS see: www.jas-anz.com.au
End of Record

The use of this certificate and of the Product Certification Mark trademark is subject to the Client complying with the Benchmark Product Certification Mark Requirements, and Terms and Conditions.
The validity of this certificate can be checked at website: www.benchmark.com.au
This certificate remains the property of Benchmark Certification and must be returned upon its request.
Document No. PCF_28_Rev 2 Page 1 of 1



AJIYA SAFETY GLASS SDN. BHD.
ASG MARKETING SDN. BHD.

Corporate Head Office & Factory

Lot 575, 1km,
Lebuhraya Segamat-Kuantan,
85000 Segamat, Johor,
Malaysia.
Tel: +607-9313 133
Fax: +607-9313 142

Marketing Head Office & Factory

6, Jalan PPU 3,
Taman Perindustrian Puchong Utama,
47100 Puchong, Selangor,
Malaysia.
Tel: +603-8062 3939
Fax: +603-8062 1113
E-mail: asgmt@ajiya.com
Web site: <http://www.ajiya.com>

Singapore Agent

AJIYA BUILDING MATERIAL PTE. LTD.
Blk 22, Woodlands Link,
#02-06, Woodlands East Industrial Estate,
Singapore 738734
Tel: +65-6852 1551, +65-6852 1661
Fax: +65-6852 1221
E-mail: ajiya@singnet.com.sg



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