Finished products of Shin-Etsu's synthetic quartz glass (VIOSIL)

1. Shin-Etsu's synthetic quartz glass
2. Surface-modified substrates
3. Substrates with holes & disk-shaped substrates
4. Quartz glass plates with microfluidic channels

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Shin-Etsu's synthetic quartz glass

- High purity
- Chemical resistance
- Heat resistance
- Low thermal expansion
- Transparent (UV)
- Non fluorescent
- Low dielectric loss
- High-tech surface processing

Various applications as a substrate

- Photomasks for ICs and LCDs
- High temperature poly-Si TFT-LCDs
- Microlenses
- RF devices
- DNA chips
- Microfluidic chips

Shin-Etsu's VIOSIL
Surface-modified synthetic quartz plates

Examples of silane coupling agents for surface modification

- **KBM603**
- **KBM903**
- **KBM403**
- **HMDS** (water repellent)

By treating the substrate surface with silane coupling agents, we can make substrates water repellent or add other functionality.

- Our surface-processed quartz plates show promise for use as DNA chips and for other applications.

(Shin-Etsu's product lineup includes a full range of silane coupling agents.)
Quartz glass slides for DNA chips

- **KBM 603 treatment** (silane coupling agent)
- Non-fluorescence comparable to vacuum deposition of Au
- Low background
Substrates with holes and disk-shaped substrates

Shin-Etsu can fabricate synthetic quartz glass substrates with holes, and disks with high concentricity.

We can also manufacture well plates with bottom plates attached.
Quarts glass plates with microfluidic channels

Shin-Etsu can produce micro channels on quartz using lithography, binding techniques and other technologies.