SUB HEAD: 26A.0 STRUCTURAL GLAZING AND ALUMINIUM COMPOSITE PANEL

SUB HEAD : 26.0A STRUCTURAL GLAZING AND ALUMINIUM COMPOSITE PANEL

Code	Description	Unit	Quantity	Rate ₹	Amount ₹	
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26A.1 Providing and supplying aluminium extruded tubular and other aluminium sections as per the architectural drawings and approved shop drawings, the aluminium quality as per grade 6063 T5 or T6 as per BS 1474,including super durable powder coating of 60-80 microns conforming to AAMA 2604 of required colour and shade as approved by the Engineer-in-Charge. (The item includes cost of material such as cleats, sleeves, screws etc. necessary for fabrication of extruded aluminium frame work. Nothing extra shall be paid on this account).

Details of cost for 6.50 kg.

Width of the unit 1.6 m

Height of the unit 4.2 m

Area of Single Unit 6.72

m2

Total Area 6.72 m2 No of Panels 1 no

Aluminium Weight per m2 6.50 Kg/m2

Vision Height 2.2 m

Add for cleats, sleeves, screws etc.

@5% 0.33

Details of cost for 6.50 kg

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	WATERIAL.				
7306	Aluminium T or L sections	kilogram	7.17	190.00	1362.30
7392	Powder coating 50 microns on aluminium sections	kilogram	7.17	61.00	437.37
	TOTAL				1799.67
	Add Water Charges @ 1%				18.00
	TOTAL				1817.67 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)				255.38
	TOTAL				2073.05 (Y)
	Add CPOH @ 15% on "Y"				310.96
	Cost of 6.50 kg				2384.01
	Cost of 1 kg				366.77
	add 1% labour cess				3.67
	Sav		Rate ner Ko		370 <i>4</i> 0

- 26A.2 Designing, fabricating, testing, protection, installing and fixing in position semi(grid) unitized system of structural glazing (with open joints) for linear as well as curvilinear portions of the building for all heights and all levels, including:
 - a) Structural analysis & design and preparation of shop drawings for the specified design loads conforming to IS 875 part III (the system must passed the proof test at 1.5 times design wind pressure without any failure), including functional design of the aluminum sections for fixing glazing panels of various thicknesses, aluminium cleats, sleeves and splice plates etc. gaskets, screws, toggles, nuts, bolts, clamps etc., structural and weather silicone sealants, flashings, fire stop (barrier)-cumsmoke seals, microwave cured EPDM gaskets for water tightness, pressure equalisation & drainage and protection against fire hazard including:
 - b) Fabricating and supplying serrated M.S. hot dip galvanised / Aluminium alloy of 6005 T5 brackets of required sizes, sections and profiles etc. to accommodate 3 Dimentional movement for achieving perfect verticality and fixing structural glazing system rigidly to the RCC/ masonry/structural steel framework of building structure using stainless steel anchor fasteners/ bolts, nylon seperator to prevent bimetallic contacts with nuts and washers etc. of stainless steel grade 316, of the required capacity and in required numbers.
 - c) Providing and filling, two part pump filled, structural silicone sealant and one part weather silicone sealant compatible with the structural silicone sealant of required bite size in a clean and controlled factory / work shop environment ,including double sided spacer tape, setting blocks and backer rod, all of approved grade, brand and manufacture, as per the approved sealant design, within and all around the perimeter for holding glass.

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Code	Description	Unit	Quantity	Rate ₹	Amount ₹
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- d) Providing and fixing in position flashings of solid aluminium sheet 1 mm thick and of sizes, shapes and profiles, as required as per the site conditions, to seal the gap between the building structure and all its interfaces with curtain glazing to make it watertight.
- e) Making provision for drainage of moisture/ water that enters the curtain glazing system to make it watertight, by incorporating principles of pressure equalization, providing suitable gutter profiles at bottom (if required), making necessary holes of required sizes and of required numbers etc. complete. This item includes cost of all inputs of designing, labour for fabricating and installation of aluminium grid, installation of glazed units, T&P, scaffolding and other incidental charges including wastages etc., enabling temporary structures and services, cranes or cradles etc.as described above and as specified. The item includes the cost of getting all thestructural and functional design including shop drawings checked by a structuraldesigner, dully approved by Engineer-in-charge. The item also includes the cost of all mock ups at site, cost of all samples of the individual components for testing in an approved laboratory, field tests on the assembled working structural glazing as specified, cleaning and protection till the handing over of the building for occupation. In the end, the Contractor shall provide a water tight structural glazing having all the performance characteristics etc. all complete as required, as per the Architectural drawings, as per item description, as specified, as per the approved shop drawings and as directed by the Engineerin-Charge.

Note:- 1. The cost of providing extruded aluminium frames, shadow boxes, extruded aluminium section capping for fixing in the grooves of the curtain glazing and vermin proof stainless steel wire mesh shall be paid for separately under relevant items under this sub-head. However, for the purpose of payment, only the actual area of structural glazing (including width of grooves) on the external face shall be measured in sqm. up to two decimal places.

