



**ASTEEL AJIYA SAFETY GLASS**





# ASTEEL AJIYA

## HEAT TREATED GLASS

**ASTEEL AJIYA HEAT TREATED GLASS** consists of:-

**ASTEEL AJIYA Tempered Safety Glass**

**ASTEEL AJIYA Heat Strengthened Glass**

**ASTEEL AJIYA Curved Tempered Safety Glass**

### ASTEEL AJIYA Tempered Safety Glass

#### Product Description

ASTEEL 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 9700 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 surface simultaneously. ASTEEL AJIYA Tempered Safety Glass, when broken, breaks into a multitude of small fragments, thus protecting against serious injuries.

#### Product Features

##### Safety & Standards

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

##### Strength

ASTEEL 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.

##### Thermal Stress Resistant

ASTEEL 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

ASTEEL 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

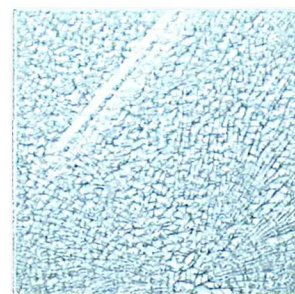
In addition to clear glass, ASTEEL AJIYA Tempered Safety Glass also comes in various colours or tints, and can be reflective and Low-E as well.

#### Special Heat Soaking

ASTEEL AJIYA also offers heat soaking for its tempered safety glass. This process potentially reduces the risk of spontaneous breakage

**Product Application:** Curtain walls, balustrades, shop fronts, windows, frameless glass doors, greenhouses, showcases, escalator side panels, showcases.

Breaking pattern of tempered safety glass



SPECIFICATION	PRODUCT SIZE (mm)		PRODUCT THICKNESS (mm)	
	Minimum	Maximum	Minimum	Maximum
Tempered Glass	180x180	6000x3000	3.0	19



# ASTEEL AJIYA HEAT STRENGTHENED GLASS

## Product Description

ASTEEL AJIYA Heat Strengthened Glass is a heat treated glass with a residual surface compression greater than 3500 psi and less than 10,000 psi, or an edge compression greater than 5500 psi and less than 9700 psi.. It is manufactured similarly to ASTEEL AJIYA TemperedSafety Glass, except this glass is colled less rapidly. When broken, the break pattern will vary according to the suface compression.

## Product Features

### Safety & Standards

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

### Strength

ASTEEL 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

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

### Fabrication

ASTEEL 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, ASTEEL AJIYA Heat Strengthened Glass also comes in various colours or tints, and can be reflective and Low-E as well.

### Product Application:

Curtain walls, balustrades, Windows

SPECIFICATION	PRODUCT SIZE (mm)		PRODUCT THICKNESS (mm)	
	Minimum	Maximum	Minimum	Maximum
Heat Strengthened Glass	180x180	6000x3000	3.0	10

# ASTEEL AJIYA CURVED TEMPERED SAFETY GLASS

## Product Description

ASTEEL 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.

## Product Features

### Safety

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

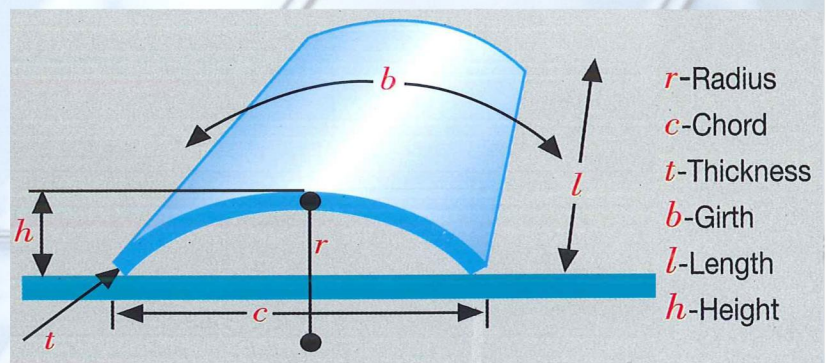
### Strength

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

### Thermal Stress Resistant

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

**Product Application:** Curtain walls, corner windows, curved shower screens, skylights, display windows & showcases.



SPECIFICATION	PRODUCT SIZE (mm)		PRODUCT THICKNESS (mm)	
	Minimum	Maximum	Minimum	Maximum
Curved Tempered Glass	180x180	6000x3000	3.0	10



# ASTEEL AJIYA

## LAMINATED SAFETY GLASS

### Product Description

ASTEEL 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. ASTEEL 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.

### Product Features

#### Safety & Standards

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

#### Impact Performance

Under impact, ASTEEL 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 ASTEEL 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

ASTEEL 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.

