Material Specification

www.msesupplies.com
Tucson AZ 85712 USA
Tel: +1-520-789-6673
Email: info@msesupplies.com

6 inch diameter, Silicon Carbide (SiC) Substrate Specification

Grade		Zero MPD	Production Grade	Research Grade	Dummy Grade
Diameter		150.0 mm±0.2mm			
Thickness*		350 μm±25μm			
Wafer Orientation		Off axis : 4.0° toward±0.5° for 4H-N On axis : <0001>±0.5° for 6H-SI/4H-SI			
Primary Flat		{10-10}±5.0°			
Primary Flat Length		47.5 mm±2.5 mm			
Edge exclusion		3 mm			
TTV/Bow /Warp		≤15μm /≤40μm /≤60μm			
Micropipe Density		≤1 cm^{-2}	≤5 cm^{-2}	≤15 cm^{-2}	≤50 cm^{-2}
Resistivity	4H-N	0.015~0.028 Ω·cm			
	4/6H-SI	≥1E5 Ω·cm			
Roughness		Polish Ra≤1 nm			
		CMP Ra≤0.5 nm			
Cracks by high intensity light		None		1 allowed, ≤2 mm	Cumulative length≤10mm, single length≤2mm
Hex Plates by high intensity light^		Cumulative area ≤1%		Cumulative area ≤2%	Cumulative area ≤5%
Polytype Areas by high intensity light*		None		Cumulative area≤2%	Cumulative area≤5%
Scratches by high intensity light*&		3 scratches to 1×wafer diameter cumulative length		5 scratches to 1×wafer diameter cumulative length	5 scratches to 1×wafer diameter cumulative length
Edge chip#		None		3 allowed, ≤0.5 mm each	5 allowed, ≤1 mm each
Contamination by high intensity light		None			

Notes:
*Thickness of 500μm±25μm is available upon request.
^ Defects limits apply to entire wafer surface except for the edge exclusion area.
# Defects shall exist in the edge area, only defects beyond of the prescribed scope could be considered as reject cause.
& the scratches should be checked on Si face only.