Note:-2. The following performance test are to be conducted on structural glazing system if area of structural glazing exceeds 2500 Sqm from the certified laboratories accreditated by NABL(National Accreditation Board for Testing and Calibration Laboratories), Department of Science & Technologies, India. Cost of testing is payable separately. The NIT approving authority will decide the necessity of testing on the basis of cost of the work, cost of the test and importance of the work.

Performance Testing of Structural glazing system.

Tests to be conducted in the NBL Certified laboratories

- 1. Performance Laboratory Test for Air Leakage Test (-50pa to 300pa) & (+50pa to +300pa) as per ASTM E-283-04 testing method for a range of testing limit 1 to 200 mVhr"
- 2. Static Water Penetration Test. (50pa to 1500pa) as per ASTME- 331-09 testing
- 3. Dynamic Water Penetration (50pa to 1500pa) as per AAMA 501.01-05 testing method for a range upto 2000 ml"
- 4. Structural Performance Deflection and deformation by static air pressure test (1.5 times desing wind pressure without any failure) as per ASTME-330-10 testing method for a range upto 50 mm"
- 5. Seismic Movement Test (upto 30 mm) as per AAMA 501.4-09 testing method for Qualitative test" Tests to be conducted on site
- 6. Onsite Test for Water Leakage for a pressure range 50 kpa to 240 kpa (35psi) upto 2000ml"

Details of cost for 6.72 sqm. Width of the unit 1.6m Height of the unit 4.2 m Area of Single Unit 6.72 m2 Total Area 6.72 m2 No of Panels 1 Aluminium Weight per m2 6.50 Kg/m2

Vision Height 2.2 Spandrel Height 2.0

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Code	Description	Unit	Quantity	Rate ₹	Amount ₹
	Details of cost for 6.72 sqm	-			
2605	Structural sealant - 6 mm x 12 mm	metre	17.02	31.00	527.62
2606	Spacer tape 6.4 mm thick x 6 mm wide	metre	20.11	21.00	422.31
2607	Weather Sealant - Non Staining (600 ml)	each	1.96	332.00	650.72
2608	Weather Sealant - Normal (300 ml)	each	2.55	102.00	260.10
2609	MS Brackets/Aluminium Alloy Brackets	kg	9.78	104.00	1017.12
2610	Silicon Gasket in Kg (Above 50 g / m)	kg	0.78	484.00	377.52
2611	EPDM Gasket in Kg (Above 60 g / m)	kg	0.7	156.00	109.20
2612	Anchor Fastner - M10	each	2	11.00	22.00
2613	SS Bolt with washer of sizes for structural glazing/ ACP Cladding	each	2	37.00	74.00
2630	Baker rod	metre	5.04	6.00	30.24
2614	SS Screws of sizes for structural glazing / ACP Cladding	each	52	4.00	208.00
2632	Fire Stop	metre	1.6	480.00	768.00
2615	Protective Tape	metre	6.72	22.00	147.84
2616	GI flashing - 1.2 mm Thick	kg	3.96	61.00	241.56
8654	Masking tape	metre	6.72	2.18	14.65
9999	Sundries	L.S.	225.5	2.12	478.06
9999	Sundries (For Fabrication)	L.S.	1804.03	2.12	3824.54
9999	Sundries (For Installation)	L.S.	1804.03	2.12	3824.54
9999	Sundries (Transporation)	L.S.	451	2.12	956.12
9999	Sundries (Scaffolding / Loading / Unloading)	L.S.	573.23	2.12	1215.25
9999	Sundries (Designing charges etc.)	L.S.	216.18	2.12	458.30
	TOTAL				15627.70
	Add Water Charges @ 1%				156.28
	TOTAL				15783.97 (X
	Add GST 12% on "X"(multiplying factor 0.1405)				2217.65
	TOTAL				18001.62 (Y
	Add CPOH @ 15% on "Y"				2700.24
	Cost of 6.72 sqm				20701.86
	Cost of 1 sqm				3080.63
	add 1% labour cess				30.81
	Say		Rate per sqm	1	3111.40
26 / 3	Providing assembling and supplying vision	wlasa mamala			

26A.3 Providing, assembling and supplying vision glass panels (IGUs) comprising of hermeticallysealed 6-12- 6 mm insulated glass (double glazed) vision panel units of size and shape as required and specified, comprising of an outer heat strengthened float glass 6mm thick, of approved colour and shade with reflective soft coating on surface # 2 of approved colour and shade, an inner Heat strengthned clear float glass 6mm thick, spacer tube 12mm wide, dessicants, including primary seal and secondary seal (structural silicone sealant) etc. all complete for the required performances, as per the Architectural drawings, as per the approved shop drawings, as specified and as directed by the Engineer-in-Charge. The IGUs shall be assembled in the factory/ workshop of the glass processor. (Payment for fixing of IGU Panels in the curtain glazing is included in cost of item No.26.2) For payment, only the actual area of glass on face # 1 of the glass panels (excluding the areas of the grooves and weather silicone sealant) provided and fixed in position, shall be measured in sqm.

