元拓建材集团
ADTO GROUP

PRE-ENGINEERING STEEL STRUCTURE BUILDING

ADTO INDUSTRIAL GROUP LIMITED
Changsha Xiangjia Metal Material Co., Ltd.
ADD:11F&16F,MINGCHENG INTL BLDG,CHANGSHA CITY.CHINA
TEL: 86-731-85526336
FAX: 86-731-89925505
www.adtomall.com
E-mail: info@adtomall.com

PRODUCTION BASE #1: JIAYU COUNTY, HUBEI, CHINA
PRODUCTION BASE #2: JINGHAI COUNTY, TIANJIN, CHINA
PRODUCTION BASE #3: TANGSHAN CITY, HEBEI, CHINA
PRODUCTION BASE #4: NANJING, CHINA

SERVICE PROVIDER OF INTEGRATED ENGINEERING MATERIALS

ENGINEERING SUPPLIES ONE-STOP SERVICE

INTRODUCTION

ADTO GROUP, founded in 1998, and enter the market of scaffolding systems since 2010. With 5 years'exploding development on scaffolding & formwork, ADTO group has been one of the leading scaffolding system brands in China. After 18 years'development, the group now has 8 subsidiaries and 4 manufacturing plants.To be holonomic supply chain of building engineering material, ADTO GROUP has formed to be an industry enterprise integrated with 3 operation platforms including building material, business division and engineering material service. Providing comprehensive service integrated equipment, material, technical security, talent training and building construction for engineering field.

The steelwork division is one of the most competitive division that with great potential in ADTO GROUP.By adopt advanced divisional system management mode. We trained a professional technical personnel team and sales team. We own sound sales network, quick-minded service, perfect quality control system, strict management system and advanced testing methods, as well, we own steel structure and structure steel factory with advanced R&D Department focus on light steel warehouse & workshop, steel welded grating, steel barrier. Our products are widely used in civicism project, oil & drilling working platform ,industry zone, road safety area.

The group business has covered more than 50 countries and regions including China, Southeast Asia, Mid-east, Europe, America and Oceania countries.ADTO GROUP also is the assigned supplier of CNPC,SNP.

ADTO | PRE-ENGINEERING STEEL STRUCTURE BUILDING

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PRE-ENGINEERING BUILDING

Pre engineered building is a steel structure built over a structural concept of primary members, secondary members, and the cover sheeting connected to each other. The structural members are custom designed to be lighter in weight as well as high in strength.

Today and in the future, Steel has become the material of choice in building construction, compared to concrete and timber. Thus steel building designs have become more flexible, durable and adaptable.

Pre Engineered Steel Buildings (PEB) revolutionized the construction market using built-ups in place of conventional Hot Rolled Sections. Pre-Engineered Steel Buildings can be fitted with different structural additions like trusses, mezzanine floors, fascias, canopies and crane systems as per user requirements.

Pre-engineered buildings are ideal for use in non residential, wide span low rise buildings. Among the advantages of PEB is low cost, consistent quality control, and fast delivery to name a few. PEB buildings are used for diverse applications such as factories, warehouses, offices, shopping malls, schools, hospitals, community buildings and several more.

THE BASIC PARAMETERS OF PEB BUILDING ARE:

BUILDING LENGTH :

The between the outside from flanges of end wall columns in opposite end walls is considered the building length.

BUILDING HEIGHT :

Building height is the eave height which usually is the distance from the bottom of the main frame column base plate to the top outer point of the eave strut. When columns are recessed or elevated from finished floor, eave height is the distance from finished floor level to top of eave strut.

ROOF SLOPE :

This is the angle of roof with respect to the Horizontal. The most common roof slopes are 1/10 and 1/20. Though any practical roof slope is possible as per customer's requirement.

DESIGN LOADS :

Unless otherwise specified PEB are designed for the following minimum loads.

ROOF LIVE LOADS

Design for snow loads, Seismic loads, collateral loads, or any other local climatic condition must be specified at the time of quotation.

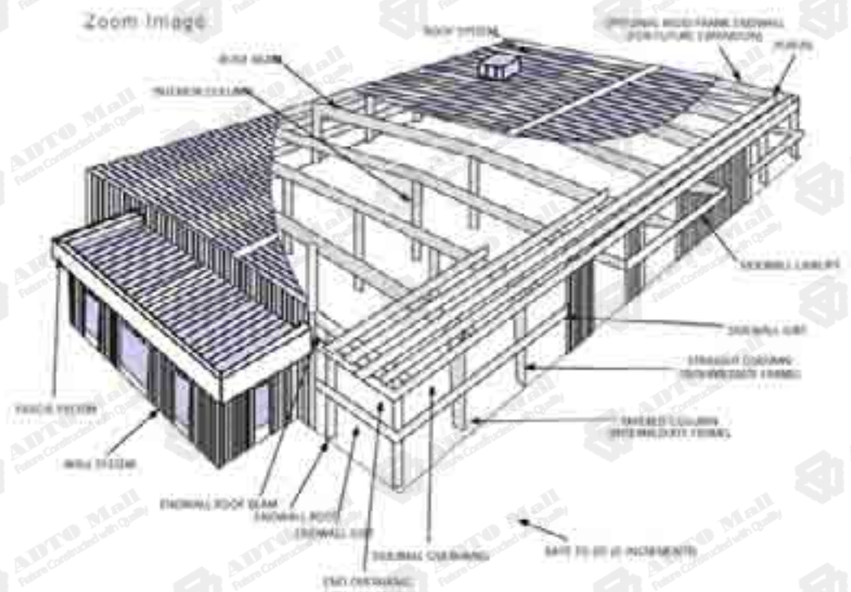
DESIGN WIND SPEED

It is calculated as per location.

As a leading PEB manufacturer ADTO provides the complete service of engineering and fabrication thus ensuring better quality control at every stage of the process.

PRE ENGINEERED BUILDING CONSISTS OF FOLLOWING COMPONENTS:

* Intermediate Frame : Rafter
* Intermediate Frame : Column
* Bearing Frame : Rafter
* Bearing Frame : Corner column
* Endwall column
* Tie rods for wind bracing
* Purlins
* Wind bracing
* Strut purlin for wind bracing
* Eave struct
* Rake angle
* Girts
* Roof panels
* Wall panels
* Blanket insulation
* Foam Filler
* Inside gutter
* Valley gutter
* Ridgevent
* Turbovent
* Sectional door
* Single door
* Window
* Monitor
* Canopy
* Parapet, Sidewall
* Parapet, endwall
* Crane runway
* Bridge crone
* Mezzanine
* Skylight



Steel framework, composing with steel beam and steel column, is bearing system connected by steel or hinge joint.That is to say it's framework, composing with beam and column to resistant to horizontal load and vertical load in application.The structural house wall doesn't bearing, it just separate and protect in function.

Comprehensively satisfy various demands of great span, multi levels,high load support crane work, widelY apply in industrial and civil building like residence,school, office building, theatre, shopping mall, gym , station, exhibition, aeroplane shed,park and light industry workshop

Portal frame is lightweight house structure system, main body with H Shape steel, applying light gauge cold-formed steel shape as purlin and wall beam, pressed metal plate as roof and wall, making heat insulation with material of polystyrene polyfoam,hard Polyurethane polyfoam, rock wool, glass wool etc.

