

# Mirror Plates

-Glass Type / Acrylic Type-



# Fused Silica Plates Square / Round

Two types of mirror, glass and Acrylic, to check work are available. Mounting holes are selectable from through hole or countersink.

No Adhesive Type	With Adhesive Type	Material	Heat-resistant Temperature Continuous Use
MRG	MRGA	Glass	80°C
MRA	MRAA	Acrylic	50°C

Mirror Structure

Heat resistant temperature will be largely depending on the operating condition. Values are not guaranteed.

### Standard Type

⊙ A≥B Circumference Chamfering C1.0~2.0

### Pre-drilled Type

⊙ Keep a dimension of 5mm or more between hole end and glass end.

### Drilling Details

Bolt Nominal Dia.	3
d	3.5
d1	7.5
h	2

Quartz Glass highly excels in light transmittance in ultraviolet region. Can be specified in 1mm increments.

Type	Shape	Material	Heat-resistant Temperature	
			Continuous Use	Max.
FGLKS	Square	Fused Transparent Quartz Glass	1000°C	1200°C
FGLMS	Round			

Heat resistant temperature will be largely depending on the operating condition. Values are not guaranteed.

### Square

⊙ A≥B Circumference Chamfering C0.3~1.0

### Round

⊙ T Dimension Tolerance ±0.3

### Standard Type

Part Number		T	1mm Increment	
Type			A	B
No Adhesive	With Adhesive	3	10~300	10~300
MRG	MRGA (Glass Mirror)			
MRA	MRAA (Acrylic Mirror)			

### Comparison of Glass and Acrylic Mirror Features

	Weight	Scratch Resistance	Break	Heat Resistance	Chemical Resistance
Glass Mirror	Heavy (Specific Gravity 2.5)	O	Frangible	80°C	O
Acrylic Mirror	Light (Specific Gravity 1.2)	X	Irrefrangible	50°C	X (Organic solvents resistance)

### Pre-drilled Type

Part Number		T	1mm Increment				Select Mounting Holes	
Type			A	B	F	G	N (Through Hole)	P (Countersink)
No Adhesive	With Adhesive	3	10~300	10~300	9~241	9~241	5	3
MRG	MRGA (Glass Mirror)							
MRA	MRAA (Acrylic Mirror)							

### Glass Mirror

Part Number	A 1mm Increments	Unit Price				
		10~50	51~100	101~150	151~200	201~300
MRG No Adhesive	3	10~50	656	-	-	-
	3	51~100	765	874	-	-
		101~150	788	929	1,092	-
		151~200	819	983	1,183	1,311
		201~300	874	1,038	1,252	1,365
MRGA With Adhesive	3	10~50	783	-	-	-
	3	51~100	915	1,047	-	-
		101~150	942	1,111	1,311	-
		151~200	983	1,179	1,420	1,570
		201~300	1,047	1,243	1,502	1,638

### Acrylic Mirror

Part Number	A 1mm Increments	Unit Price				
		10~50	51~100	101~150	151~200	201~300
MRA No Adhesive	3	10~50	883	-	-	-
	3	51~100	1,029	1,179	-	-
		101~150	1,061	1,252	1,475	-
		151~200	1,106	1,325	1,598	1,766
		201~300	1,179	1,397	1,689	1,911
MRAA With Adhesive	3	10~50	1,056	-	-	-
	3	51~100	1,234	1,411	-	-
		101~150	1,270	1,502	1,766	-
		151~200	1,325	1,588	1,916	2,116
		201~300	1,411	1,707	2,025	2,294

### Hole Charge

Drilling Type	Hole Charge	
	N (Through hole)	P (Countersink)
2H	410	455
4H	819	910

⊙ Pre-drilled Type Price = Standard Type Unit Price + Hole Charges

Example: Part Number - A - B - F - G - Bolt Nominal

MRG4H3 - 200 - 180 - F160 - G140 - N5

(Standard Type Unit Price) + (Drilling Charge) = (Pre-drilled Type Unit Price)

1,311 + 819 = 2,130 Baht

### Example

As an indirect light angle adjuster of an image processing device

Order Example: Part Number - A - B - MRG3 - 250 - 100

Delivery: Glass Mirror 7 Days, Acrylic Mirror / Pre-drilled Type 9 Days

Price: Volume Discount Rate (Round up to the Baht.) P.87

Qty.	1~4	5~9	10~19
Discount Rate	Unit Price	5%	10%

⊙ For orders larger than indicated quantity, please request a quotation.

