石英玻璃片

通常由石英玻璃切割、研磨、抛光而成，其二氧化硅含量可达 99.99%以上。硬度为莫式七级，具有耐高温、热膨胀系数低、耐热震性和电绝缘性能良好等特点。

石英玻璃片通常为无色透明类，可见光透过率 85%以上。石英玻璃从大的制作范围上可以分为熔融石英玻璃和合成石英玻璃两大类。耐热性、透光性、电气绝缘性、化学稳定性都非常地优良。

物理性能

石英玻璃片是用二氧化硅制造的特种工业技术玻璃，是一种非常优良的基础材料。石英玻璃片具有一系列优良的物理、化学性能，如：

1、耐高温。石英玻璃的软化点温度约 1730℃，可在 1100℃下长时间使用，短时间最高使用温度可达 1450℃。

2、耐腐蚀。除氢氟酸外，石英玻璃几乎不与其他酸类物质发生化学反应，其耐酸能力是陶瓷的 30 倍，不锈钢的 150 倍，尤其是在高温下的化学稳定性，是其他任何工程材料都无法比拟的。

3、热稳定性好。适应玻璃的热膨胀系数极小，能承受剧烈的温度变化，将石英玻璃加热至 1100℃左右，放入常温水中也不会炸裂。

4、透光性能好。石英玻璃片在紫外线到红外线的整个光谱波段都有交好的透光性能，可见光透过率在 93%以上，特别是在紫外线光谱区，最大透过率可达 80 以上。

5、石英玻璃的电绝缘性能好。石英玻璃的电阻值相当于普通玻璃的 100 倍，是

极好的电绝缘材料，即使在常温下也具有良好的电性能。

光学性能

石英玻璃片的光学性能有其独到之处，它既可以透过远紫外线，是所有透紫外材料最优者，又可透过可见光可近红外光谱。由于石英玻璃耐高温，热膨胀系数极小，化学稳定性好，气泡、条纹、均匀性、双折射又可与一般光学玻璃媲美，所以它是在各种恶劣场合下工作具有高稳定度光学系数的必不可少的光学材料。
按其光学性能可分为三类：

远紫外类 JGS1

在紫外和可见光谱范围内透明；在 185-250nm 波段范围内无吸收带；在 2600-2800nm 波段范围内有强吸收带；非发光，光辐射稳定。

紫外类 JGS2

在紫外和可见光谱范围内透明;在 200-250nm 波段范围内无吸收带；在 2600-2800nm 波段范围内有强吸收带；非发光，光辐射稳定。

红外类 JGS3

在可见和红外光谱范围内透明；在 2600-2800nm 波段范围内无明显吸收带。和普通硅酸盐玻璃相比，透明石英玻璃在整个波长头优良的透过性能。在红外区光谱透过比普通玻璃大；在可见区，石英玻璃的透过率也是比较高的。在紫外光谱区特别是在短波紫外区，光谱透过比其他玻璃好的多。

适应领域： 半导体LAM、TEL，设备视窗片，光学领域

Quartz glass plate

Quartz glass plate is usually cut, ground and polished from quartz glass, and the SiO2 can reach more than 99.99% with hardnessMorse 7, and it has the characteristics of high temperature resistance, low thermal expansion coefficient, thermal shock resistance and good electrical insulation performance.

Quartz glass sheets are usually colorless and transparent, with a visible light transmittance of more than 85%. Quartz glass can be divided into two categories: fused silica glass and synthetic quartz glass. Heat resistance, light transmittance, electrical insulation, and chemical stability are all very good.

Physical properties:

Quartz glass sheet is a special industrial technical glass made of silica, which is a very good basic material. Quartz glass sheet has a series of excellent physical and chemical properties:

1. High temperature resistance. The softening point temperature of quartz glass is about 1730° C, it can be used for a long time at 1100° C, and the maximum use temperature in a short time can reach 1450° C.

2. Corrosion resistance. Except for hydrofluoric acid, quartz glass hardly

reacts with other acid substances, its acid resistance is 30 times that of ceramics and 150 times that of stainless steel, especially its chemical stability at high temperature, which is unmatched by any other engineering materials. comparable.

3. Good thermal stability. The thermal expansion coefficient of the adaptable glass is extremely small, and it can withstand severe temperature changes. It will not burst when the quartz glass is heated to about 1100 °C and placed in normal temperature water.

4. Good light transmission performance. Quartz glass sheets have good light transmittance in the entire spectral band from ultraviolet to infrared, and the visible light transmittance is above 93%, especially in the ultraviolet spectral region, the maximum transmittance can reach above 80.