STEEL STRUCTURE

ROOFING TRUSS

Roof trusses are triangular structures that provide the support and stability to the roof and distributes the weight of the roof away from the exterior walls of the building.

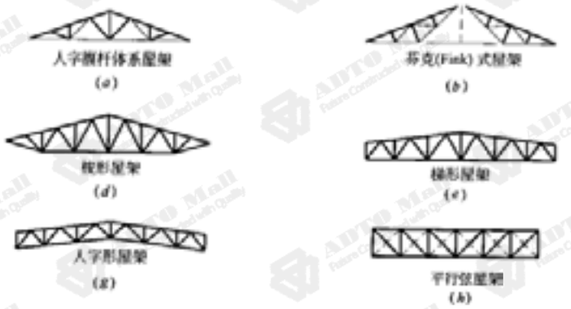
There are a number of different designs for roof trusses and the best design for any building will depend on.

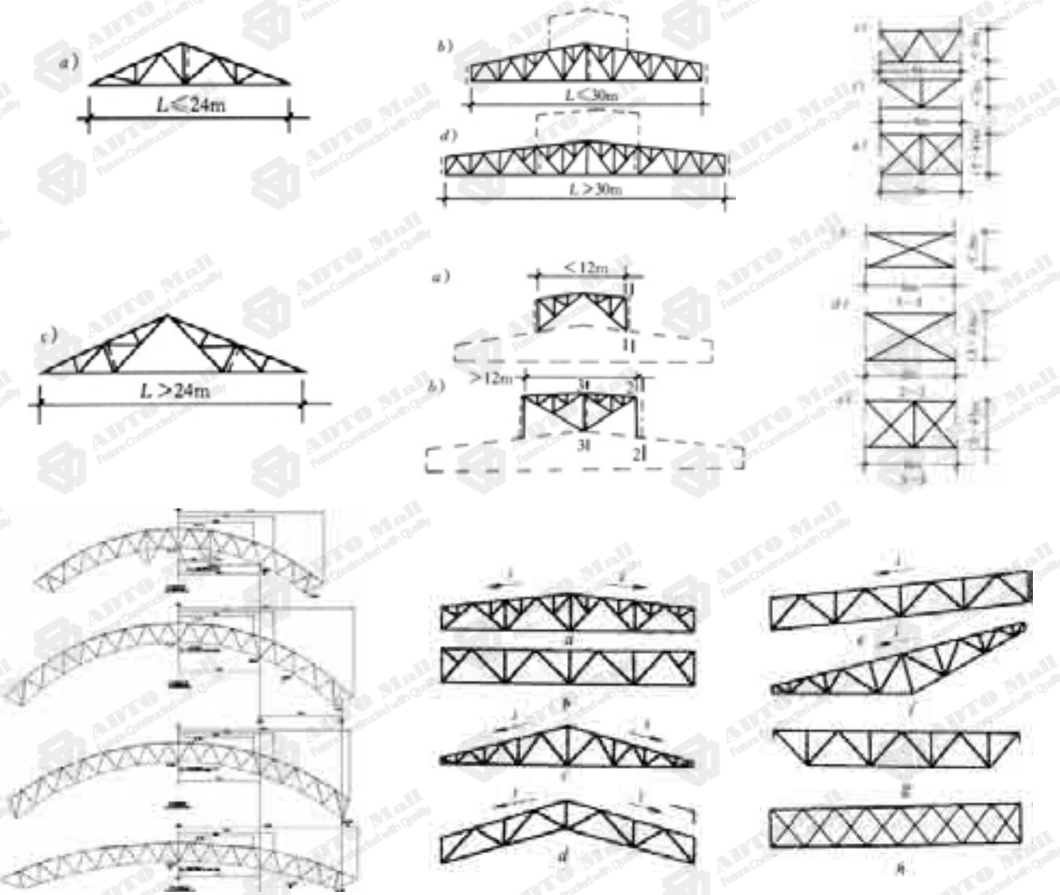
* the stresses the building roof is likely to experience
* the aesthetic preferences of the home owner
* and the size of open areas within the building.
* the type of extreme weather conditions prevalent in the area where the home or building is being built.

Many home builders order roof trusses from a manufacturer and have them delivered to a building site because building roof trusses is labor intensive and prefabricated roof trusses save time and money.

OUR FABRICATED TYPE

* Arched Roof Truss
* Arched-truss Bridge
* English Roof Truss
* V-roof
* Arched Roof
* Roof Truss
* N-truss





C & Z PURLINE

‘C’ CHANNEL

Adto introduces cold form secondary member (Z & C) manufactured using advance roll forming technology machine to produce longer sections under close tolerances. This Z sections are recommended for roof and C girt for side wall cladding in required size and thickness.

To enhance the structural strength of sections small ribs has been provided in Z and C sections. These Z and C sections are offered duly pre-punched holes and in required sizes.

MATERIAL SPECIFICATIONS

* Galvanised steel in 175/275 GSM
* Hot Rolled steel in 345/245 Mpa

ADTO offers cold form standard section i.e C girts as well as custom profiles and punching patterns. We offer this C-purlins / C-girts in various depths and flange widths. See the details enclosed.

In this section you'll find sample calculations for determining wind and snow loads as well as C-purlin/C-girt weight tables.

PURLIN CLIP AND GIRT CLIP

THE FEATURES OF C-GIRT FORMING MACHINE

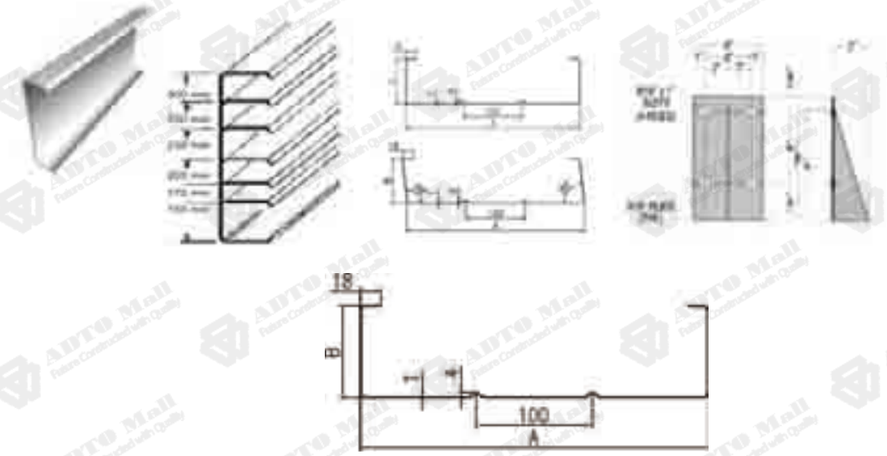
* C-Purlin Forming Machine can produce many sizes of C shaped purlins.
* The whole line mainly consists of its base, coil sheet flattening equipment, C forming system. punching equipment, post cutting equipment, hydraulic station, and controlling system

MATERIAL SPECIFICATIONS

* Galvanised steel in 175/275GSM.
* Hot Rolled steel in 345/245 Mpa

ADVANTAGES:

* Structurally strong.
* Uniform and straight.
* Pre punched holes and required lenth.
* Saving in cost up to 30% due to better deisgn.
* Close tolerances on sectional dimensions due to automatic controlled manufacturing.
* Fast to erect and easy handling.
* Economy due to reduction in dead weight.



