

11 ANNEXES

11.1 Annexe 1 : Spécifications techniques des substrats

LOT 1 : SIL_100_022
100MM_RESERVE_INP_S(100)625UM_EPD2E3

General Characteristics	Units	Standard Test	Max	Target	Min
Grade wafers				Prime	
Crystal orientation	Miller indices	F26		(100)	
Crystal orientation tolerance	DEG	GONIO X		$\pm 0,2^\circ$	
Dopant				Soufre (S)	
Electrical characteristics					
Resistivity	$\Omega \cdot \text{cm}$	F84		N/A	
Mechanical characteristics					
Diameter	mm	F613	100,4	100 $\pm 0,4$	99,6
Notch / Flat				US flat	
OF				(01-1) $\pm 0,5^\circ$, 32,5 ± 2 mm	
OF shape				Round flat	
EPD	t cm^2			$< t = 2 \text{ E3 cm}^2$	
IF				(011) $\pm 1^\circ$, 18 ± 2 mm	
Edge profile		SEMI M1	0,25mmR	EDGE ROUNDING	
Edge surface finish (FRONT)		Polished		Polished	
Edge surface finish (BACK)		Polished		Polished	
Thickness	μm	F533	650	625 ± 25	600
Thickness variation (TTV) 9pts	μm	F657	10		0
Bow	μm	SEMI MF1390	10		0
Warp	μm	SEMI MF1390	10		0
TIR	μm	F657	10		0
Front surface characteristics					
Surface finishing				Mirror Polished (Epi-ready)	
Metal contamination :					
Na, Mg, Al, K, Ca, Ti, Cr, Fe, V, Mn, Co, Ni, Cu, Zn	at/cm ²	TXRF and/or VPD ICP-MS	1E11		
Li			1E9		
Au, Pt, Ag, Pd, Ru, Ir			0		
Particules	pcs/wafer		100	$< t = 100 \text{ t/wafer @ size } > t = 0,3 \mu\text{m}$	0
Back surface characteristics					
Surface finishing				Mirror Polished	
Metal contamination :					
Na, Mg, Al, K, Ca, Ti, Cr, Fe, V, Mn, Co, Ni, Cu, Zn	at/cm ²	TXRF and/or VPD ICP-MS	1E11		
Li			1E9		
Au, Pt, Ag, Pd, Ru, Ir			0		
Edge Chips				None	
Scratches (micro)	mm			None	
Roughness	μm			0,2 RA	
LLS	pcs/wafer		50	$< t = 50 \text{ t/wafer @ size } > t = 0,5 \mu\text{m}$	0
Lasermark		Semi T7		Back side along OF	
Logistical requirements					
Shipping box:				Entegris 100 mm Ultrapack shipping Box H9100	
Parametrical datas to be provided					
eCoA electronic report				ALL spec datas	

LOT 2 : **SIL_100_018**
100MM_RESERVE_INP_FE(100)625UM_EPD1E5

General Characteristics	Units	Standard Test	Max	Target	Min
Grade wafers				Prime	
Crystal orientation	Miller indices	F26		(100)	
Crystal orientation tolerance	DEG	GONIO X		$\pm 0,2^\circ$	
Dopant				Fe (Fe)	
Electrical characteristics					
Resistivity	$\Omega \cdot \text{cm}$	F84		$> 1\text{E}+7$	
Mechanical characteristics					
Diameter	mm	F613	100,4	100 $\pm 0,4$	99,6
Notch / Flat				US flat	
OF				(01-1) $\pm 0,5^\circ$, 32,5 $\pm 2\text{mm}$	
OF shape				Round flat	
EPD (/ cm ²)				$\leq 1\text{E}5/\text{cm}^2$	
IF				(011) $\pm 1^\circ$, 18 $\pm 2\text{mm}$	
Edge profile		SEMI M1	0,25mmR	EDGE ROUNDING	
Edge surface finish (FRONT)		Polished		Polished	
Edge surface finish (BACK)		Polished		Polished	
Thickness	μm	F533	650	625 ± 25	600
Thickness variation (TTV) 3pts	μm	F657	10		0
Bow	μm	SEMI MF1390	10		0
Warp	μm	SEMI MF1390	10		0
TIR	μm	F657	10		0
Front surface characteristics					
Surface finishing				Mirror Polished (Epi-ready)	
Metal contamination :	at/cm ²	TXRF and/or VPD ICP-MS	1E11		
Na, Mg, Al, K, Ca, Ti, Cr, Fe, V, Mn, Co, Ni, Cu, Zn			1E9		
Li			0		
Au, Pt, Ag, Pd, Ru, Ir			100	$< t=100/\text{wafer@size} > t=0,3 \mu\text{m}$	0
Particules	post/wafer				
Back surface characteristics					
Surface finishing				Mirror Polished	
Metal contamination :	at/cm ²	TXRF and/or VPD ICP-MS	1E11		
Na, Mg, Al, K, Ca, Ti, Cr, Fe, V, Mn, Co, Ni, Cu, Zn			1E9		
Li			0		
Au, Pt, Ag, Pd, Ru, Ir					
Edge Chips				None	
Scratches (micro)	mm			None	
Roughness	μm			0,2 RA	
LLS	post/wafer		50	$< t=50/\text{wafer@size} > t=0,5 \mu\text{m}$	0
Lasermark		Semi T7		Back side along OF	
Logistical requirements					
Shipping box				Entegris 100 mm Ultrapack shipping Box H9100	
Parametrical datas to be provided					
eCoA electronic report				ALL spec datas	