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Structural Steel Takeoff — Portal-Frame Warehouse

Members scheduled as number × length × kg/m; fabrication, painting and erection priced per kg

Project	Steel portal-frame warehouse (example)
Location	Oluyole Estate, Ibadan
Client	Sunrise Foods Ltd (example)
Floor area	600 m² (30.0 × 20.0 m, 6.0 m eaves)
Prepared by	Example QS (sample)
Rates as at	Oct 2026 · Oluyole Estate, Ibadan

BASIS OF MEASUREMENT

• 30.0 m long × 20.0 m clear span, 7 portal frames at 5.0 m centres, 6.0 m eaves, 10° roof pitch.

• Section sizes are typical for this span — the engineer's design governs. Weights from standard UB / cold-formed tables.

• Steel rate = steel + fabrication + erection + primer and paint per kg (NigeriaBuildingCost.ng Steel Calculator rates).

• Foundations, floor slab, blockwork dado and roller-shutter doors are not included.

SUMMARY BY ELEMENT

#	Element	Amount (₦)	% of total
1	A Portal frames	₦34,609,950	64.4%
2	B Secondary steel	₦7,944,863	14.8%
3	C Bolts & fixings	₦1,007,800	1.9%
4	D Cladding	₦8,771,599	16.3%
5	E Transport & erection plant	₦1,414,000	2.6%
	Measured work	**₦53,748,212**	

Measured work	₦53,748,212
Preliminaries (%)	5.0%
Preliminaries	₦2,687,411
Contingency (%)	5.0%
Contingency	₦2,821,781
VAT (%)	7.5%
VAT	₦4,444,305
TOTAL	**₦63,701,708**

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Rates are Oluyole Estate, Ibadan market rates from NigeriaBuildingCost.ng (supply and fix unless stated). The project, client and dimensions are an example — replace them with your own drawings.

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Quantities are pulled from the Dimensions sheet — change a dimension there, or a rate here, and the totals update

A PORTAL FRAMES

Ref	Description	Qty	Unit	Rate (₦)	Amount (₦)
A1	Columns 406 × 178 × 60 UB	5,048.40	kg	₦2,350	₦11,863,740
A2	Rafters 356 × 171 × 45 UB	6,394.50	kg	₦2,350	₦15,027,075
A3	Eaves and apex haunches (cut from 356 UB)	1,197.00	kg	₦2,350	₦2,812,950
A4	Gable posts 203 × 133 × 25 UB	1,084.32	kg	₦2,350	₦2,548,152
A5	Plates: base, cap, end and stiffener plates	1,150.26	kg	₦2,050	₦2,358,033
				Carried to summary	**₦34,609,950**

B SECONDARY STEEL

Ref	Description	Qty	Unit	Rate (₦)	Amount (₦)
B1	Z175 × 2.0 galvanised purlins @ 1.5 m, incl. sleeves	2,374.56	kg	₦1,200	₦2,849,472
B2	Z145 × 1.6 side rails @ 1.5 m	1,372.16	kg	₦1,200	₦1,646,592
B3	Roof and wall bracing, 60 × 60 × 6 angles	823.84	kg	₦2,400	₦1,977,216
B4	Eaves beam / strut, 100 × 100 × 4 SHS	714.00	kg	₦1,950	₦1,392,300
B5	Sag rods 12 mm	51.15	kg	₦1,550	₦79,283
				Carried to summary	**₦7,944,863**

C BOLTS & FIXINGS

Ref	Description	Qty	Unit	Rate (₦)	Amount (₦)
C1	M24 holding-down bolts with plates, cast in	80.00	nr	₦3,550	₦284,000
C2	M20 grade 8.8 bolts to haunch / apex connections	168.00	nr	₦1,600	₦268,800
C3	M12 bolts to purlins and rails	720.00	nr	₦450	₦324,000
C4	Grout under base plates, 25 mm non-shrink	20.00	nr	₦6,550	₦131,000
				Carried to summary	**₦1,007,800**

D CLADDING

Ref	Description	Qty	Unit	Rate (₦)	Amount (₦)
D1	0.55 mm long-span aluminium roof sheets on purlins	639.82	m²	₦7,950	₦5,086,569
D2	Translucent GRP roof sheets (10% of roof)	63.00	m²	₦10,850	₦683,550
D3	Deduct aluminium sheets replaced by rooflights	-63.00	m²	₦7,950	-₦500,850

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D4	0.45 mm aluminium wall cladding above 2.4 m blockwork dado	380.00	m²	₦6,300	₦2,394,000
D5	Ridge, verge and corner flashings	96.20	m	₦6,050	₦582,010
D6	Galvanised box gutters and 100 mm downpipes	61.20	m	₦8,600	₦526,320
				Carried to summary	**₦8,771,599**

E TRANSPORT & ERECTION PLANT

Ref	Description	Qty	Unit	Rate (₦)	Amount (₦)
E1	Transport steel to site	20.00	tonne	₦40,400	₦808,000
E2	Mobile crane hire for erection	6.00	day	₦101,000	₦606,000
				Carried to summary	**₦1,414,000**

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Dimensions — Structural Steel Takeoff — Portal-Frame Warehouse

Quantity = timesing × length × width × height/depth (blank = 1). Negative timesing = deduction (openings, voids).