(i) Coloured tinted float glass 6mm thick substrate with reflective soft coating on face # 2, + 12mm Airgap + 6mm Heat Strengthened clear Glass of approved make having properties as visible Light transmittance (VLT) of 25 to 35 %, Light reflection internal 10 to 15%, light reflection external 10 to 20 %, shading coefficient (0.25-0.28) and U value of 3.0 to 3.3 W/m2 degree K etc. The properties of performance glass shall be decided by technical sanctioning authority as per the site requirement.

Description Code Unit Quantity Amount

Details of cost for 6.72 sqm. Width of the unit 1.6 m Height of the unit 4.2 m Area of Single Unit 6.72

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Code	Description	Unit	Quantity	Rate ₹	Amount ₹
	Total Area 6.72 m2		.		
	No of Panels 1 no				
	Area of Glass deducting area of gap/				
	grove 5% 6.38 m2				
	Vision Height 2.2 m				
	Wastage 10% 0.638 m2				
	Details of cost for 6.72 sqm				
2617	6 mm thick High performance glass	sqm	7.02	1030.00	7230.60
2618	6 mm thick clear heat strengthened glass	sqm	7.02	670.00	4703.40
9999	Sundries (for insurance Charges)	L.S.	126.27	2.12	267.69
9999	Sundries (Fabrication charges including	L.S.	2120.13	2.12	4494.68
	silicon sealant, baker rod, desecant etc.)				
9999	Transporation including loading and unloading	L.S.	126.27	2.12	267.69
	TOTAL				16964.06
	Add Water Charges @ 1%				169.64
	TOTAL				17133.70
	Add GST 12% on "X"(multiplying factor 0.1405)				2407.28
	TOTAL				19540.99
	Add CPOH @ 15% on "Y"				2931.15
	Cost of 6.72 sqm				22472.13
	Cost of 1 sqm				3344.07
	add 1% labour cess				33.44
	Say		Rate per sqr	m	3377.50
	site all accessories and hardwares for the opena such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclu	-		-	
	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclu nuts, bolts, washers etc. all complete as per the	ding necessa Architectural	ıry stainless s drawings, as	steel screws	d/ fasteners,
	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclu nuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the Er	ding necessa Architectural	ıry stainless s drawings, as	steel screws	d/ fasteners,
	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the Er Details of cost for 1.76 sqm.	ding necessa Architectural	ıry stainless s drawings, as	steel screws	d/ fasteners,
	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the Er Details of cost for 1.76 sqm. Width of the	ding necessa Architectural	ıry stainless s drawings, as	steel screws	d/ fasteners,
	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the Er Details of cost for 1.76 sqm. Width of the unit 1.6 m	ding necessa Architectural	ıry stainless s drawings, as	steel screws	d/ fasteners,
	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the Er Details of cost for 1.76 sqm. Width of the unit 1.6 m Shuttter Weight	ding necessa Architectural	ıry stainless s drawings, as	steel screws	d/ fasteners,
	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the Er Details of cost for 1.76 sqm. Width of the unit 1.6 m Shuttter Weight Height of the unit	ding necessa Architectural	ıry stainless s drawings, as	steel screws	d/ fasteners,
	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the Er Details of cost for 1.76 sqm. Width of the unit 1.6 m Shuttter Weight Height of the unit 1.1 m	ding necessa Architectural	ıry stainless s drawings, as	steel screws	d/ fasteners,
	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the Err Details of cost for 1.76 sqm. Width of the unit 1.6 m Shuttler Weight Height of the unit 1.1 m Outer glass 6 mm	ding necessa Architectural	ıry stainless s drawings, as	steel screws	d/ fasteners,
	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the Err Details of cost for 1.76 sqm. Width of the unit 1.6 m Shuttter Weight Height of the unit 1.1 m Outer glass 6 mm Area 1.76 m2	ding necessa Architectural	ıry stainless s drawings, as	steel screws	d/ fasteners,
	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the Err Details of cost for 1.76 sqm. Width of the unit 1.6 m Shuttter Weight Height of the unit 1.1 m Outer glass 6 mm Area 1.76 m2 Inner glass 6 mm	ding necessa Architectural	ıry stainless s drawings, as	steel screws	d/ fasteners,
	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the Err Details of cost for 1.76 sqm. Width of the unit 1.6 m Shuttter Weight Height of the unit 1.1 m Outer glass 6 mm Area 1.76 m2 Inner glass 6 mm Aluminium Weight per	ding necessa Architectural	ıry stainless s drawings, as	steel screws	d/ fasteners,