NO	A	B		T (mm)	F (mm2)	Weight (Kg/M)	Iy (mm4)	Σ Z (mm4)	Vy (mm3)	Coil width(mm)
1	300	80	T1	1.5	7.2869	5.7203	53.57	933.83	8.71	476
			T2	2	9.6378	7.5656	69.7	1231.43	11.35	
			T3	2.5	11.9347	9.3687	84.86	1520.72	13.84	
			T4	3	14.167	11.1211	98.96	1800.56	16.16	
2	250	80	T1	1.5	6.5369	5.1315	50.94	607.32	8.57	426
			T2	2	8.6378	6.7806	66.25	799.76	11.16	
			T3	2.5	10.6847	8.3875	80.62	986.14	13.6	
			T4	3	12.667	9.9436	93.95	1165.6	15.87	
3	230	80	T1	1.5	6.2369	4.896	49.71	499.92	8.5	406
			T2	2	8.2378	6.467	64.64	657.87	11.06	
			T3	2.5	10.1847	7.995	78.63	810.52	13.48	
			T4	3	12.0670	9.4726	91.6	957.18	15.73	
4	200	70	T1	1.5	5.4869	4.3073	34.36	332.24	6.8	355
			T2	2	7.2378	5.6816	44.54	436.27	8.83	
			T3	2.5	8.9347	7.0137	54	536.17	10.73	
			T4	3	10.567	8.2951	62.69	631.38	12.48	
5	175	65	T1	1.5	4.9619	3.8951	27.52	232.61	5.98	322
			T2	2	6.5378	5.1321	35.6	304.79	7.75	
			T3	2.5	8.0597	6.3268	43.06	373.67	9.4	
			T4	3	9.517	7.4709	49.86	438.76	10.91	
6	100	55	T1	1.5	3.4788	2.7309	15.32	56.56	4.39	226
			T2	2	4.5897	3.6029	19.79	73.79	5.67	
			T3	2.5	5.6703	4.4512	23.52	90.09	6.85	
			T4	3	6.7159	5.272	27.68	105.38	7.92	

‘Z’ PURLINE

ADTO introduce cold form secondary member (Z & C) manufactured using advance roll forming technology machine to produce longer sections under close tolerances. This Z sections are recommended for roof and C girt for side wall cladding in required size and thickness.

To enhance the structural strength of sections small ribs has been provided in Z and C sections. These Z and C sections are offered duly pre-punched holes and in required sizes.

MATERIAL SPECIFICATIONS

* Galvanized steel in 175/275 GSM
* Hot Rolled steel in 345/245 Mpa

ADTO offer standard Z purlins and Z girts as well as custom profiles and punching patterns. We manufacture this in size of 175 mm to 300 mm in 1.75 mm-3 mm thickness. Z purlins are also available with other depths and flange widths.

"Z" SECTION

PRODUCT DESCRIPTION

* Z Purlin Forming machine can produce many sizes of Z shaped purlins.
* The whole line mainly consist of uncoiler and its base, coil sheet flattening equipment, Z forming system, punching equipment, post cutting equipment, hydraulic station and controlling system.

section	D mm	Ft mm	Fb mm	T mm	W Kg/m	Area cm2	Ixx cm4	Iyy cm4	Zxt cm3	Zxb cm3	Zy1 cm3	Zy2 cm3	Rx cm	Ry cm	Coil width
200*2.0	200	70	65	2	6.04	7.7	480.05	110.48	47.39	48.63	12.22	12.57	7.89	3.79	355
200*2.25	200	70	75	2.25	6.78	8.64	537.31	123.39	53.05	54.43	13.66	14.06	7.88	3.78	355
200*2.50	200	70	75	2.5	7.52	9.58	593.96	136.11	58.64	60.17	15.09	15.53	7.87	3.77	355
230*2.0	230	80	85	2	6.8	8.67	713.44	150.07	61.34	62.76	14.94	15.33	9.07	4.16	406
230*2.25	230	80	85	2.25	7.64	9.74	799.01	167.72	68.69	70.28	16.72	17.56	9.06	4.15	406
230*2.5	230	80	85	2.5	8.47	10.8	883.79	185.14	75.98	77.74	18.47	18.96	9.04	41.4	406
250*2.0	250	80	85	2	7.12	9.07	866.31	150.08	68.56	70.07	14.93	15.34	9.77	4.07	426
250*2.25	250	80	85	2.25	7.99	10.19	970.43	167.73	76.79	78.49	16.71	17.17	9.76	4.06	426
250*2.5	250	80	85	2.5	8.86	11.3	1073.65	185.15	84.96	86.84	18.47	18.97	9.75	4.05	426
300*2.0	300	80	85	2	7.9	10.07	1329.61	150.09	87.78	89.52	14.91	15.36	11.49	3.86	476
300*2.25	300	80	85	2.25	8.87	11.31	1490.12	167.75	98.37	100.33	16.69	17.89	11.47	3.85	476
300*2.5	300	80	85	2.5	9.84	12.55	1649.38	185.17	108.88	111.06	18.45	18.99	11.46	3.84	476

STRUCTURE STEEL

We are a structural steel supplier, specialize in engineering, fabrication and erection service for Civil and Industrial Project. We fabricate according to ASTM/EN standard. We can supply BS/EN/ASTM/JIS and GB (Chinese) steel profiles and solutions; As well as built-up steel sections in any dimensions. We have a lot of experience of working with large EPC Contractors for pipe rack, module, HRSG, mining conveyor, high-rise building fabrication.

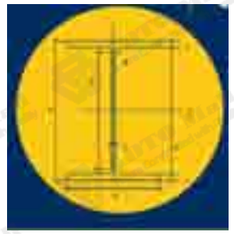
The main products are Hot Rolled steel beams; Hot Rolled Steel Columns; Built-up Steel Beams; Built-up Steel Sections; Box Columns; Star Columns; Steel Girders; Service Platforms/Circular Platforms & Catwalks; Trusses; Handrails; Conveyor Structures; Duct/Casing Work and etc.

