

# IB 2024-23 PROCUREMENT OF LABORATORY GLASS WARES



## SECTION VII- TECHNICAL SPECIFICATIONS

## TECHNICAL SPECIFICATIONS

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Item	Specifications	Statement of Compliance
		<p><i>[Bidders must state here either “Comply” or “Not Comply” against each of the individual parameters of each Specification stating the corresponding performance parameter of the equipment offered. Statements of “Comply” or “Not Comply” must be supported by evidence in a Bidders Bid and cross-referenced to that evidence. Evidence shall be in the form of manufacturer’s un-amended sales literature, unconditional statements of specification and compliance issued by the manufacturer, samples, independent test data etc., as appropriate. A statement that is not supported by evidence or is subsequently found to be contradicted by the evidence presented will render the Bid under evaluation liable for rejection. A statement either in the Bidder’s statement of compliance or the supporting evidence that is found to be false either during Bid evaluation, post-qualification or the execution of the Contract may be regarded as fraudulent and render the Bidder or supplier liable for prosecution subject to the applicable laws and issuances.]</i></p>
1	<p>Beaker, low-form, with sprout, with printed graduations. Material: Borosilicate glass (clear). ISO 3819:2015 compliant. Nominal capacity: at least 100mL (within 10 to 25 mL graduation interval). External diameter: (<math>\pm 5\%</math>) 50mm. Maximum overall height: 72mm. Wall thickness: at least 0.9mm.</p>	
2	<p>Beaker, low-form, with sprout, with printed graduations. Material: Borosilicate glass (clear). ISO 3819:2015 compliant. Nominal capacity: at least 250mL (within 10 to 50 mL graduation interval). External diameter: (<math>\pm 5\%</math>) 70mm. Maximum overall height: 97mm. Wall thickness: at least 1.1mm.</p>	
3	<p>Beaker, tall-form, with sprout, with printed graduations. Material: Borosilicate glass (clear). ISO 3819:2015 compliant. Nominal capacity: 500 to 600mL (within 10 to 50 mL graduation interval). External diameter: (<math>\pm 5\%</math>) 79 to 80mm. Maximum overall height: 140 to 153mm. Wall thickness: at least 1.3mm.</p>	
4	<p>Laboratory Conical Flask, narrow neck, Erlenmeyer style design, with printed graduation. Material: Borosilicate glass (clear). Compliant with ISO 1773:1997. Nominal capacity: 100mL (within 10 to 50 mL graduation interval). External diameter of body at widest point: <math>64 \pm 1.5</math>mm. External diameter of neck: <math>22 \pm 1</math>mm. Overall height: <math>105 \pm 3</math>mm. Minimum wall thickness: 0.8mm. Neck length: 1 to 1.25mm times the external diameter of the neck. Dimensions of base: The radius at the junction between the base and the side of the flask shall be between 15% and 20% of the maximum external diameter.</p>	
5	<p>Laboratory Conical Flask, narrow neck, Erlenmeyer style design, with printed graduation. Material: Borosilicate glass (clear). Compliant with ISO 1773:1997. Nominal capacity: 250mL (within 10 to 50 mL graduation interval). External diameter of body at widest point: <math>85 \pm 2</math>mm. External diameter of neck: <math>34 \pm 1.5</math>mm. Overall height: <math>145 \pm 3</math>mm. Minimum wall thickness: 0.9mm. Neck length: 1 to 1.25mm times the external diameter of the neck. Dimensions of base: The radius at the junction between</p>	