	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the Errobetails of cost for 1.76 sqm. Width of the unit 1.6 m Shuttter Weight Height of the unit 1.1 m Outer glass 6 mm Area 1.76 m2 Inner glass 6 mm Aluminium Weight per m2 7.78 Kg/m2	ding necessa Architectural	ıry stainless s drawings, as	steel screws	d/ fasteners,
	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the Errobetails of cost for 1.76 sqm. Width of the unit 1.6 m Shuttter Weight Height of the unit 1.1 m Outer glass 6 mm Area 1.76 m2 Inner glass 6 mm Aluminium Weight per m2 7.78 Kg/m2 Al weight 13.7 Kg	ding necessa Architectural	ıry stainless s drawings, as	steel screws	d/ fasteners,
	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the Errobetails of cost for 1.76 sqm. Width of the unit 1.6 m Shuttter Weight Height of the unit 1.1 m Outer glass 6 mm Area 1.76 m2 Inner glass 6 mm Aluminium Weight per m2 7.78 Kg/m2 Al weight 13.7 Kg No of Locking Point 4 no	ding necessa Architectural	ıry stainless s drawings, as	steel screws	d/ fasteners,
	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the Errobetails of cost for 1.76 sqm. Width of the unit 1.6 m Shuttter Weight Height of the unit 1.1 m Outer glass 6 mm Area 1.76 m2 Inner glass 6 mm Aluminium Weight per m2 7.78 Kg/m2 Al weight 13.7 Kg No of Locking Point 4 no Total 67	ding necessa Architectural	ıry stainless s drawings, as	steel screws	d/ fasteners,
	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the Err Details of cost for 1.76 sqm. Width of the unit 1.6 m Shuttter Weight Height of the unit 1.1 m Outer glass 6 mm Area 1.76 m2 Inner glass 6 mm Aluminium Weight per m2 7.78 Kg/m2 Al weight 13.7 Kg No of Locking Point 4 no Total 67 Kg	ding necessa Architectural	ıry stainless s drawings, as	steel screws	d/ fasteners,
	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the Enderson Details of cost for 1.76 sqm. Width of the Unit 1.6 m Shuttter Weight Height of the Unit 1.1 m Outer glass 6 mm Area 1.76 m2 Inner glass 6 mm Aluminium Weight per m2 7.78 Kg/m2 Al weight 13.7 Kg No of Locking Point 4 no Total 67 Kg Wedge Block 1 no	ding necessa Architectural	ıry stainless s drawings, as	steel screws	d/ fasteners,
2619	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the Err Details of cost for 1.76 sqm. Width of the unit 1.6 m Shuttter Weight Height of the unit 1.1 m Outer glass 6 mm Area 1.76 m2 Inner glass 6 mm Aluminium Weight per m2 7.78 Kg/m2 Al weight 13.7 Kg No of Locking Point 4 no Total 67 Kg Wedge Block 1 no Details of cost for 1.76 sqm	ding necessa Architectural	ary stainless s drawings, as arge.	steel screws	s/ fasteners, proved shop
2619 2611	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the Err Details of cost for 1.76 sqm. Width of the unit 1.6 m Shuttter Weight Height of the unit 1.1 m Outer glass 6 mm Area 1.76 m2 Inner glass 6 mm Aluminium Weight per m2 7.78 Kg/m2 Al weight 13.7 Kg No of Locking Point 4 no Total 67 Kg Wedge Block 1 no Details of cost for 1.76 sqm 6 mm thick clear heat strengthened glass	ding necessa Architectural gineer-in-Cha	ary stainless s drawings, as arge.	steel screws per the app	of fasteners, proved shop
2611	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the Err Details of cost for 1.76 sqm. Width of the unit 1.6 m Shuttter Weight Height of the unit 1.1 m Outer glass 6 mm Area 1.76 m2 Inner glass 6 mm Aluminium Weight per m2 7.78 Kg/m2 Al weight 13.7 Kg No of Locking Point 4 no Total 67 Kg Wedge Block 1 no Details of cost for 1.76 sqm 6 mm thick clear heat strengthened glass EPDM Gasket in Kg (Above 60 g / m)	ding necessa Architectural gineer-in-Cha	ary stainless s drawings, as arge.	steel screws per the app 132.00 156.00	396.00 124.80
	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the Err Details of cost for 1.76 sqm. Width of the unit 1.6 m Shuttter Weight Height of the unit 1.1 m Outer glass 6 mm Area 1.76 m2 Inner glass 6 mm Aluminium Weight per m2 7.78 Kg/m2 Al weight 13.7 Kg No of Locking Point 4 no Total 67 Kg Wedge Block 1 no Details of cost for 1.76 sqm 6 mm thick clear heat strengthened glass EPDM Gasket in Kg (Above 60 g / m) SS Screws of sizes for structural glazing	ding necessa Architectural gineer-in-Cha geneer-in-ka each kg	ary stainless s drawings, as arge.	steel screws per the app	of fasteners, proved shop