GB STANDARD H BEAM

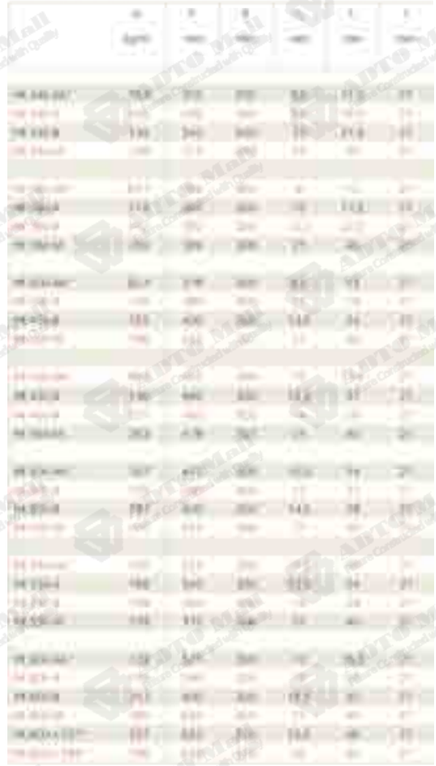
标准截面尺寸(mm)			单位重量	标准截面尺寸(mm)			单位重量
H X B	t1	t2	(kg/m)	H X B	t1	t2	(kg/m)
100 X 50	5	7	9.3	388 X 402	15	15	140
100 X 100	6	8	17.2	394 X 398	11	18	147
125 X 60	6	8	13.2	394 X 405	18	18	168
125 X 125	6.5	9	23.8	400 X 400	13	21	172
150 X 75	5	7	14	400 X 408	21	21	197
148 X 100	6	9	21.3	414 X 405	18	28	232
150 X 150	7	10	31.5	428 X 407	20	35	283
175 X 90	5	8	18.1	458 X 417	30	50	415
175 X 175	7.5	11	40.2	498 X 432	45	70	605
198 X 99	4.5	7	18.2	446 X 199	8	12	66.2
200 X 100	5.5	8	21.3	450 X 200	9	14	76
194 X 150	6	9	30.6	440 X 300	11	18	124
200 X 200	8	12	49.9	482 X 465	15	20	204
300 X 294	12	12	56.2	496 X 199	9	14	79.5
248 X 124	5	8	25.7	500 X 200	10	16	89.6
344 X 175	7	11	44.1	582 X 465	15	25	240
344 X 252	11	11	64.4	582 X 470	20	25	260
250 X 125	6	9	29.6	506 X 201	11	19	103
250 X 250	9	14	72.4	482 X 300	11	15	114
250 X 255	14	14	82.2	488 X 300	11	18	128
298 X 149	5.5	8	32	596 X 199	10	15	94.6
300 X 150	6.5	9	36.7	600 X 200	11	17	106
304 X 300	8	13	56.8	606 X 201	12	20	120
294 X 302	12	12	84.5	582 X 300	12	17	137
300 X 300	10	15	94	588 X 300	12	20	151
300 X 305	15	15	106	594 X 302	14	23	175
346 X 174	6	9	41.4	692 X 300	13	20	166
350 X 175	7	11	49.6	700 X 300	13	24	185
340 X 245	9	14	79.7	792 X 300	14	22	191
344 X 348	10	16	115	800 X 300	14	26	210
350 X 350	12	19	137	890 X 299	15	23	213
396 X 199	7	11	56.6	900 X 300	16	28	243
400 X 200	8	13	66	912 X 302	18	34	286

ASTM STANDARD H BEAM

Model	H(mm)	B(mm)	T1(mm)	T2(mm)	R(mm)	Section area(cm^2)	Kg/M
W8*18	206.76	133.35	5.84	8.38	7.5	33.94	26.64
W8*21	210.31	133.86	6.35	10.16	7.5	39.75	31.2
W8*24	201.42	164.97	6.22	10.16	10.3	45.7	35.88
W8*28	204.72	165.99	7.24	11.81	10.3	53.23	41.79
W8*31	203.2	203.07	7.24	11.05	10.3	58.9	46.23
W8*35	206.25	203.71	7.87	12.57	10.3	66.39	52.12
W8*40	209.55	204.98	9.14	14.22	10.3	75.78	59.49
W8*48	215.9	205.99	10.16	17.4	10.3	90.99	71.43
W8*58	222.25	208.79	12.95	20.57	10.3	110.28	86.57
W8*67	228.5	210.31	14.48	23.75	10.3	127.02	99.71
W10*24	258.32	146.05	6.1	9.14	7.7	41.85	32.85
W10*26	262.38	146.56	6.6	11.18	7.7	49.12	38.56
W10*30	265.94	147.57	7.62	12.95	7.7	57.03	44.77
W10*33	247.14	202.18	7.37	11.05	12	62.49	49.06
W10*39	251.97	202.82	8	13.46	12	73.85	57.97
W10*45	256.54	203.71	8.89	15.75	12	85.4	67.04
W10*49	253.49	254	8.64	14.22	12	92.93	72.95
W10*54	256.29	254.76	9.4	15.62	12	101.98	80.05
W10*60	259.59	256.03	10.64	17.27	12	113.69	89.24
W10*68	264.16	257.3	11.94	19.56	12	128.75	101.07
W10*77	269.24	258.83	13.46	22.1	12	145.92	114.55
W10*88	275.34	260.73	15.37	25.15	12	165.94	131.05
W10*100	281.94	262.64	17.27	28.45	12	189.53	148.78
W10*112	288.54	264.54	19.18	31.75	12	212.38	166.71
W12*26	310.39	164.85	5.84	9.65	7.4	49.3	38.7
W12*30	313.44	165.61	6.6	11.18	7.4	56.71	44.52
W12*35	317.5	166.62	7.62	13.21	7.4	66.67	52.33
W12*40	303.28	203.33	7.49	13.08	15.3	75.97	59.63
W12*45	306.32	204.34	8.51	14.6	15.3	85.28	66.94
W12*50	309.63	205.23	9.4	16.26	15.3	94.78	74.4
W12*53	306.32	253.87	8.76	14.6	15.3	100.45	78.85
W12*58	309.63	254.25	9.14	16.26	15.3	110.01	86.3.6
W12*65	307.85	304.8	9.91	15.37	15.3	123.14	96.66
W12*72	311.45	305.82	10.92	17.02	15.3	136.36	107.04
W12*79	314.45	306.83	11.94	18.67	15.3	149.66	117.48
W12*87	318.26	307.97	13.08	20.57	15.3	164.98	129.51
W12*96	322.83	308.86	13.97	22.86	15.3	181.93	142.82
W12*106	327.41	310.39	15.49	25.15	15.3	201.04	157.82
W12*120	333.25	312.93	18.03	28.07	15.3	227.64	178.7
W14*132	372.36	374.01	16.38	26.16	15.5	250.19	196.4
W14*145	375.41	375.41	17.27	27.69	15.5	275.34	216.14
W14*159	380.49	380.49	18.92	30.23	15.5	301.62	236.77
W14*176	386.59	397.51	21.08	33.27	15.5	334.07	262.24
W18*35	449.58	152.4	7.62	10.79	10.5	66.46	52.17
W18*40	454.66	152.78	8	13.33	10.5	75.94	59.61
W18*46	458.72	153.92	9.14	15.37	10.5	87.39	68.6
W18*50	456.95	190.37	9.02	14.48	10.5	94.66	74.31
W18*55	459.99	191.25	9.91	16	10.5	104.55	82.07
W18*60	463.3	191.9	10.54	17.65	10.5	113.81	89.34
W18*65	466.09	192.79	11.43	19.05	10.5	123.32	96.8
W18*71	469.14	193.93	12.57	20.57	10.5	134.56	105.63
W18*76	462.53	280.29	10.79	17.27	10.5	143.57	113.02
W18*86	467.11	281.69	12.19	19.56	10.5	163.31	128.2
W21*44	524.76	165.1	8.89	11.43	13	83.81	65.79
W21*48	523.75	206.76	8.89	10.92	13	91.23	71.62
W21*50	529.08	165.85	9.65	13.59	13	94.97	74.55
W21*55	528.32	208.79	9.52	13.76	13	104.61	82.12
W21*57	534.52	166.37	10.29	16.51	13	108.02	84.79
W21*62	533.15	209.3	10.16	15.62	13	117.83	92.5
W21*68	536.7	210.06	10.92	17.4	13	129.36	101.55
W21*73	539.5	210.59	11.56	18.8	13	138.66	108.85
W21*83	544.32	212.22	13.08	21.21	13	157.12	123.34
W21*93	549.15	213.87	14.73	23.62	13	176.43	138.5
W21*101	542.54	312.17	12.7	20.32	13	192.05	150.76
W21*111	545.35	313.44	13.97	22.22	13	210.89	165.55
W21*122	550.67	314.71	15.24	24.38	13	231.42	181.67
W21*132	554.48	315.98	16.51	26.29	13	250.45	196.6
W21*147	560.32	317.75	18.29	29.21	13	278.87	218.91
W21*166	570.99	315.47	19.05	34.54	13	315.01	247.29
W21*182	577.09	317.5	21.08	37.59	13	345.97	271.59
W21*201	584.95	319.4	23.11	41.4	13	382	299.87
W24*55	598.68	177.93	10.03	12.83	14	104.82	8.28
W24*62	603	178.82	10.92	14.99	14	117.86	92.52
W24*68	602.74	227.71	100.54	14.86	14	129.76	101.86
W24*76	607.57	228.35	11.18	17.27	14	144.6	113.51
W24*84	612.14	229.11	11.94	19.56	14	159.71	125.37
W24*94	617.47	230.25	13.08	22.22	14	178.99	140.5
W24*103	623.06	228.6	13.97	24.89	14	195.57	153.52
W24*104	611.12	323.85	12.7	19.05	14	197.84	155.31
W24*117	616.2	325.12	13.97	21.59	14	222.12	174.36
W24*131	621.79	326.52	15.37	24.38	14	248.97	195.44
W24*146	628.4	327.66	16.51	27.69	14	277.72	218.01
W24*162	635	329.06	17.91	30.9914	14	308.23	241.96
W27*84	678.43	252.98	11.68	16.26	15.5	159.78	125.43
W27*94	683.77	253.75	12.45	18.92	15.5	178.49	140.11
W27*102	688.09	254.38	13.08	21.08	15.5	193.81	152.14
W27*114	693.17	255.78	14.48	23.62	15.5	216.42	169.89
W27*129	701.8	254.25	15.49	27.94	15.5	244.22	191.71
W27*145	695.45	354.71	15.37	24.76	15.5	277.01	217.45
W27*161	700.79	356.11	16.76	27.43	15.5	305.72	239.99
W27*178	705.37	357.76	18.41	30.23	15.5	337.28	264.77
W27*217	722.12	358.52	21.08	38.1	15.5	411.43	322.97