Breaking pattern of laminated safety glass

#### UV Control

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

#### Durability

ASTEEL 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

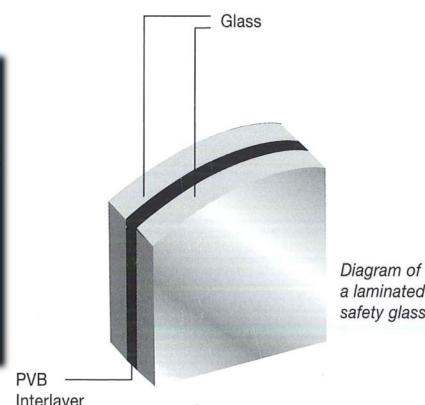
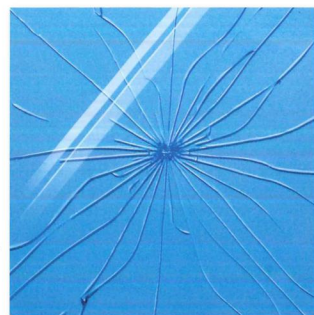
ASTEEL AJIYA Laminated Safety Glass using annealed glass can be cut to size on site and can also be drilled or notched.

#### Low Visible Distortion

Sharp reflected images are possible with curtain walls constructed from laminated safety glass using annealed glass.

#### Product Application:

Curtain walls, balustrades, spandrel glass, skylights, slope glazing, greenhouses.



SPECIFICATION	PRODUCT SIZE (mm)		PRODUCT THICKNESS (mm)	
Types of Process	Minimum	Maximum	Minimum	Maximum
Laminated Glass	300x300	5000x2250 4500x2400	4.38	80



# ASTEEL AJIYA

## INSULATING ENERGY-SAVING SAFETY GLASS UNIT

### Product Description

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

### Product Features

#### Thermal & Sound Insulation

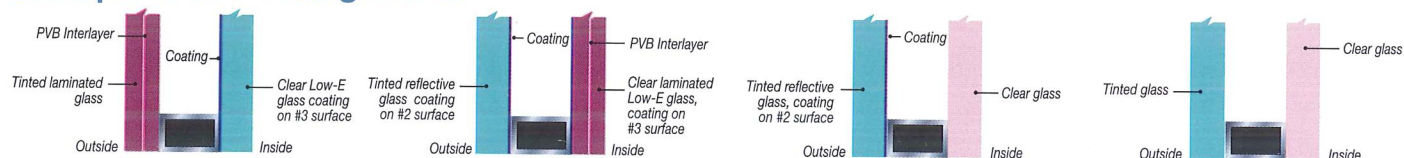
The enclosed layer of air in the insulating unit will improve the thermal and sound insulation capability of the insulating unit when compared with that of monolithic glass.

### Prevention of Condensation

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



### Example of IGU Configuration



### Product Application: Curtain walls, windows

SPECIFICATION	PRODUCT SIZE (mm)		PRODUCT THICKNESS (mm)	
	Minimum	Maximum	Minimum	Maximum
Insulating Energy-Saving Safety Glass Unit	250x150	3600x2400	10	52





### Product Description

ASTEEL AJIYA Decorative Coated Safety Glass is produced by applying ceramic or enamel paint onto the glass surface before heat treated in 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.

### 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

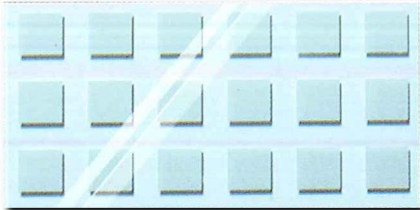
A wide range of standard colours are available. Custom colour is available upon special request.

#### Wide Range of Patterns

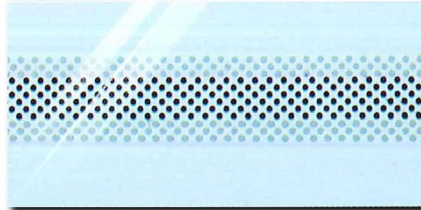
A wide range of standard patterns are available. Custom pattern is available upon special request.