2611	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the Err Details of cost for 1.76 sqm. Width of the unit 1.6 m Shuttter Weight Height of the unit 1.1 m Outer glass 6 mm Area 1.76 m2 Inner glass 6 mm Aluminium Weight per m2 7.78 Kg/m2 Al weight 13.7 Kg No of Locking Point 4 no Total 67 Kg Wedge Block 1 no Details of cost for 1.76 sqm 6 mm thick clear heat strengthened glass EPDM Gasket in Kg (Above 60 g / m) SS Screws of sizes for structural glazing / ACP Cladding	ding necessa Architectural gineer-in-Cha geneer-in-ka each kg	ary stainless s drawings, as arge.	steel screws per the app 132.00 156.00	396.00 124.80
2611 2614	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the Err Details of cost for 1.76 sqm. Width of the unit 1.6 m Shuttter Weight Height of the unit 1.1 m Outer glass 6 mm Area 1.76 m2 Inner glass 6 mm Aluminium Weight per m2 7.78 Kg/m2 Al weight 13.7 Kg No of Locking Point 4 no Total 67 Kg Wedge Block 1 no Details of cost for 1.76 sqm 6 mm thick clear heat strengthened glass EPDM Gasket in Kg (Above 60 g / m) SS Screws of sizes for structural glazing	each kg each metre	ary stainless s drawings, as arge. 3 0.8 49	132.00 156.00 4.00	396.00 124.80 196.00
2611 2614 2615	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the End Details of cost for 1.76 sqm. Width of the unit 1.6 m Shuttter Weight Height of the unit 1.1 m Outer glass 6 mm Area 1.76 m2 Inner glass 6 mm Aluminium Weight per m2 7.78 Kg/m2 Al weight 13.7 Kg No of Locking Point 4 no Total 67 Kg Wedge Block 1 no Details of cost for 1.76 sqm 6 mm thick clear heat strengthened glass EPDM Gasket in Kg (Above 60 g / m) SS Screws of sizes for structural glazing / ACP Cladding Protective Tape	each	ary stainless s drawings, as arge. 3 0.8 49 1.76	132.00 156.00 4.00	396.00 124.80 196.00
2611 2614 2615	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the End Details of cost for 1.76 sqm. Width of the unit 1.6 m Shuttter Weight Height of the unit 1.1 m Outer glass 6 mm Area 1.76 m2 Inner glass 6 mm Aluminium Weight per m2 7.78 Kg/m2 Al weight 13.7 Kg No of Locking Point 4 no Total 67 Kg Wedge Block 1 no Details of cost for 1.76 sqm 6 mm thick clear heat strengthened glass EPDM Gasket in Kg (Above 60 g / m) SS Screws of sizes for structural glazing / ACP Cladding Protective Tape ARMS GS HD -TOP HUNG -20"-TYPE P-	each kg each metre	ary stainless s drawings, as arge. 3 0.8 49 1.76	132.00 156.00 4.00	396.00 124.80 196.00 38.72 1390.00
2611 2614 2615 2620	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the End Details of cost for 1.76 sqm. Width of the unit 1.6 m Shuttter Weight Height of the unit 1.1 m Outer glass 6 mm Area 1.76 m2 Inner glass 6 mm Aluminium Weight per m2 7.78 Kg/m2 Al weight 13.7 Kg No of Locking Point 4 no Total 67 Kg Wedge Block 1 no Details of cost for 1.76 sqm 6 mm thick clear heat strengthened glass EPDM Gasket in Kg (Above 60 g / m) SS Screws of sizes for structural glazing / ACP Cladding Protective Tape ARMS GS HD -TOP HUNG -20"-TYPE P-COUPLE	each kg each metre pair	ary stainless s drawings, as arge. 3 0.8 49 1.76 1	132.00 156.00 4.00 22.00 1390.00	396.00 124.80 196.00 38.72 1390.00 0.00
2611 2614 2615 2620 2621 2622	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclu nuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the Err Details of cost for 1.76 sqm. Width of the unit 1.6 m Shuttter Weight Height of the unit 1.1 m Outer glass 6 mm Area 1.76 m2 Inner glass 6 mm Aluminium Weight per m2 7.78 Kg/m2 Al weight 13.7 Kg No of Locking Point 4 no Total 67 Kg Wedge Block 1 no Details of cost for 1.76 sqm 6 mm thick clear heat strengthened glass EPDM Gasket in Kg (Above 60 g / m) SS Screws of sizes for structural glazing / ACP Cladding Protective Tape ARMS GS HD -TOP HUNG -20"-TYPE P-COUPLE Connection Block Curtain wall striker	each kg each metre pair each	ary stainless s drawings, as arge. 3 0.8 49 1.76 1	132.00 156.00 4.00 22.00 1390.00 36.00 87.00	396.00 124.80 196.00 38.72 1390.00 0.00 72.00 348.00
2611 2614 2615 2620 2621	such as heavy duty stainless steel friction hinge stainless steel plates, handles, buffers etc. inclunuts, bolts, washers etc. all complete as per the drawings, as specified and as directed by the End Details of cost for 1.76 sqm. Width of the unit 1.6 m Shuttter Weight Height of the unit 1.1 m Outer glass 6 mm Area 1.76 m2 Inner glass 6 mm Aluminium Weight per m2 7.78 Kg/m2 Al weight 13.7 Kg No of Locking Point 4 no Total 67 Kg Wedge Block 1 no Details of cost for 1.76 sqm 6 mm thick clear heat strengthened glass EPDM Gasket in Kg (Above 60 g / m) SS Screws of sizes for structural glazing / ACP Cladding Protective Tape ARMS GS HD -TOP HUNG -20"-TYPE P-COUPLE Connection Block	each kg each metre pair each each	ary stainless s drawings, as arge. 3 0.8 49 1.76 1 2 4	132.00 156.00 4.00 22.00 1390.00	396.00 124.80 196.00 38.72 1390.00 0.00 72.00