EN STANDARD H BEAM



H SECTION BOX COLUMN

* **Type:** H-Section Steel ,light
* **Standard:** GB, ASTM, DIN, JIS, AISI, BS
* **Trademark:** Low-alloy High-tensile Structural Steel
* **Connection Form:** Bolt Connection
* **Grade:**Q235/Q345/A36 or as to the project fabrication standard grade
* **Painting:** as to painting thickness and standard Anti-rust primer, epoxy primer coating, acrylic polurethane coating, or as client's requirement
* **Product and Service:** Steel Structure Fabrication, Design assembling

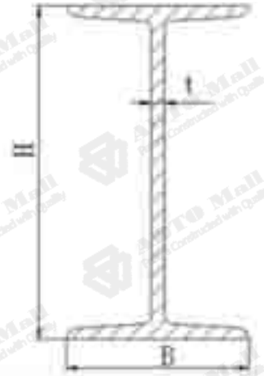







I BEAM

* **Size:** 100 x 100 to 900 x 300mm
* **Steel Grade:** Q235B, Q345B, SS400, ASTM A36, S235JRG2, S235JR, S275JR
* **Standard:** GB700-1998, JIS G3101, ASTM, EN10025

CHINA NATIONAL STANDARD I BEAM

No.	Specification	Theory Weight kg/m	No.	Specification	Theory Weight kg/m
10	100×68×4.5	11.26	32a	320×130×9.5	52.72
12	120×74×5.0	13.99	32b	320×132×9.5	57.74
14	140×80×5.5	16.9	32c	320×134×13.5	62.77
16	160×88×6.0	20.51	36a	360×136×10	59.00
18	180×94×6.5	24.14	36b	360×138×12	65.60
20a	200×100×7.0	27.92	36c	360×140×14	71.2
20b	200×102×9.0	31.10	40a	400×142×10.5	67.59
22a	220×112×7.5	33.07	40b	400×144×12.5	73.88
22b	220×112×9.5	36.42	40c	400×146×14.5	80.16
24a	240×116×8.0	37.40	45a	450×150×11.5	80.42
24b	250×116×8.0	41.20	45b	450×152×13.5	87.49
25a	250×118×10	38.11	45c	450×150×15.5	94.55
25b	270×122×8.5	42.03	50a	500×158×12	93.68
27a	270×122×8.5	42.08	50b	500×160×14	101.50
27b	270×124×10.5	17.10	50c	500×162×16	109.35
28a	280×122×8.5	43.49	56a	560×166×12.5	106.32
28b	280×124×10	47.89	56b	560×168×14.5	115.11
30a	300×126×9.0	48.08	56c	560×170×16.5	123.90
30b	300×128×11	52.70	63a	630×176×13	121.41
30c	300×130×13	57.5	63b	630×178×15	131.30

IPE BEAM

Specification	Theory Weight kg/m	Specification	Theory Weight kg/m
80×50×4.5×5.5	7.52	160×82×5.0×7.4	15.8
80×46×3.2×4.6	4.85	180×91×5.3×8.0	18.80
100×55×3.8×5.0	6.72	200×100×5.6×8.5	22.40
120×64×4.4×5.5	8.33	220×110×5.9×9.0	26.20
140×73×3.8×5.2	10.05	240×120×6.2×9.5	30.70
140×73×4.7×6.9	12.90	270×135×6.6×10	36.10

IPEAA BEAM

Designation	Specification	Web Thickness mm	Flange Thickness mm	Theory Weight kg/m
IPEAA80	78 x 6	3.2	4.2	4.95
IPEAA100	97.6 x 55	3.6	4.5	6.72
IPEAA120	117 x 64	3.8	4.8	8.36
IPEAA140	136.6 x 73	3.8	5.2	10.05
IPEAA160	156.4 x 82	4.0	5.6	12.31

