Specification

ROOF DECK - 76 mm, GALVANIZED DECK SHEET

Physical properities

Nominal Thickness	Design Thickne	Overall Depth	Weight	Allowable Bearing 3 in.		Section Modulus		Moment of inertia	submittal conditions
Gauge	In	In	Lbs./ft.²	end	interior	M+	M-	In.?	* The properities in the table were calculated according to AISI 1996 Specification (ZAMIL SPECS) - Contractor to Consultant / client shall submit the required value engineering (V.E) and complete details and specification for deck sheet and the related steel accessoris for approval.
(nom. thickness)	(mm)	(mm)	(kg/m²)	Lbs. (kN)	Lbs. (kN)	In.³ (mm³)	In.³ (mm³)	(mm?)	
18	0.04479	3.02	3.75	1.449	2.961	0.087	0.809	1.356	
(1.21)	(1.22)	(76.60)	(18.33)	(21.15)	(42.56)	-43.41	(43.51)	(2 380 559)	

Service Load Table (kpa)

Gauge	Design Thick.	Single Sapn (mm)												
		2400	2550	2700	2850	3000	3150	3300	3450	3600	3750	3900	4050	4400
18	1.22	8.40	7.45	6.64	(5.76)	(5.01)	(4.39)	(3.88)	(3.46)	(3.10)	(2.80)	(2.54)	(2.32)	(2.13)

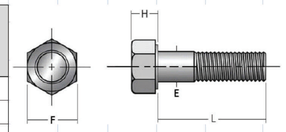
* Deck Profile shall be with embossments to act in composite action with a concrete slab.
* Deck Profile shall be with perforated web elements that reduce noise reverberation.
* Deck Profile shall be acoustical Deck and supplied with fiberglass insulation pads (AF-110) wish assist in absorbing sound. These pads must be installed at the same time as he roofing and floor materials (such as concrete) in order to avoid exposure to bad weather and loss of acoustical prosperities.
* Deck profile shall be complying with ASTM standard A653 with Zinc thickness corresponding to G90 (Z275).

Steel fasteners

1. ASTM A490, Standard for heavy hex structural bolts made from alloy stee Structural Bolts, Heat Treated, 150 ksi Minimum Tensile Strength.
2. ASTM A354, Grade BD, 3/4" nominal size, plain.
3. F2280 Standard Specification for "Twist Off" Type Tension Control Structural Bolt/Nut/Washer Assemblies, Steel, Heat Treated, 150 ksi Minimum Tensile Strength

Nominal size	E Full-Size Body Diameter		F Width Across Flats		H Had Hight		Use for
(Inch)	Max.	Min.	Max.	Min.	Max.	Min.	
1	1.0000	0.9900	1.500	0.736	0.627	0.591	Bracing joints
3/4	0.7500	0.741	1.125	1.100	0.483	0.455	Beams joints
							Columns / RC foundation

Length and Thread Length per ASME B18.2.1



American " W " Steel Profile

Specification for Structural Steel Buildings is designed in accordance to AISC 360. Stell properiteis shall complying with the bellow table

Applicable ASTM Specifications for Various Structural Shapes

Steel Type	ASTM Designation		F_y Min. Yield Stress (ksi)	F_u Tensile Stress[a] (ksi)	Applicable Shape Series: W	M	S	HP	C	MC	L	HSS Rect.	HSS Round	Pipe
Carbon	A36		36	58–80[b]	■	■	■	■	■	■	■			
	A53 Gr. B		35	60										■
	A500	Gr. B	42	58									■	
			46	58								■		
		Gr. C	46	62									■	
			50	62								■		
	A501	Gr. A	36	58								■	■	
		Gr. B	50	70								■	■	
	A529[c]	Gr. 50	50	65–100	■	■	■	■	■	■	■			
		Gr. 55	55	70–100	■	■	■	■	■	■	■			
High-Strength Low-Alloy	A572	Gr. 42	42	60	■	■	■	■	■	■	■			
		Gr. 50	50	65[d]	■	■	■		■	■	■			
		Gr. 55	55	70	■	■	■	■	■	■	■			
		Gr. 60[e]	60	75	■	■	■	■	■	■	■			
		Gr. 65[e]	65	80	■	■	■	■	■	■	■			
	A618[f]	Gr. I & II	50[g]	70[g]	■	■	■	■	■	■	■	■	■	
		Gr. III	50	65	■	■	■	■	■	■	■	■	■	
	A913	50	50[h]	60[h]	■	■	■	■	■	■	■	■	■	
		60	60	75	■	■	■	■	■	■	■	■	■	
		65	65	80	■	■	■	■	■	■	■	■	■	
		70	70	90	■	■	■	■	■	■	■	■	■	
	A992		50–65[i]	65[i]	■									
Corrosion Resistant High-Strength Low-Alloy	A242		42[j]	63[j]	■			■						
			46[k]	67[k]	■									
			50[l]	70[l]	■	■	■	■	■	■	■			
	A588		50	70	■	■	■	■	■	■	■			
	A847		50	70	■	■	■	■	■	■	■	■	■	