Code	Description	Unit	Quantity	Rate ₹	Amount ₹
2625	Top wedge Block	each	1	122.00	122.00
9999	Sundries	L.S.	118	2.12	250.16
9999	Sundries (For Fabrication)	L.S.	354.36	2.12	751.24
	TOTAL				4352.92
	Add Water Charges @ 1%				43.53
	TOTAL				4396.45 (X)
	Add GST 12% on "X"(multiplying factor 0.1405)				617.70
	TOTAL				5014.15 (Y
	Add CPOH @ 15% on "Y"				752.12
	Cost of 1.76 sqm				5766.28
	Cost of 1 sqm				3276.29
	add 1% labour cess				32.76
	Say		Rate per sqr	m	3309.10
26A.5	Providing, fabricating and supplying shadow bo	x of required	size and sha	ne for fixing	in the

Providing, fabricating and supplying shadow box of required size and shape, for fixing in the spandrel portion of the structural glazing, in linear as well as curvilinear portions of the building by providing semi -rigid, inorganic, non-combustible fibre glass wool insulation 50 mm thick, conforming to IS: 8183 and BS: 3958 Part 5. Theinsulation layer shall have facing (factory bonded on surface # 1of the fibre glass insulation layer), of black non-woven fibre glass tissue of nominal thickness 0.5 mm and nominal mass not less than 60 gm / sqm, made of randomly oriented glass fibres distributed in a binder by a wet-lay process including fixing 1.5 mm thick solid aluminum sheet backing using, 6 mm thick cement board including SS rivets, nuts, bolts, washers etc

Details of cost for 3.23 sqm.

Width of the unit = 0.86 m Height of the unit = 3.75 m

Area = 3.23 m^2

Area including wastage @5 % 3.39

Details of cost for 3.23 sqm				
Glass wool Denisity 48 Kg / m3 with Black	sqm	3.39	255.00	864.45
Glass Tissue (BGT)				
GI/Aluminium Sheet (0.8 mm thick)	kg	21.3	55.00	1171.50
SS Screws - # 8 x 19	each	32	7.00	224.00
Weather Sealant - DC 789	cartridge	2	125.00	250.00
Cement Board	sqm	3.39	245.00	830.55
Sundries with clips & adhesives	L.S.	308.5	2.12	654.02
Sundries (For Fabrication)	L.S.	170.64	2.12	361.76
Sundries (For Installation)	L.S.	170.64	2.12	361.76
TOTAL				4718.03
Add Water Charges @ 1%				47.18
TOTAL				4765.21 (X)
Add GST 12% on "X" (multiplying factor 0.1405)				669.51
TOTAL				5434.73 (Y)
Add CPOH @ 15% on "Y"				815.21
Cost of 3.23sqm				6249.94
Cost of 1 sqm				1934.96
add 1% labour cess				19.35
Say		Rate per sqm		1954.30
	Glass wool Denisity 48 Kg / m3 with Black Glass Tissue (BGT) Gl/Aluminium Sheet (0.8 mm thick) SS Screws - # 8 x 19 Weather Sealant - DC 789 Cement Board Sundries with clips & adhesives Sundries (For Fabrication) Sundries (For Installation) TOTAL Add Water Charges @ 1% TOTAL Add GST 12% on "X"(multiplying factor 0.1405) TOTAL Add CPOH @ 15% on "Y" Cost of 3.23sqm Cost of 1 sqm add 1% labour cess	Glass wool Denisity 48 Kg / m3 with Black Glass Tissue (BGT) Gl/Aluminium Sheet (0.8 mm thick) SS Screws - # 8 x 19 Weather Sealant - DC 789 Cement Board Sundries with clips & adhesives L.S. Sundries (For Fabrication) L.S. Sundries (For Installation) TOTAL Add Water Charges @ 1% TOTAL Add GST 12% on "X"(multiplying factor 0.1405) TOTAL Add CPOH @ 15% on "Y" Cost of 3.23sqm Cost of 1 sqm add 1% labour cess	Glass wool Denisity 48 Kg / m3 with Black Glass Tissue (BGT) Gl/Aluminium Sheet (0.8 mm thick) SS Screws - # 8 x 19 Weather Sealant - DC 789 Cement Board Sundries with clips & adhesives L.S. 308.5 Sundries (For Fabrication) L.S. 170.64 Sundries (For Installation) TOTAL Add Water Charges @ 1% TOTAL Add GST 12% on "X"(multiplying factor 0.1405) TOTAL Add CPOH @ 15% on "Y" Cost of 3.23sqm Cost of 1 sqm add 1% labour cess	Glass wool Denisity 48 Kg / m3 with Black Glass Tissue (BGT) Gl/Aluminium Sheet (0.8 mm thick) SS Screws - # 8 x 19 Weather Sealant - DC 789 Cement Board Sundries with clips & adhesives Sundries (For Fabrication) Sundries (For Installation) TOTAL Add Water Charges @ 1% TOTAL Add CPOH @ 15% on "Y" Cost of 3.23sqm Cost of 1 sqm add 1% labour cess