HOT ROLLED EQUAL ANGLE

* **Steel Grade:** Q235B, Q345B, SS400, SS540, S235JR, S235J0, S235J2, S275JR, S275J0, S275J2, S355JR, S355J0, S355J2
* **Standard:** GB/T9787-88, JIS G3192:2000, JIS G3101:2004, BS EN10056-1:1999,BS EN10025-2:2004

Size	Theory Weight kg/m	Size	Theory Weight kg/m	Size	Theory Weight kg/m
20 x 20 x 3	0.889	75 x 75 x 5	5.818	125 x 125 x 10	19.133
20 x 20 x 4	1.145	75 x 75 x 6	6.905	125 x 125 x 12	22.696
25 x 25 x 3	1.124	75 x 75 x 7	7.976	125 x 125 x 14	26.193
25 x 25 x 4	1.459	75 x 75 x 8	9.030	130 x 130 x 9	17.9
30 x 30 x 3	1.373	75 x 75 x 10	11.089	130 x 130 x 12	23.4
30 x 30 x 4	1.786	75 x 75 x 12	13.0	130 x 130 x 15	28.8
36 x 36 x 3	1.656	80 x 80 x 5	6.211	140 x 140 x 10	21.488
36 x 36 x 4	2.163	80 x 80 x 6	7.376	140 x 140 x 12	25.522
36 x 36 x 5	2.654	80 x 80 x 7	8.525	140 x 140 x 14	29.490
40 x 40 x 3	1.852	80 x 80 x 8	9.658	140 x 140 x 16	33.393
40 x 40 x 4	2.422	80 x 80 x 10	11.874	150 x 150 x 10	23.0
40 x 40 x 5	2.976	90 x 90 x 6	8.350	150 x 150 x 12	27.3
45 x 45 x 3	2.088	90 x 90 x 7	9.656	150 x 150 x 15	33.6
45 x 45 x 4	2.736	90 x 90 x 8	10.946	150 x 150 x 19	41.9
45 x 45 x 5	3.369	90 x 90 x 10	13.476	160 x 160 x 10	24.729
45 x 45 x 6	3.985	90 x 90 x 12	15.940	160 x 160 x 12	29.391
50 x 50 x 3	2.332	90 x 90 x 13	17.0	160 x 160 x 14	33.987
50 x 50 x 4	3.059	100 x 100 x 6	9.366	160 x 160 x 16	38.518
50 x 50 x 5	3.770	100 x 100 x 7	10.830	175 x 175 x 12	31.8
50 x 50 x 6	4.465	100 x 100 x 8	12.276	175 x 175 x 15	39.4
56 x 56 x 3	2.654	100 x 100 x 10	15.121	180 x 180 x 12	33.159
56 x 56 x 4	3.446	100 x 100 x 12	17.898	180 x 180 x 14	33.383
56 x 56 x 5	4.251	100 x 100 x 13	19.1	180 x 180 x 15	40.9
56 x 56 x 8	6.566	100 x 100 x 14	20.611	180 x 180 x 16	43.542
63 x 63 x 4	3.907	100 x 100 x 16	23.257	180 x 180 x 18	48.634
63 x 63 x 5	4.822	110 x 110 x 7	11.928	200 x 200 x 14	42.894
63 x 63 x 6	5.721	110 x 110 x 8	13.532	200 x 200 x 15	45.3
63 x 63 x 8	7.469	110 x 110 x 10	16.690	200 x 200 x 16	48.680
63 x 63 x 10	9.151	110 x 110 x 12	19.782	200 x 200 x 18	54.401
70 x 70 x 4	4.372	110 x 110 x 14	22.809	200 x 200 x 20	60.056
70 x 70 x 5	5.397	120 x 120 x 8	14.7	200 x 200 x 24	71.168
70 x 70 x 6	6.406	120 x 120 x 10	18.2	250 x 250 x 25	93.7
70 x 70 x 7	7.398	120 x 120 x 12	21.6	250 x 250 x 28	104.0
70 x 70 x 8	8.373	125 x 125 x 8	15.504	250 x 250 x 35	128.0

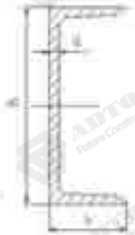
FLAT BAR

* **Size:** 12mm x 1.3mm to 300mm x 20mm
* **Steel Grade:** Q235B, Q345B, S235JR, S275JR, ASTM A36
* **Standard:** GB701-88, EN10025, GR.B
* **Length:** as per client's requirement

Width mm	Thickness mm	Width mm	Thickness mm
12	1.3-1.5	75	3.0-10.0
14	1.3-1.5	80	3.0-10.0
16	1.3-1.5	85	6.0-10.0
18	1.3-1.5	90	6.0-10.0
20	2.0-4.0	90	6.0-10.0
22	2.0-4.0	100	6.0-12.0
25	2.0-6.0	105	6.0-12.0
28	2.0-6.0	110	6.0-12.0
30	2.0-6.0	120	6.0-20.0
32	2.0-6.0	125	6.0-20.0
35	2.0-6.0	130	6.0-20.0
40	2.0-6.0	140	6.0-20.0
45	2.0-6.0	150	6.0-20.0
50	2.0-6.0	160	8.0-20.0
55	2.0-6.0	170	8.0-20.0
60	3.0-10.0	180	8.0-20.0
65	3.0-10.0	190	8.0-20.0
70	3.0-10.0	200	8.0-20.0

U CHANNEL

* **Size:** 50 x 37 to 400 x 115mm
* **Steel Grade:** Q235, Q345, SS400, ASTM A36, S235JR, S275JR
* **Standard:** GB/T11263-1998, JIS G3101, ASTM GR. B EN10025



Common Type				Light Type	
Specification (hxbxd)	Theory Weight kg/m	Specification (hxbxd)	Theory Weight kg/m	Specification (hxbxd)	Theory Weight kg/m
50×37×4.5	5.433	270×82×7.5	30.427	50×32×4.4	4.84
63×40×4.8	6.634	270×84×9.5	35.327	65×36×4.4	5.9
65×40×4.8	6.700	270×86×11.5	39.304	80×40×4.5	7.05
80×43×5.0	8.045	280×82×7.5	31.427	100×46×4.5	8.59
100×48×5.3	10.007	280×84×11.5	35.823	120×52×4.8	10.4
120×53×5.5	12.059	280×86×13.5	40.219	140×62×4.9	13.3
140×58×6.0	14.535	300×85×7.5	34.463	140×58×4.9	12.3
140×60×8.0	16.733	300×87×9.5	39.173	160×64×5	14.2
160×63×6.5	17.24	300×89×11.5	45.883	160×68×5	15.3
160×65×8.5	19.752	320×88×8.0	38.083	180×70×5.1	16.3
180×68×7.0	20.174	320×90×10.0	43.107	180×74×5.1	17.4
180×70×9.0	23	320×92×12.0	48.151	200×76×5.2	18.4
200×73×9.0	22.637	360×96×9.0	47.814	200×80×5.2	19.8
200×75×9.0	25.777	360×98×11.0	53.466	220×82×5.4	21
220×77×7.0	24.999	360×100×13	58.928	220×87×5.4	22.6
220×79×9.0	28.453	400×100×10.5	65.214	240×90×5.6	24
240×78×9.0	26.860	400×102×12.5	71.488	240×95×5.6	25.8
240×80×9.0	30.628	400×104×14.5		270×95×6	27.7
240×82×11.0	34.400			300×100×6.5	31.8
250×78×7.0	27.410			330×105×7	36.5
250×80×9.0	31.335			360×110×7.5	41.9
250×82×11.0	35.26			400×115×8	48.3

