

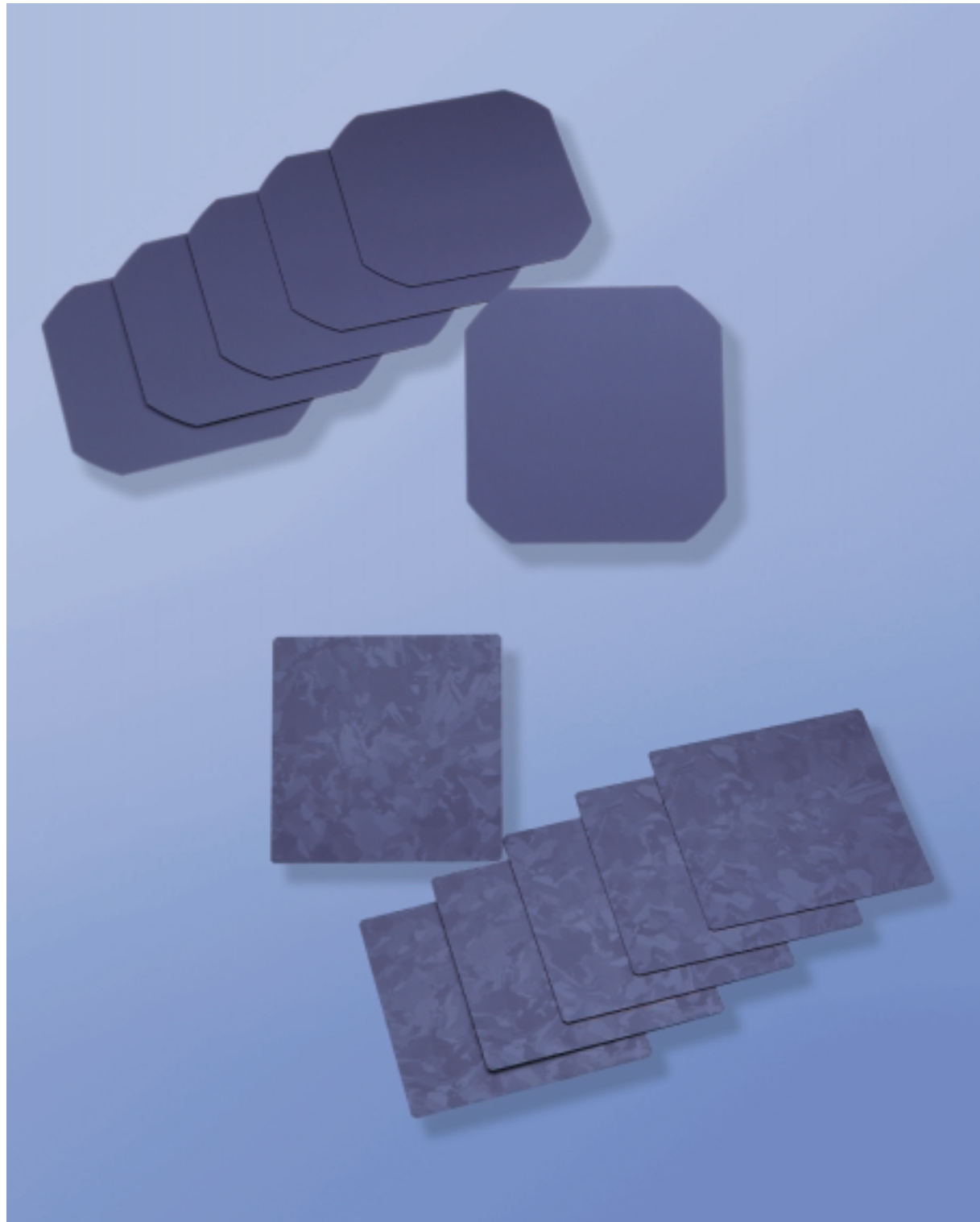


**Shin-Etsu Film**

**Solar Wafers**

**SEPTOH<sup>®</sup> wafers**

(Monocrystalline and Multicrystalline Wafers)



## Solar Wafers

### SEPTOH<sup>®</sup> wafers (Monocrystalline and Multicrystalline Wafers)

Photovoltaic power is a source of clean energy. Solar-grade silicon wafers are vital to the solar cells that convert clean light energy into electrical energy. Shin-Etsu's product lineup includes monocrystalline wafers and multicrystalline wafers.



### Features

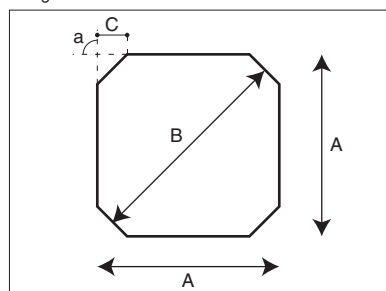
1. Using our own proprietary technology, we can process small- to large-diameter ingots.
2. We can manufacture wafers as thin as 150  $\mu\text{m}$ .
3. Thinner wafers contributes to reduced cost for raw materials.

### General properties

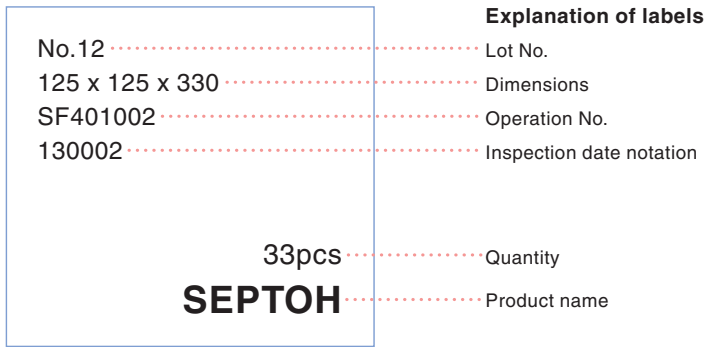
Item		Grade	Unit	Monocrystalline	Multicrystalline
Production method				CZ	Cast
Lifetime			$\mu\text{s}$	8 minimum	5 minimum
Conductivity			dopant	P type (Boron)	P type (Boron)
Resistivity			$\Omega\cdot\text{cm}$	2 - 8	0.5 - 6
Dimensions * see figure	A (longitudinal/transversal)		mm	125	125
	B (diameter)		mm	150	—
	C (four corners)		mm	20	1.0
Angle a			deg.	90	90
Thickness			$\mu\text{m}$	200 - 400	200 - 400
Thickness variation			$\mu\text{m}$	40 max	80 max
Warp			$\mu\text{m}$	70 max	100 max
Sawmarks			$\mu\text{m}$	100 max	100 max
Etch Pit density			counts/cm <sup>2</sup>	3,000 max	—
Appearance	Surface finished			As cut and cleaned	As cut and cleaned
	Chips			None visible	None visible
	Edge chips			None visible	max. 1 mm from perimeter
	Cracks			None visible	None visible
	Fouling			None visible	None visible

Contact Shin-Etsu for more information about resistivity, size, thickness, appearance and other crystalline properties. We can tailor size and thickness to customer specifications.

\* Figure



### Information on labeling



### Storage and Handling Precautions

- Store out of direct sunlight in a cool place with low humidity.
- Handle products with care, as they are easily chipped or cracked.
- When transporting, protect the products appropriately (use cushioning materials, etc.).

Contact Shin-Etsu for information about our SEPTOH® wafers.

**Shin-Etsu Film Co., Ltd.**

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