Code	Description	Unit	Quantity	Rate ₹	Amount ₹
26A.6	Providing and supplying Spandrel Glass Panels of monolithic Providing and supplying Spandrel Glass strengthened monolithic float glass of approved of surface # 2 of approved colour and shade so as to vision panels etc., all complete for the required per Architectural drawings, as per the approved shop Engineer- in- Charge. For payment, only the actual (but excluding the area of grooves and weather sistall be measured in sqm.(Payment for fixing of Sincluded in cost of relevent Item*). (i) Coloured time reflective soft coating on face # 2, + 12mm Airgap approved make having properties as visible Light reflection internal 10 to 15%, light reflection externand U value of 3.0 to 3.3 W/m2 degree K etc The decided by technical sanctioning authority as per Details of cost for 3.23 sqm. Width of the unit = 0.86 m Height of the unit = 3.75 m Area = 3.23 m2 Area i/c wastage @ 5 % 3.39 m2 Details of cost for 3.23 sqm	ss Panels co colour and slo match the co erformances drawings, a ll area of glad licone sealad pandrel Glad ted float glad + 6mm Heat transmittand properties co	omprising of nade with recolour and sas specified, so on face # nt) provided so Panels in so 6mm thic Strengthen ce (VLT) of 2%, shading of performan	6 mm thick flective soft hade of the l, as per the and as direc 1 of the gla and fixed ir the curtain k substrate ed clear Gla 25 to 35 %, L coefficient (0	heat coating on IGUs in the cted by the ss panels n position, glazing is with ess of ight 0.25- 0.28)
2617	6 mm thick High performance glass	sqm	3.39	1030.00	
9999	Sundries (Insurance charges)	L.S.	43.46	2.12	
9999	Sundries (Fabrication charges including silicon sealant, baker rod, desecant etc.)	L.S.	682.55	2.12	1447.01
9999	Sundries (transporation including loading & unloading)	L.S.	147.59	2.12	312.89
	TOTAL Add Water Charges @ 1% TOTAL Add GST 12% on "X"(multiplying factor 0.1405) TOTAL Add CPOH @ 15% on "Y" Cost of 3.23 sqm Cost of 1 sqm add 1% labour cess				5343.73 53.44 5397.17 (X) 758.30 6155.47 (Y) 923.32 7078.79 2191.58 21.92

- 26A.7 Designing, fabricating, testing, installing and fixing in position Curtain Wall with Aluminium Composite Panel Cladding, with open grooves for linear as well as curvilinear portions of the building, for all heights and all levels etc. including:curvilinear portions of the building, for all heights and all levels etc. including:
 - a) Structural analysis & design and preparation of shop drawings for pressure equalisation or rain screen principle as required, proper drainage of water to make it watertight including checking of all the structural and functional design.
 - b) Providing, fabricating and supplying and fixing panels of aluminium composite panel cladding in pan shape in metalic colour of approved shades made out of 4mm thick aluminium composite panel material consisting of 3mm thick FR grade mineral core sandwiched between two Alumini um sheets (each0.5mm thick). The aluminium composite panel cladding sheet shall be coil coated, with Kynar 500based PVDF / Lumiflon based fluoropolymer resin coating of approved colour and shade on face # 1 and polymer (Service) coating on face # 2 as specified using stainless steel screws, nuts, bolts, washers, cleats, weather silicone sealant, backer rods etc.