[a] Minimum unless a range is shown.
[b] For shapes over 426 lb/ft, only the minimum of 58 ksi applies.
[c] For shapes with a flange thickness less than or equal to 1.5 in. only. To improve weldability a maximum carbon equivalent can be specified (per ASTM Supplementary Requirement S78). If desired, maximum tensile stress of 90 ksi can be specified (per ASTM Supplementary Requirement S79).
[d] If desired, maximum tensile stress of 70 ksi can be specified (per ASTM Supplementary Requirement S91).
[e] For shapes with a flange thickness less than or equal to 2 in. only.
[f] ASTM A618 can also be specified as corrosion-resistant; see ASTM A618.
[g] Minimum applies for walls nominally ¾-in. thick and under. For wall thicknesses over ¾ in., F_y = 46 ksi and F_u = 67 ksi.
[h] If desired, maximum yield stress of 65 ksi and maximum yield-to-tensile strength ratio of 0.85 can be specified (per ASTM Supplementary Requirement S75).
[i] A maximum yield-to-tensile strength ratio of 0.85 and carbon equivalent formula are included as mandatory in ASTM A992.
[j] For shapes with a flange thickness greater than 2 in. only.
[k] For shapes with a flange thickness greater than 1.5 in. and less than or equal to 2 in. only.
[l] For shapes with a flange thickness less than or equal to 1.5 in. only.

■ Preferred material specification. ■ Other applicable material specification, the availability of which should be confirmed prior to specification. □ Material specification does not apply.

Quantities Schedule - Columns & Beams

Beams

Beam Name	ASTM Code	L / m	weight kg/m	weight Beam / kg	Beam Qty / No.	Total weight kg
fourth slab						
IB01	W12X35	10.59	52	550.68	10	5,506.80
IB02	W12X35	10.84	52	563.68	9	5,073.12
IB03	W12X35	8.52	52	443.04	10	4,430.40
IB04	W21X93	10.22	138	1,410.36	4	5,641.44
IB05	W21X93	10.18	138	1,404.84	4	5,619.36
IB06	W21X93	10.14	138	1,399.32	4	5,597.28
Sub Total					**kg**	**31,868.40**
third slab						
IB01	W12X35	10.59	52	550.68	10	5,506.80
IB02	W12X35	10.84	52	563.68	9	5,073.12
IB03	W12X35	8.52	52	443.04	10	4,430.40
IB04	W21X93	10.22	138	1,410.36	4	5,641.44
IB05	W21X93	10.18	138	1,404.84	4	5,619.36
IB06	W21X93	10.14	138	1,399.32	4	5,597.28
Sub Total					**kg**	**31,868.40**
second slab						
IB01	W12X35	10.59	52	550.68	6	3,304.08
IB02	W12X35	10.84	52	563.68	5	2,818.40
IB03	W12X35	8.52	52	443.04	6	2,658.24
IB04	W21X93	10.22	138	1,410.36	4	5,641.44
IB05	W21X93	10.18	138	1,404.84	2	2,809.68
IB06	W21X93	10.14	138	1,399.32	2	2,798.64
Sub Total					**kg**	**20,080.53**
first slab						
IB01	W12X35	10.59	52	550.68	5	2,753.40
IB02	W12X35	10.84	52	563.68	4	2,254.72
IB03	W12X35	8.52	52	443.04	5	2,215.20
IB04	W21X93	10.22	138	1,410.36	4	5,641.44
IB05	W21X93	10.18	138	1,404.84	0	-
IB06	W21X93	10.14	138	1,399.32	0	-
Sub Total					**kg**	**12,864.76**
Grand Total Qty. for Beams						**96,682.09**

