

## SOLAR GRADE CHUNK POLYSILICON

### Description

Medium to extra large solar-grade polysilicon chunks made from dedicated Siemens reactor runs. Breaking into chunks and packaging are performed in clean room environment and care is taken to minimize introduction of surface contamination during the breaking/packaging processes.

Small amount of pop-corn surface is allowed.

No carbon ends (graphite electrodes) are included.

### Specification

Parameter	Super-grade	Ultra-grade	Standard Grade	Test
N-type, Resistivity ( $\Omega \cdot \text{cm}$ ) Phosphorous (ppba)	$\geq 100$ $\leq 1.5$	$\geq 40$ $\leq 3.76$	$\geq 20$ $\leq 7.74$	4-Pts LT-FTIR
P-type, Resistivity ( $\Omega \cdot \text{cm}$ ) Boron (ppba)	$\geq 500$ $\leq 0.5$	$\geq 200$ $\leq 1.3$	$\geq 100$ $\leq 2.7$	4-Pts LT-FTIR
Surface metals (ppbw)	$< 10$	$< 50$	$< 500$	ICP-MS
Minority Lifetime (s)	$\geq 200$	$\geq 100$	$\geq 50$	PCD

### Size Specification

$> 3\text{mm}$  and  $< 200\text{ mm}$  ( $\geq 85\%$  by weight in the range of 25 – 200 mm)

### Quality Assurance

All above parameters are tested for every production lot.

### Packaging

Material to be packaged in 5KG per bag and 20KG per carton box.

Each bag has a label listing lot number and weight.

Each shipping label lists the manufacturer's name and address, customer name and address, purchase order number and product lot number.