Rate per sqm

2213.50

Code	Description	Unit	Quantity	Rate ₹	Amount ₹
	c) The fastening brackets of Aluminium alloy 6 and serrated washers to arrest the wind load n of approved make in SS 316, Nylon separators required to perform as per specification and delabour component, the cost of all mock ups at components for testing in an approved laborate wall with aluminium composite panel cladding occupation. Base frame work for ACP cladding Contractor shall provide curtain wall with aluminium performance characteristics all complete, as performance characteristics all complete.	novement, faste to prevent bi-m rawing The item site, cost of all tory, field tests of a line is payable und ninium composition of the Architect shop drawings only the actual a	h Hot Dip Galvaners, SS 316 petallic contact includes costs amples of the contection of the relevante panel clade tural drawings and as directarea on the example contection of the contection of the panel clade tural drawings and as directarea on the example contection of the example content of the exam	vanised with Pins and and atts all complet of all mate le individual bled working he curtain wat aluminium s, as per itemed by the Enternal face of	serrations chor bolts ete rial & g curtain all item.s The all the n gineer-in-of the
	curtain wall with Aluminum Composite Panel C measured in sqm. up to two decimal places.	Cladding (includ	ing width of g	roove) shall	be
	Details of cost for 6.72 sqm.				
	Width of the				
	unit 1.6 m				
	Height of the unit				
	4.2 m				
	Area of Single Unit 6.72 m2				
	Total				
	Area 6.72 m2				
	No of Panels 1 no				
	Area i/c wastage @ 5%				
	7.06 m2 Details of cost for 6.72 sqm				
2607	Weather Sealant - Non Staining (600 ml)	each	2	332	664.00
2608	Weather Sealant - Normal (300 ml)	each	2	102	204.00
2609	MS Brackets/Aluminium Alloy Brackets	kg	10	104	1040.00
2611	EPDM Gasket in Kg (Above 60 g / m)	kg	0.7	156	109.20
2612 2613	Anchor Fastner - M10 SS Bolt with washer of sizes for structural	each each	2 2	11 37	22.00 74.00
2013	glazing / ACP Cladding	Cacii	۷	37	74.00
2614	SS Screws of sizes for structural glazing	each	49	4	196.00
	/ ACP Cladding				
2615	Protective Tape	metre	7	22	154.00
2630 2616	Baker rod GI flashing - 1.2 mm Thick	metre	5 4	6 61	30.00
2631	4 mm thick ACP	kg sqm	7.06	1100.00	244.00 7766.00
9999	Sundries	L.S.	451	2.12	956.12
9999	Sundries (For Fabrication)	L.S.	1895.3	2.12	4018.04
9999	Sundries (For Installation)	L.S.	1895.3	2.12	4018.04
9999	Sundries (scaffolding /loading / unloading))	L.S.	602.25	2.12	1276.77
9999	Sundries (transportation)	L.S.	473.83	2.12	1004.52
9999	Sundries (Designing charges etc.) TOTAL	L.S.	328.15	2.12	695.68 22472.36
	Add Water Charges @ 1%				224.72
	Total				22697.08
	Add GST 12% on "X" (multiplying factor 0.1405)				3188.940
	Total	!!\/!!			25886.02
	Add for contractor's profit and over-heads @ 15% Cost of 6.72 sqm	on Y		_	3882.90 29768.93
	Cost of 0.72 sqffi Cost of 1 sqm				4429.90
	add 1% labour cess				44.30
	Say		Rate per sqm		

Code	Descriptio	on	Unit	Quantity	Rate ₹	Amount
26A.8	Design supply & installation of pressure as pr IS 875 (Part-III). Steel of approved manufacture together with SS- 316 Grade St mm thick. The Glass fins and g SS- 316 Grade stainless steel to 50x25x2mm using fastener & a Teflon/ nylon bushes and sepa specification and approveddra thermal expansion & seismic in gaps at the perimeter & in U ch sealant, so as to make the entitidesign, Engineering and shop scaffolding, other incidental configures in the purpose of pagioints and the portion of Glass	The Suspended System with glass panel had tainless steel Spider & glass panel assembly prackets & Anchor bottom bo	em held wiving 12 mr be bolt assesshall be controlled to the contr	ith Spider Fit methick clear ambly with lar onnected to State bottom Stacts, all combe designed are methods. The method temporal temporal foling temporal foling incling inclination in the inclination in t	tings of SS- toughened minated glad Slab/beams S channel of approved applete to per to accommanders (6 to 8 re staining weat rate shall indesigner, lal ary services ated glass of uding thicks	316 Grade glass held ss fins 21 by means of of make, rform as per odate mm) and other nclude all bour, T&P, all fitting
26.8X	Details of cost for 35.28 sqm. Rate as per Annexure to item 26. Spider fittings) for 35.28 sqm B: Local Hardware	.8X (A	each	1	102831.85	102831.851
	TOTAL Add Water Charges @ 1% Total Add GST 12% on "X" (multiplying Total Add for contractor's profit and ove Cost of 35.28 sqm Cost of 1 sqm	,	n		-	102831.851 1028.31851 103860.17 (X 14592.354 118452.52 (Y 17767.88 136220.402 3861.12249
26.8X	add 1% labour cess Say Annexure to item 26.8 (A Spide Details of cost for each. A: Spider fitting WD HT Qty Sqmt Façade area 7.00 5.04 1.00 35.28 Fin Area 0.40 2.30 5.00 4.60	er fittings).		Rate per sqn	n	38.61 3899.70
8945 8946 8947 8948 8949	4 Point facade glass bracket 2 Point facade glass bracket 1 Point facade glass bracket Flate head bolt 400 fin plate at top TOTAL = P		Nos Nos Nos Nos pair	5 2 12 46 5	3318.00 1659.00 1300.00 651.00 5931.00	16590.00 3318.00 15600.00 29946.00 29655.00 95109.00 P
	Add for CST @2 % on P P * 2 /100 = P + Q = Add for Octroi @ 6 % on R R * 6 /100 = R + S = A: Spider fitting					1902.18 Q 97011.18 R 5820.67 S 102831.85
BCD/SOR	Cost of each add 1% labour cess Say _11th Edition_ 2022	C \ 760 \	- B_	Each	9/ h	102831.85 1028.32 103860.20