

# 極低熱膨張石英ガラス

## Ultra Low Thermal Expansion Silica Glass

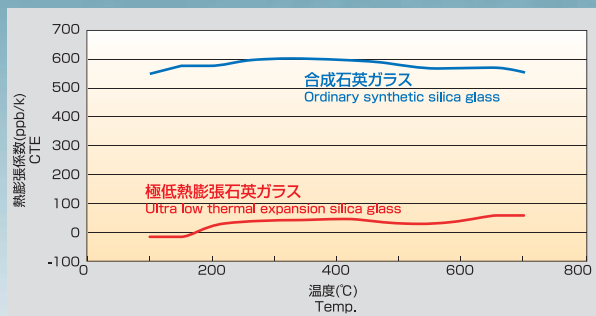
### 特長 Features

- EUV対応フォトマスク用基板として適用ができます  
Applicable to EUV mask substrate.
- 熱膨張率が100ppb/K以下の石英ガラスです  
100ppb/K (or less) of CTE\* at high temperature region.
- 室温付近ではゼロ熱膨張です  
Almost zero CTE\* at room temperature.
- 可視及び赤外領域で高透過率性を有します  
Exhibits high optical transparency in the visible and infrared region.
- 機械特性・熱特性は石英ガラスとほぼ同一です  
Thermal and mechanical properties are almost the same as that of ordinary silica glass.

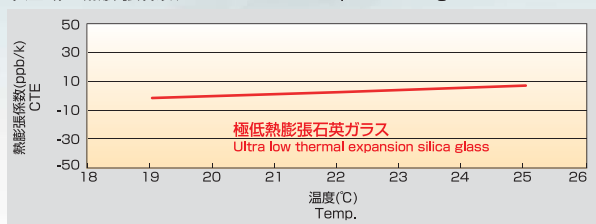
\*CTE= coefficient of thermal expansion

### 熱特性 Thermal properties

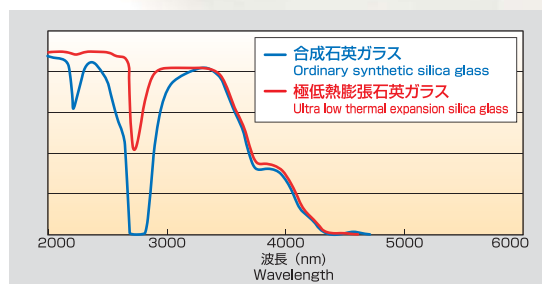
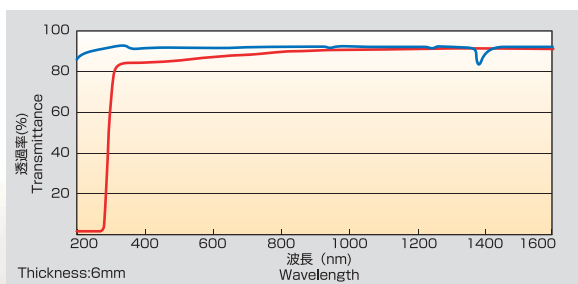
高温域の熱膨張係数 CTE at high temperature region



常温域の熱膨張係数 CTE at room temperature region



### 光学特性 Optical properties



### 機械特性 Mechanical Properties

		合成石英ガラス Ordinary synthetic silica glass	極低熱膨張石英ガラス Ultra low thermal expansion silica glass
かさ密度 Bulk density	g/cm <sup>3</sup>	2.2	2.2
ビッカース硬度 Vickers hardness	GPa	6.9	6.1
ヤング率 Young's modulus	GPa	72	68
剛性率 Rigidity	GPa	31	29
ポアソン比 Poisson's ratio	-	0.17	0.18
熱伝導率 Thermal conductivity	W/m·K	1.42	1.30
熱拡散率 Thermal diffusion coefficient	cm <sup>2</sup> /s	0.0087	0.0085

本資料の数値は参考値で、規格値(保証値)ではありません。  
The figures above are for reference only and are not meant to be guaranteed figures.