

Detailed Specifications of Open Tender Notice No: 07/2015

S. NO	TENDER NO.	BRIEF DETAILS OF ITEM(S)	PAGE NOS.
1.	14-VII/V(2505)15-PB/ T-63	Single Crystal High Minority Carrier Lifetime Silicon Wafers	2
2.	14-VII/VKJ(2515)15-PB/ T-64	(i) 1000 W FEL Spectral irradiance standard lamp (ii) WI 41/G Luminous intensity standard lamp	3

Tender No: 14-VII/V(2505)15-PB/T-63

Specifications

Material: Single Crystal High Minority Carrier Lifetime Silicon Wafers

S No	Parameter	Values	
1	Wafer Diameter (mm)	150	150
2	Orientation	(100)±0.5	(100)±0.5
3	Conductivity type (Dopant)	n-type (P)	p-type (B)
4	Resistivity (Ωcm)	0.5-4.0	0.5-4.0
5	Minority carrier Lifetime (μs)	≥ 1000	≥ 500
6	Carbon and Oxygen Content (atoms/cm ³)	$< 2.0 \times 10^{16}$	$< 2.0 \times 10^{16}$
7	Primary and Secondary Flats	Yes	Yes
8	Thickness (μm)	350 ± 25	350 ± 25
9	Surface	DSP	DSP
10	TTV (μm)	≤ 10	≤ 10
11	Bow (μm)	≤ 50	≤ 50
12	Warp (μm)	≤ 50	≤ 50
13	Packing (Wafers/box)	25	25
14	GTIR and STIR	Yes	Yes
	Quantity (Wafers)	200	200

Note:

1. Only original ingot manufacturer should apply kindly provide website details, business, materials manufactured etc.)
2. Provide details of ingot (growth method, minority carrier's lifetime on ingot and the measurement method, dopant element etc.)
3. Kindly provide the "Certificate of Analysis & Conformance" with the wafers.
4. Material certification should be as per ISO 3951 Standard.

Tender No: 14-VII/VKJ(2515)15-PB/T-64

Detailed specifications for the lamps:

1. 1000 W FEL lamp (DC ~120V, ~8.0 A) with a tungsten filament in quartz glass with a bipolar adjustment plug, base plate and diffraction mirror for precise alignment. Lamp position should be fixed in a temperature stable ceramic base.

Lamps should be calibrated for spectral irradiance in the wavelength (λ) range 250 – 2400 nm directly against the reference standard of any of NMIs: NIST-USA / NPL-UK / PTB-Germany / NMI-Japan.

The calibration certificate should be directly from the NMI.

2. WI 41/G luminous intensity standard lamp (DC ~31V, ~6.0 A) operating at color temperature of 2856K (illuminant A) along with socket/base, diffraction mirror to provide electrical connections, precise alignment and reproducible positioning of the lamp.

Lamps should be calibrated for luminous intensity directly against the reference standard of any of NMIs: NIST-USA / NPL-UK / PTB-Germany / NMI-Japan.

The calibration certificate should be directly from the NMI.