**Colour Selection:** Black White, White Translucent, Red, Blue, Yellow, Grey, Green, Antiskid

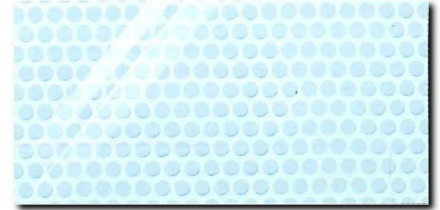
Square



Polka-dot



Polka-dot



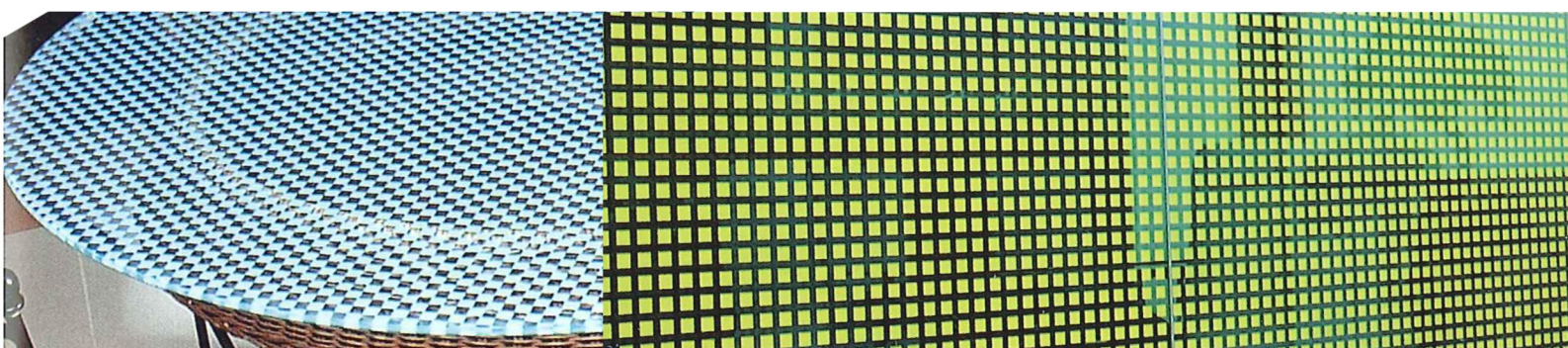
Lines



Lines



Solid Colours





# PROJECT REFERENCES



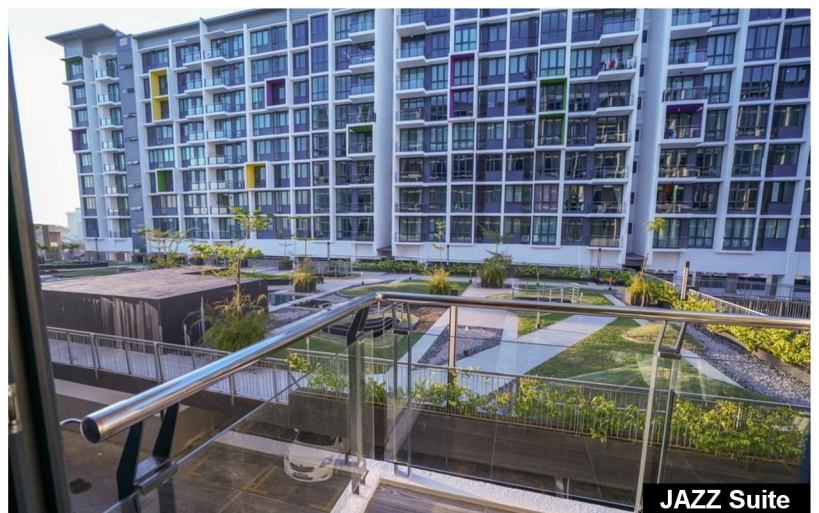
**The Park Residence**



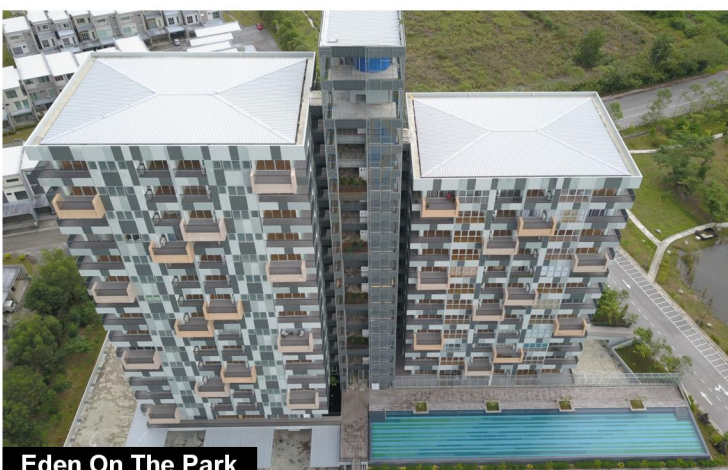
**Plaza Merdeka Shopping Mall**



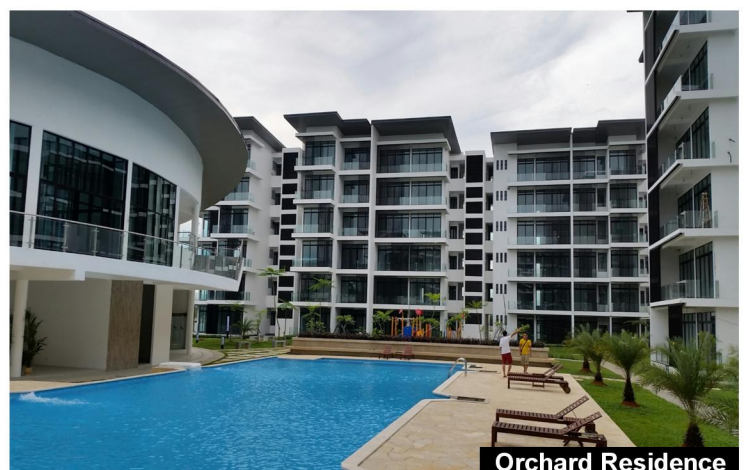
**AEON Mall Kuching Centre**



**JAZZ Suite**



**Eden On The Park**



**Orchard Residence**





ASTEEL GROUP



ASTEEL AJIYA

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