* **Standard**: (JIS, ASTM and EN standard)

Specification (hxbxd)	Theory Weight kg/m	Specification (hxbxd)	Theory Weight kg/m	Specification (hxbxd)	Theory Weight kg/m
JIS Standard		**ASTM Standard**		**EN Standard**	
50×25×3.0-5.0	2.37-3.46	51×25×3.0	2.37	80 x 45 x 6	8.65
75×40×3.8	5.30	51×25×5	3.46	100 x 50 x 6	10.60
75×40×4.0	5.60	76×35×3.4	5.20	120 x 55 x 7	13.40
75×40×5.0	5.85	76×35×4.3	6.10	140 x 60 x 7	16.00
75×40×4.5	6.92	76×37×6.6	7.40	160 x 65 x 7.5	18.80
100 x 50 x 3.8	7.30	76×40×9	8.90	180 x 70 x 8	22.00
100 x 50 x 4.2	8.03	102 x 40 x 3.2	6.70	200 x 75 x 8.5	25.30
100 x 50 x 4.5	8.97	127 x 44 x 4.8	10.40	220 x 80 x 9	29.40
100 x 50 x 5.0	9.36	152×48×5.1	12.22	240 x 85 x 9	33.20
125×65×5.2	11.66	152 x 51 x 8.0	15.64	260 x 90 x 10	37.90
125×65×5.3	12.17	178×53×5.3	14.60	280 x 95 x 10	41.80
125×65×5.5	12.91	203×57×5.6	17.10	300 x 100 x 10	46.20
125×65×6.0	13.40	254 x 65 x 6.1	22.80	**EN Standard Economical Channel**	
150×75×5.5	14.66	254 x 69 x 9.6	30.00	80 x 40 x 4.5	7.05
150×75×5.7	16.71	254 x 73 x 13.4	37.00	100 x 46 x 4.5	8.59
150×75×6.0	17.00	254 x 76 x 17.1	45.00	120 x 52 x 4.8	10.40
150×75×6.5	18.60	305 x 74 x 7.2	30.80	140 x 58 x 4.9	12.30
150×75×9.0	24.00	305 x 77 x 9.8	37.00	160 x 64 x 5.0	14.20
180×68×7.0	26.174	305 x 80 x 13.0	45.00	180 x 70 x 5.1	16.30

HOT ROLLED STEEL SHEET/COIL

Thickness	3mm - 16mm
Width x Length	1250mm / 1500mm / 1800mm / 2000mm x C
Standard: ASTM A36, JISG3101, JISG3106, EN10025 , GB/T912-1989	
Grade: Q235B, Q345B, ST37-2 , A36 ,S235JR ,S275JR , SS400, SS500	

HOT ROLLED STEEL PLATE

Thickness	12mm - 30mm , 30mm - 160mm
Width x Length	1500-3000mm x C
Standard: ASTM A36, JIS G3101, JIS G3106, EN10025 , GB/T3274-2007	
Grade: Q235B, Q345B, ST37-2, A36, S235JR, S275JR, SS400, SS500	

SHIPBUILDING STEEL PLATE/COIL

Thickness	6mm -50mm
Width	1500mm-3000mm
Length	6000mm-12000mm
Certificate: ABS, DNV, RINA , GL, LR, BV, NK, KR, CCS	
Grade: A, B, D, AH32, DH32, EH32, AH36, DH36, EH36	

HOT ROLLED CHEQUERED STEEL PLATE OR COIL

Thickness	2mm-10mm
Width	1000mm - 1500mm
Standard: DIN 59220, ASTM A786, BS-EN 10051 , BXYZ2005-B01	
Grade: ST37- 2, S235JR, GR.50, A36,Q235B	

STEEL FLOOR DECK

TRUSS DECK FLOOR SYSTEM

Truss deck is a composite structure system that lattice girder(triangle section view, stable structure, certain distance) weld with galvanized steel plate. During the construction period this composite structure system bearing the dead-weight of concretes and the construction load as same time by apply the galvanized steel plate replace the construction mode and weld with lattice girder in structure. During use phase a bearing the usage load after pouring of concrete take shape as the truss deck concrete slab.

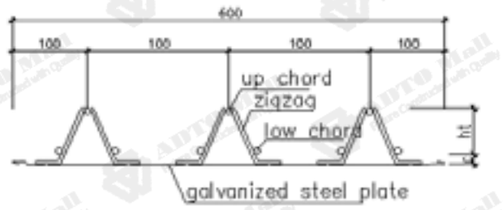
FEATURE:

1. Unique double folding design

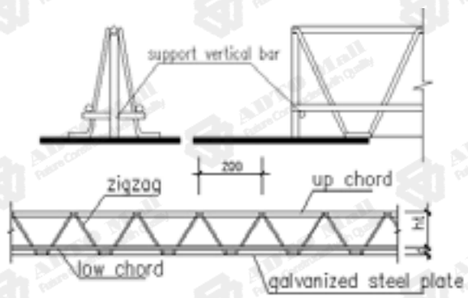
Effectively increase board edge strength; hard to bend or deform during transportation and construction;
Ensure edge straightness of product, fastening of bottom form gets easier;
Improve compactness of bottom form lapping, effectively prevent leakage;
Improve construction quality and protect customer's interests.

2. Improved form spot welding technology

Original form spot welding equipments are improved to make welding current of many welding heads more balanced and stable, so the floor deck to be made will be free from cold joint or weld penetration phenomenon.



Note:1. bottom chord bar adopts the hot-rolled steel grade HRB400, ventral rod reinforced by cold-rolled round steel bar.
2. the bottom die plate with 0.5mm thick galvanized steel sheet, a bottom template yield strength of not less than 250N / mm², galvanized layer two a total of not less than 120g / m².



FOUR ADVANTAGES

ECONOMIC

The load-bearing mode of the truss is reasonable, the consumed materials economic, and the advantage of integrated costs obvious.

It can be designed into two-way slab, with adjustable truss height and diameter of reinforcement, intended to apply to the floor slab of larger span.

CONVENIENT

The field steel binding quantity is reduced by 60% - 70%, and the construction period is further shortened.

The load-bearing mode of the truss is reasonable, which can provide greater stiffness to floor beating slab, greatly reducing or even sparing the use of temporary bracing.

SAFE

The mechanical property is basically the same as the traditional floor slab, with good crack resistance.

The fire-resistant performance is equal to the traditional floor slab, superior to the profiled steel plate composite slab.