5. Quartz glass has good electrical insulation properties. The resistance value of quartz glass is equivalent to 100 times that of ordinary glass. It is an excellent electrical insulating material and has good electrical properties even at room temperature.

Optical properties:

The optical properties of the quartz glass sheet have its own uniqueness. It can transmit far ultraviolet rays, which is the best of all ultraviolet transmissive materials, and can transmit visible light and near-infrared spectrum. Because quartz glass has high temperature resistance, extremely

small thermal expansion coefficient, good chemical stability, bubbles, stripes, uniformity, and birefringence comparable to general optical glass, it is a high-stability optical coefficient working in various harsh occasions. Essential optical material.

According to their optical properties, they can be divided into three categories:

Far UV class JGS1

Transparent in the ultraviolet and visible spectral range; no absorption band in the 185-250nm band; strong absorption band in the 2600-2800nm band; non-luminescent, stable optical radiation.

UV class JGS2

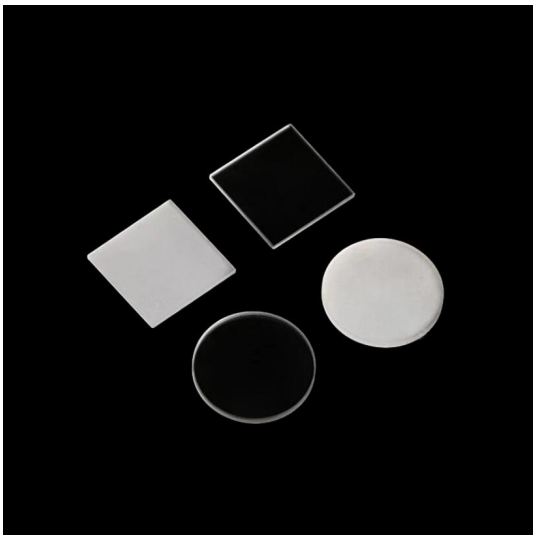
Transparent in the ultraviolet and visible spectral range; no absorption band in the 200-250nm band; strong absorption band in the 2600-2800nm band; non-luminescent, stable optical radiation.

Infrared class JGS3

Transparent in the visible and infrared spectral range; no obvious absorption band in the 2600-2800 nm band. Compared with ordinary silicate glass, transparent quartz glass has excellent transmission performance in the whole wavelength head. In the infrared region, the spectral transmittance is larger than that of ordinary glass; in the visible region, the

transmittance of quartz glass is also relatively high. In the ultraviolet spectral region, especially in the short-wave ultraviolet region, the spectral transmission is much better than other glasses.

Applicable fields: semiconductor LAM, TEL, equipment windows, optical field



光源石英片

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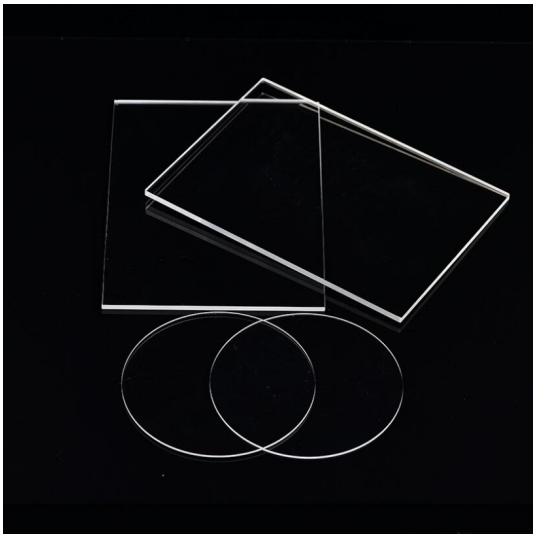

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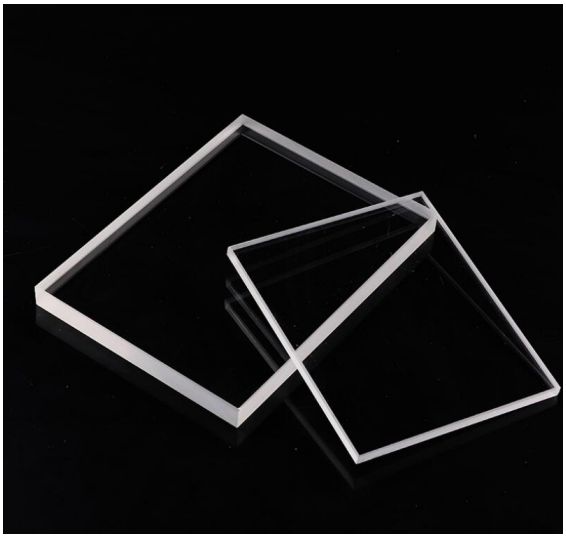