### Seals of With Adhesive Type

Rear Face of Mirror

Double-sided Seal

5~10mm

For easy attachment, the size of double-faced adhesive tape is smaller than that of the mirror. (Approx. 5mm~10mm)

Seals are not attached to mirrors for shipping. Seal thickness is 2mm.

⊙ It may fall due to its own weight depending on its size. Avoid mounting only by the adhesive sheets.

⊙ Avoid use in the areas splashed with water, which may cause dirt and tarnishing on mirrors.

### Square

Part Number	A 1mm Increment	Unit Price				
		B 1mm Increment				
Type	T	20~100	101~150	151~200	201~250	251~300
FGLKS	1	20~50	5,278	-	-	-
		51~100	9,401	-	-	-
		101~150	13,587	19,656	-	-
	2	151~200	17,773	25,722	33,670	-
		201~250	21,658	31,787	35,490	39,413
251~300	26,086	35,490	37,993	46,865	55,738	
FGLMS	1	20~100	9,401	-	-	-
		101~150	13,587	19,656	-	-
		151~200	17,773	25,722	33,670	-
	2	201~250	21,658	31,787	35,490	39,413
		251~300	26,086	35,490	37,993	46,865

### Round

Part Number	T	Unit Price				
		D 1mm Increment				
Type		20~100	101~150	151~200	201~250	251~300
FGLMS	1	8,491	18,865	-	-	-
	2	9,100	19,110	32,760	40,122	56,725
	3	9,401	19,656	33,670	40,950	57,908

Order Example: Part Number - A - B - FGLKS2 - 200 - 154

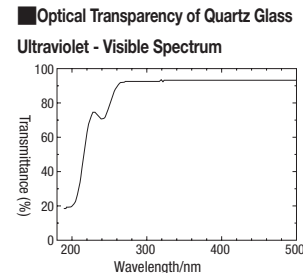
Part Number - D - FGLMS1 - 150

Delivery: 9 Days

Price: Volume Discount Rate (Round up to the Baht.) P.87

Qty.	1~4	5~9	10~19
Discount Rate	Unit Price	5%	10%

⊙ For orders larger than indicated quantity, please request a quotation.



### Features of Quartz Glass

Transparent quartz glass highly excels in light transmittance at all wavelengths as compared to other general glasses (silicate glasses).

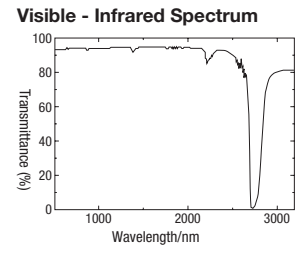
In the infrared region, it has better transmission and transparency range than normal glasses except for special glasses for the infrared.

In ultraviolet region, especially short wavelength ultraviolet region, it shows excellent transparency.

- Features of Oxy-hydrogen Fused Transparent Quartz Glass  
Quartz glasses made by melting crystals with Oxhydrogen flame. It has high purity and little air bubbles.  
Best suited as the material for tools for semiconductor manufacturing and physicochemical equipments.

### Example

As a cover for the UV irradiation device



### Mechanical characteristics of Quartz Glass

Purity (%)	≥99.9
OH (ppm)	200
Density (g/cm³)	2.2
Vickers Hardness (Mpa)	8900
Young's Modulus (Gpa)	74
Rigidity Modulus (Gpa)	31
Poisson ratio	0.17
Bending Strength (Mpa)	94.3
Compression Strength (Mpa)	1130
Tensile Strength (Mpa)	49
Torsion Strength (Mpa)	29

### Precaution for Use

- Make sure that plates are clean before use.
- Transparent quartz glasses have to be kept away from water and impurities.
- Do not place them in high-temperature atmosphere if they are wet. When using in high temperature, dry them well before use.
- Note that the glasses may be devitrified depending on the operating atmosphere.
- More resistant to quick heating and cooling and 10 times stronger than normal glasses. However, not resistant to extreme temperature changes.
- Has low thermal conductivity and may have cracks due to local, quick heating or cooling. The heat and impact resistance becomes lower as glasses get thicker.
- If temperature increases (decreases) with other objects attached to the quartz glasses, they may break due to thermal expansion differentials. Be careful when increasing (decreasing) temperature with other objects attached.
- If quartz glasses are used at high temperature for a long period of time, they may be deformed little by little due to their own weight or other loads. Their life span may become longer if support methods or conditions of use are designed specific to the application.