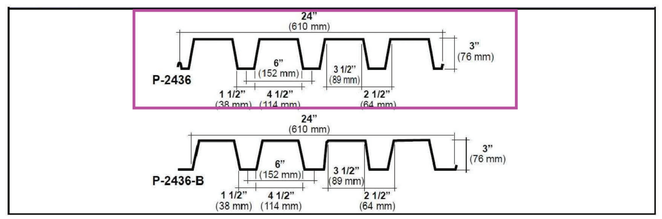
Colomns

C01	W24X131	13.87	195	2,704.65	8	21,637.20
C02	W21X73	13.87	109	1,511.83	8	12,094.64
Total Qty. for Columns						**33,731.84**

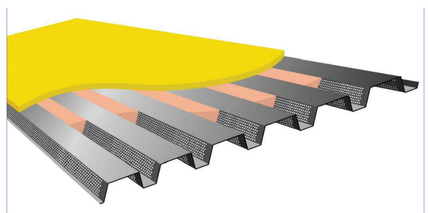
Bracing weight & dimensions shall be as per site mesurement and in accordance to the indication details in drawings S-300 & S-101 detail # H & M

Deck Profile

Nominal Thickness	Design Thickness	Overall Depth	Weight	First salb m² (kg)	Second slab m² (kg)	Third slab m² (kg)	Fourth slab m² (kg)
Gauge	In	In	Lbs./ft.²	300 (5,500)	300 (5,500)	962 (17,634)	962 (17,634)
(nom. thickness)	(mm)	(mm)	(kg/m²)				
18	0.04479	3.02	3.75	**Total Qty.**		**m²**	**2,524.00**
(1.21)	(1.22)	(76.60)	**(18.33)**	**Total Qty.**		**kg**	**46,264.92**



DECK SHEET DIMENSIONS
FOR CONSTRUCTION



ACOUSTICAL / PERFORATED DECK SHEET
SCHEMATIC DWG - FOR CONSTRUCTION

NOTES:

1. DO NOT SCALE FROM THIS DRAWING.
2. ALL DIMENSIONS ARE IN MILLIMETERS, LEVELS ARE IN METERS UNLESS NOTED OTHERWISE.
3. CONTRACTOR SHALL SUBMIT:
   3.1 SHOP DRAWINGS
   3.2 STEEL MILL TEST CERTIFICATE FOR STEEL MEMBERS.
   3.3 TEST FOR STEEL MEMBERS IN ACCORDANCE TO "ASTM " AND "AISC"
   3.4 VALUE ENGINEERING (IF ANY) SHALL COMPLYING WITH "AISC" AND THE LIKE, COMPLETE, AND,,,,
   3.5 CONTRACTOR SHALL SUBMIT TO CLIENT / CONSULTANT THE EXECUTIONS DRAWINGS AND ALL RELATED DOCUMENTS SUCH AS STEEL CUTTING SHEET SCHEDULE AND THE PROPOSAL "V.E" FOR APPROVAL..

N

LEGEND:

S.L: SLAB LEVEL

S.O.G: SLAB ON GRADE

ISSUED FOR CONSTRUCTION (IFC)
BUT NOT FOR EXECUTION

REVERSIONS REFEENCES

REV #	DESCRIPTION	DATE
00	ISSUED FOR CONSTRUCTION	MAY. 2017

Client Name:
Mr. Habeeb Al Wakeel

Project Name:
AL WAKEEL ALUMINIUM FACTORY - HEAD QUARTER

Consultant (Saudi Arabia):

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Partner consultant / Structure (Lebanon):

Dr. Kamal Bou Zeineddine Office
Geo-Technical & Structural Engineering

Drawing Title:

SCHEDULE
QUANTITY & SPECIFICATION

Lot No.	Location
	Dammam , KSA

Contact Ref.	Contact Typ.	Date
		MAY. 2017

Drawn by	Designed by	Approved by
	Osama Fayad	

Scale	Drawing No.	Date
1:50	S-100	