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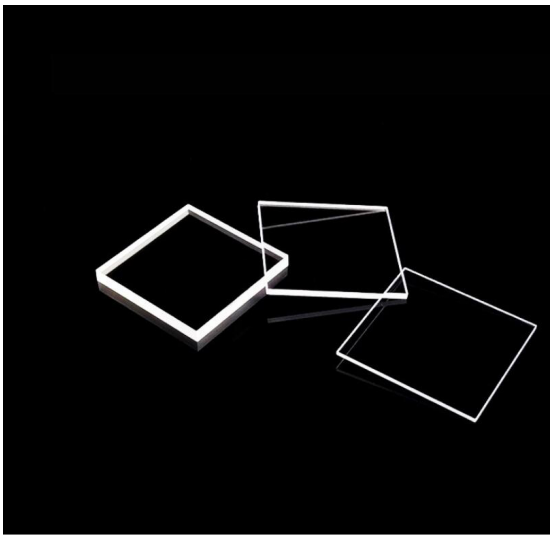

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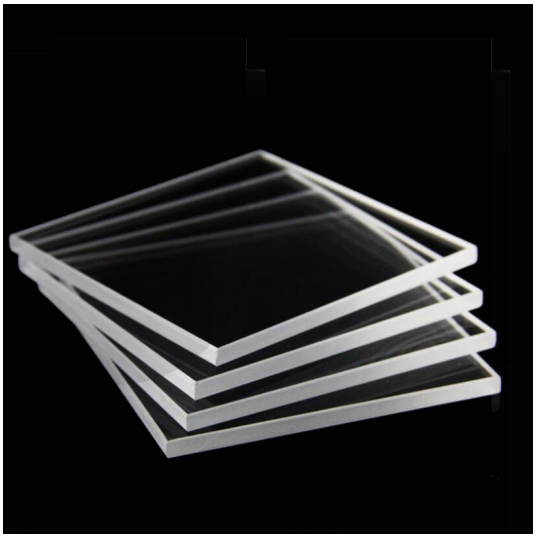

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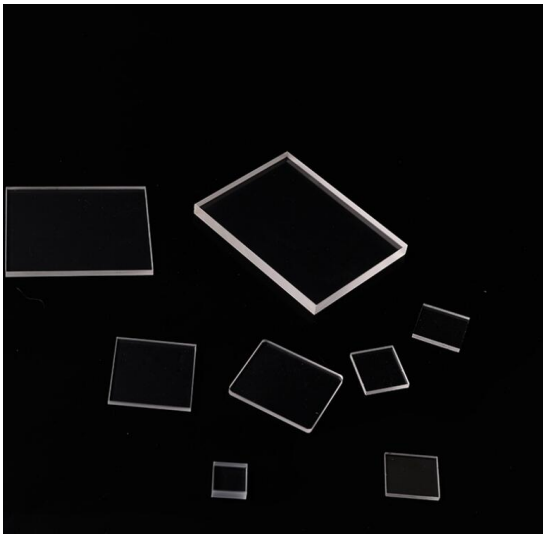

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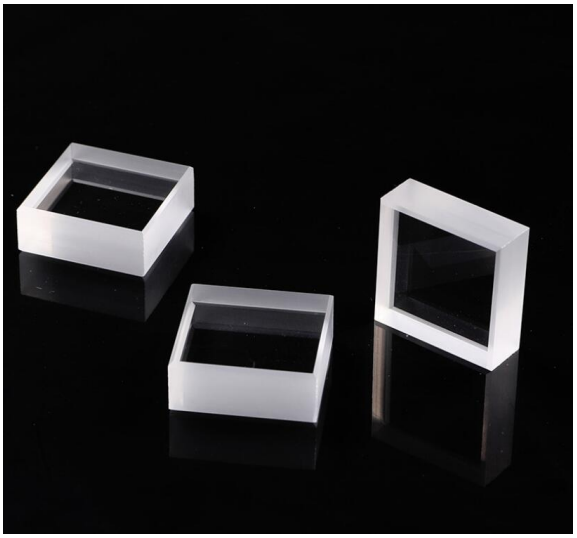

视窗石英片