	the base and the side of the flask shall be between 15% and 20% of the maximum external diameter.	
6	Florence/ Flat Bottom Flask, Glass, 250ml, features a tooled top and a durable matte finish area for marking, promotes even heat distribution, resistant to chemical, mechanical and thermal shock, borosilicate glass, Capacity:250ml, Height: 140mm, Base Diameter: 86mm, Neck Diameter: 35mm, stopper size:#6	
7	Florence/ Flat Bottom Flask, Glass, 500ml, features a tooled top and a durable matte finish area for marking, promotes even heat distribution, resistant to chemical, mechanical and thermal shock, borosilicate glass, Capacity: 500ml, Height: 170mm, Base diameter: 104mm, neck Diameter: 35mm, Stopper size:#6.5	
8	Graduated measuring cylinder, tall form with spouted neck, with printed graduations. Material: Borosilicate glass (clear). ISO 4788:2005 compliant. Nominal capacity: 100mL. Overall maximum height: 260mm. Minimum distance from the top of scale to top of cylinder: 35mm. Minimum internal height to highest graduation line: 145mm. Subdivisions: 1 mL. Maximum capacity at lowest graduation line: 10 mL. Maximum permissible error: $\pm 0.5$ mL. Stability: does not topple when placed empty on an inclined surface at an angle of 15° to the horizontal.	
9	Graduated measuring cylinder, tall form with spouted neck, with printed graduations. Material: Borosilicate glass (clear). ISO 4788:2005 compliant. Nominal capacity: 250mL. Overall maximum height: 335mm. Minimum distance from the top of scale to top of cylinder: 40mm. Minimum internal height to highest graduation line: 200mm. Subdivisions: 2 mL. Maximum capacity at lowest graduation line: 26 mL. Maximum permissible error: $\pm 1$ mL. Stability: does not topple when placed empty on an inclined surface at an angle of 15° to the horizontal.	
10	Graduated measuring cylinder, tall form with spouted neck, with printed graduations. Material: Borosilicate glass (clear). ISO 4788:2005 compliant. Nominal capacity: 1000mL. Overall maximum height: 470mm. Minimum distance from the top of scale to top of cylinder: 50mm. Minimum internal height to highest graduation line: 310mm. Subdivisions: 10mL. Maximum capacity at lowest graduation line: 100 mL. Maximum permissible error: $\pm 5$ mL. Stability: does not topple when placed empty on an inclined surface at an angle of 15° to the horizontal.	
11	Dropper assembly with screw cap, dropper bulb (DBS type - dropper bulb with small suction volume), and pipette. Material (bottle): Borosilicate glass (clear) Compliant with ISO 11418-5:1997(E). Nominal volume of screw neck bottle: 50mL. Length of pipette ( $\pm 0.5$ mm): 83mm. Volume and/or dimension of dropper bulb, screw cap, and pipette: refer to attached ISO 11418-5:1997(E) pages 3-6.	
12	Dropper assembly with screw cap, dropper bulb (DBS type - dropper bulb with small suction volume), and pipette. Material (bottle): Borosilicate glass (clear) Compliant with ISO 11418-5:1997(E). Nominal volume of screw neck bottle: 75mL. Length of pipette ( $\pm 0.5$ mm): 87.5mm. Volume and/or dimension of dropper bulb, screw cap, and pipette: refer to attached ISO 11418-5:1997(E) pages 3-6.	
13	Dropper assembly with screw cap, dropper bulb (DBM type - dropper bulb with medium suction volume), and pipette. Material (bottle): Borosilicate glass (clear) Compliant with ISO 11418-5:1997(E). Nominal volume of screw neck bottle: 100mL. Length	

	of pipette ( $\pm 0.5\text{mm}$ ): 94mm. Volume and/or dimension of dropper bulb, screw cap, and pipette: refer to attached ISO 11418-5:1997(E) pages 3-6.	
14	Dropper assembly with screw cap, dropper bulb (DBM type - dropper bulb with medium suction volume), and pipette. Material (bottle): Borosilicate glass (amber) Compliant with ISO 4796-2. Nominal volume of screw neck bottle: 250mL. With integral ground glass cone on pipette to fit bottle neck. Joint size (mm): 19/26.	
15	Reagent bottle, conical neck, either type NS (narrow-necked with a conical socket) or NJ (narrow-necked with an interchangeable conical ground joint), with glass or plastic stopper. Material: Borosilicate glass (clear). Compliant with ISO 4796-2:2000(E). Nominal capacity: 500mL. Total height approx.: 162mm. Outside diameter approx.: 86mm. Wall thickness: at least 1.3mm. Socket/ground joint: 24/29. Stopper: appropriate fit, grip, and shape.	
16	Reagent bottle, conical neck, either type NS (narrow-necked with a conical socket) or NJ (narrow-necked with an interchangeable conical ground joint), with glass or plastic stopper. Material: Borosilicate glass (clear). Compliant with ISO 4796-2:2000(E). Nominal capacity: 1000mL. Total height approx.: 198mm. Outside diameter approx.: 107mm. Wall thickness: at least 1.7mm. Socket/ground joint: 29/32. Stopper: appropriate fit, grip, and shape.	
17	Reagent bottle, conical neck, either type WS (wide-necked with a conical socket) or WJ (wide-necked with an interchangeable conical ground joint), with glass or plastic stopper. Material: Borosilicate glass (amber). Compliant with ISO 4796-2:2000(E). Nominal capacity: 500mL. Total height approx.: 162mm. Outside diameter approx.: 86mm. Wall thickness: at least 1.3mm. Socket/ground joint: 45/50. Stopper: appropriate fit, grip, and shape.	
18	Reagent bottle, conical neck, either type WS (wide-necked with a conical socket) or WJ (wide-necked with an interchangeable conical ground joint), with glass or plastic stopper. Material: Borosilicate glass (amber). Compliant with ISO 4796-2:2000(E). Nominal capacity: 1000mL. Total height approx.: 198mm. Outside diameter approx.: 107mm. Wall thickness: at least 1.7mm. Socket/ground joint: 60/46. Stopper: appropriate fit, grip, and shape.	
19	Petri dish with cover, made up of borosilicate glass, Autoclavable, 15mm deep x100 mm OD, Borosilicate glass petri dishes will remain clear after repeated wet or dry sterilization. The tops and bottoms are marked with different colored enamels for quick identification	
20	Glass slides - a thin flat piece of glass, typically 76 x 26 mm (3 by 1 inches and about 1mm thick, used to hold objects for examination.	
21	Slide cover/ cover slip - Thickness: 0.17mm, size: 22x22mm, Material: Clear Microscopy optical grade glass, Clean polished free from nicks, scratches and fibres. Weight: 0.26kg, Volume: 4.00dm <sup>3</sup> .	
22	Test tube, Type I (borosilicate glass). Compliant with ISO 4142:2002(E), ISO 3585, and ISO 4803. Nominal size: 12mm x 100mm. Length ( $\pm 2\text{mm}$ ): 100mm. External diameter ( $\pm 0.2\text{mm}$ ): 12mm. Wall thickness ( $\pm 0.4\text{mm}$ ): 1.0mm to 1.5mm.	