A PORTAL FRAMES

Ref	Location / dimension	Times	L (m)	W (m)	H/D (m)	Quantity	Unit
A1 Columns 406 × 178 × 60 UB (kg)							
A1	7 frames × 2 columns × 6.0 m	14.000	6.000	60.100		5,048.40	kg
	Total carried to Priced Takeoff					5,048.40	kg
A2 Rafters 356 × 171 × 45 UB (kg)							
A2	7 frames × 2 rafters × 10.15 m (10.0 ÷ cos 10°)	14.000	10.150	45.000		6,394.50	kg
	Total carried to Priced Takeoff					6,394.50	kg
A3 Eaves and apex haunches (cut from 356 UB) (kg)							
A3	Eaves haunches 1.5 m	14.000	1.500	45.000		945.00	kg
A3	Apex haunches 0.8 m	7.000	0.800	45.000		252.00	kg
	Total carried to Priced Takeoff					1,197.00	kg
A4 Gable posts 203 × 133 × 25 UB (kg)							
A4	2 gables × 3 posts, avg 7.2 m	6.000	7.200	25.100		1,084.32	kg
	Total carried to Priced Takeoff					1,084.32	kg
A5 Plates: base, cap, end and stiffener plates (kg)							
A5	Base plates 400 × 300 × 20	20.000	0.400	0.300	157.000	376.80	kg
A5	End plates 450 × 200 × 20	42.000	0.450	0.200	157.000	593.46	kg
A5	Stiffeners (allow)	1.000	180.000			180.00	kg
	Total carried to Priced Takeoff					1,150.26	kg

B SECONDARY STEEL

Ref	Location / dimension	Times	L (m)	W (m)	H/D (m)	Quantity	Unit
B1 Z175 × 2.0 galvanised purlins @ 1.5 m, incl. sleeves (kg)							
B1	8 lines per slope × 2 slopes × 30.6 m	16.000	30.600	4.850		2,374.56	kg
	Total carried to Priced Takeoff					2,374.56	kg
B2 Z145 × 1.6 side rails @ 1.5 m (kg)							
B2	Long sides, 4 rows	8.000	30.600	3.350		820.08	kg
B2	Gables, 4 rows	8.000	20.600	3.350		552.08	kg
	Total carried to Priced Takeoff					1,372.16	kg
B3 Roof and wall bracing, 60 × 60 × 6 angles (kg)							
B3	Roof bracing, end bays (X)	8.000	11.200	5.420		485.63	kg
B3	Wall bracing, end bays (X)	8.000	7.800	5.420		338.21	kg
	Total carried to Priced Takeoff					823.84	kg
B4 Eaves beam / strut, 100 × 100 × 4 SHS (kg)							
B4	Both eaves	2.000	30.000	11.900		714.00	kg
	Total carried to Priced Takeoff					714.00	kg

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B5 Sag rods 12 mm (kg)							
B5	3 lines per bay per slope	36.000	1.600	0.888		51.15	kg
	Total carried to Priced Takeoff					51.15	kg

C BOLTS & FIXINGS

Ref	Location / dimension	Times	L (m)	W (m)	H/D (m)	Quantity	Unit
C1 M24 holding-down bolts with plates, cast in (nr)							
C1	4 per column	80.000				80.00	nr
	Total carried to Priced Takeoff					80.00	nr
C2 M20 grade 8.8 bolts to haunch / apex connections (nr)							
C2	8 per eaves, 8 per apex	1.000	168.000			168.00	nr
	Total carried to Priced Takeoff					168.00	nr
C3 M12 bolts to purlins and rails (nr)							
C3	4 per cleat × purlin / rail ends	1.000	720.000			720.00	nr
	Total carried to Priced Takeoff					720.00	nr
C4 Grout under base plates, 25 mm non-shrink (nr)							
C4	Each base	20.000				20.00	nr
	Total carried to Priced Takeoff					20.00	nr

D CLADDING

Ref	Location / dimension	Times	L (m)	W (m)	H/D (m)	Quantity	Unit
D1 0.55 mm long-span aluminium roof sheets on purlins (m²)							
D1	Roof 30.6 × 20.6 × slope factor 1.015	1.000	30.600	20.600	1.015	639.82	m²
	Total carried to Priced Takeoff					639.82	m²
D2 Translucent GRP roof sheets (10% of roof) (m²)							
D2	Rooflights	14.000	3.000	1.500		63.00	m²
	Total carried to Priced Takeoff					63.00	m²
D3 Deduct aluminium sheets replaced by rooflights (m²)							
D3	Rooflights	-14.000	3.000	1.500		-63.00	m²
	Total carried to Priced Takeoff					-63.00	m²
D4 0.45 mm aluminium wall cladding above 2.4 m blockwork dado (m²)							
D4	Long sides	2.000	30.000		3.600	216.00	m²
D4	Gables (incl. triangle)	2.000	20.000		4.500	180.00	m²
D4	Deduct roller-shutter door heads	-2.000	4.000		2.000	-16.00	m²
	Total carried to Priced Takeoff					380.00	m²
D5 Ridge, verge and corner flashings (m)							
D5	Ridge	1.000	30.600			30.60	m
D5	Verges	4.000	10.400			41.60	m
D5	Corners	4.000	6.000			24.00	m
	Total carried to Priced Takeoff					96.20	m
D6 Galvanised box gutters and 100 mm downpipes (m)							
D6	Eaves	2.000	30.600			61.20	m
	Total carried to Priced Takeoff					61.20	m

E TRANSPORT & ERECTION PLANT

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Ref	Location / dimension	Times	L (m)	W (m)	H/D (m)	Quantity	Unit
E1 Transport steel to site (tonne)							
E1	Frame + secondary steel (A1–B5 ≈ 20.0 t)	1.000	20.000			20.00	tonne
	Total carried to Priced Takeoff					20.00	tonne
E2 Mobile crane hire for erection (day)							
E2	Erection of 7 frames + gables	1.000	6.000			6.00	day
	Total carried to Priced Takeoff					6.00	day

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