23	Test tube, Type I (borosilicate glass). Compliant with ISO 4142:2002(E), ISO 3585, and ISO 4803. Nominal size: 13mm x 100mm. Length ( $\pm 2$ mm): 100mm. External diameter ( $\pm 0.2$ mm): 13mm. Wall thickness ( $\pm 0.4$ mm): 1.0mm to 1.5mm.	
24	Test tube, Type I (borosilicate glass). Compliant with ISO 4142:2002(E), ISO 3585, and ISO 4803. Nominal size: 16mm x 100mm. Length ( $\pm 2$ mm): 100mm. External diameter ( $\pm 0.2$ mm): 16mm. Wall thickness ( $\pm 0.5$ mm): 1.2mm	
25	Burette, Class A (either Class A or AS subdivision), with printed graduations. Material: Borosilicate glass. ISO 385:2005(E) compliant. Nominal capacity: 10mL. Subdivision: 0.02mL. Maximum permissible error: $\pm 0.02$ mL. Scale length: 480mm minimum to 600mm maximum. Overall maximum length: 820mm. Distance of zero line from top of burette: $\geq 50$ mm. Distance of lowest graduation line from top of stopcock: $\geq 50$ mm. Length of tube of uniform bore below lowest graduation line: $\geq 20$ mm. Distance of end of jet from underside of stopcock: $\geq 50$ mm. Stopcock: either glass or suitable materials (e.g. ceramics or plastics) should allow smooth and precise control of outflow and prevent a rate of leakage greater than one scale subdivision.	
26	Burette, Class A (either Class A or AS subdivision), with printed graduations. Material: Borosilicate glass. ISO 385:2005(E) compliant. Nominal capacity: 25mL. Subdivision: 0.05mL. Maximum permissible error: $\pm 0.03$ mL. Scale length: 480mm minimum to 600mm maximum. Overall maximum length: 820mm. Distance of zero line from top of burette: $\geq 50$ mm. Distance of lowest graduation line from top of stopcock: $\geq 50$ mm. Length of tube of uniform bore below lowest graduation line: $\geq 20$ mm. Distance of end of jet from underside of stopcock: $\geq 50$ mm. Stopcock: either glass or suitable materials (e.g. ceramics or plastics) should allow smooth and precise control of outflow and prevent a rate of leakage greater than one scale subdivision.	
27	Burette, Class A (either Class A or AS subdivision), with printed graduations. Material: Borosilicate glass. ISO 385:2005(E) compliant. Nominal capacity: 50mL. Subdivision: 0.10mL. Maximum permissible error: $\pm 0.05$ mL. Scale length: 500mm minimum to 600mm maximum. Overall maximum length: 820mm. Distance of zero line from top of burette: $\geq 50$ mm. Distance of lowest graduation line from top of stopcock: $\geq 50$ mm. Length of tube of uniform bore below lowest graduation line: $\geq 20$ mm. Distance of end of jet from underside of stopcock: $\geq 50$ mm. Stopcock: either glass or suitable materials (e.g. ceramics or plastics) should allow smooth and precise control of outflow and prevent a rate of leakage greater than one scale subdivision.	

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Name of Bidder over Printed Name

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Date