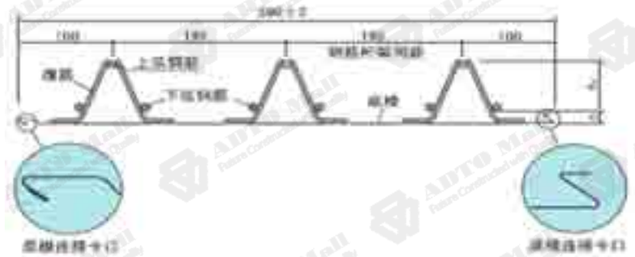
The bottom die is not loaded in the use phase, eliminating the consideration to fire and corrosion problems.

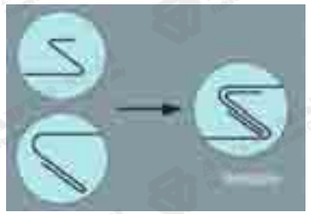
RELIABLE

The reinforcements are arranged uniformly, and the spacing between two layers of reinforcements and the thickness of concrete cover are reliably guaranteed.

The two-way stiffnesses of the floor slabs are similar, conducive to the seismic stud welding, so the quality is easier to ensure.

PRODUCT COMPOSITION:





PRODUCT COMPOSITION:

Steel bar truss floor deck is composed of upper chord steel bar, lower chord steel bar, web member steel bar, bottom form and support steel bar.

MATERIAL PARAMETERS:

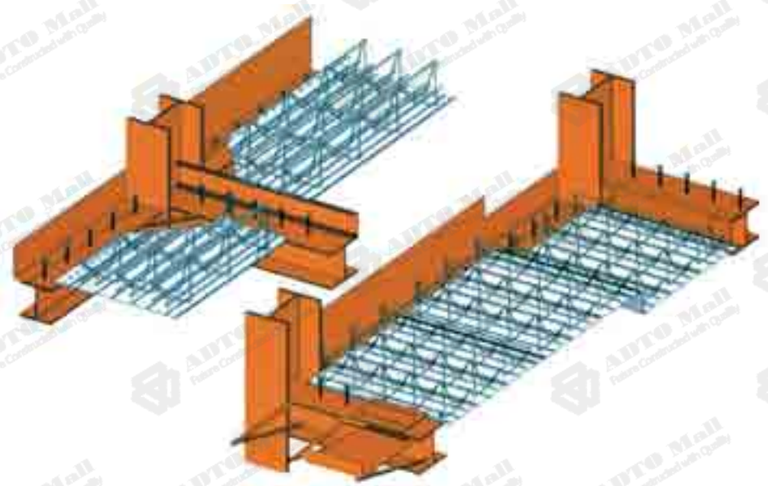
Upper and lower steel bar: uses grade 3 hot rolled coiled steel bar HRB400 or cold rolled ribbed steel bar CRB550

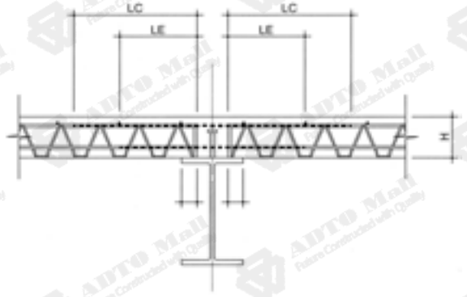
Web member steel bar: uses cold rolled plain steel bar

Bottom form steel sheet: can use galvanized steel sheet or cold rolled steel sheet according to different applications, normal thickness is 0.4~0.5mm, double size galvanization 120g/m2

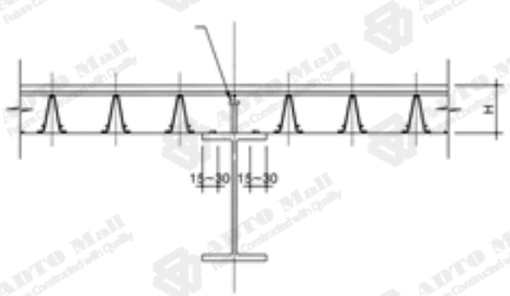
Name		Specification
Upper chord steel bar diameter		6-12mm
Lower chord steel bar diameter		6-12mm
Web member steel bar diameter		4-7mm
Steel bar truss height		70-270mm
Support horizontal steel bar diameter		8、10mm
Support verticalsteel bardiameter	HPB235	12（用于h=150），14（用于h＞150）
	HRB335HRB400	10（用于h=150），12（用于h＞150）
Bottom form steel sheet thickness		0.4-0.8mm
Bottom form steel sheet width		590mm
Concrete protective layer thickness		15-30mm
Steel bar truss floor deck length		1.0-12.0m

JOINT TREATMENT:

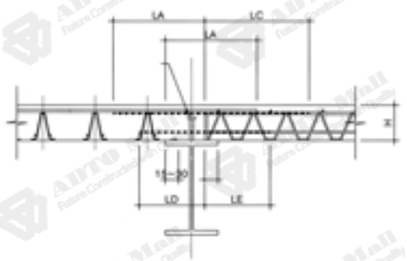




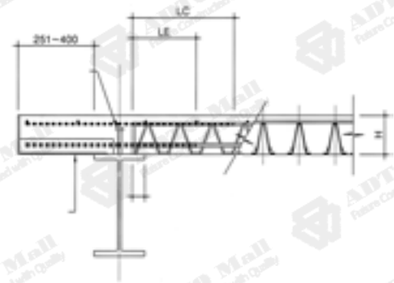
主筋方向截面详图



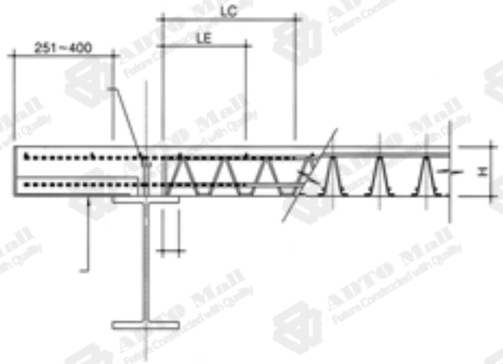
辅筋方向截面详图



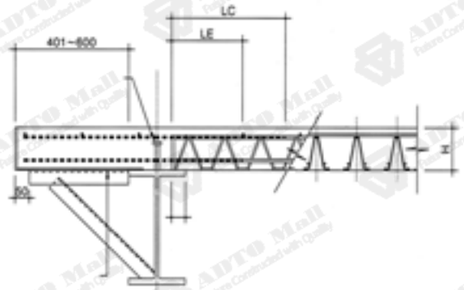
辅筋+主筋方向截面详图



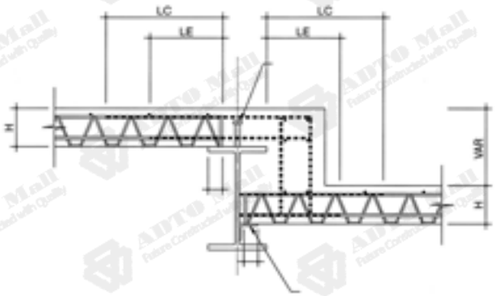
收边截面详图



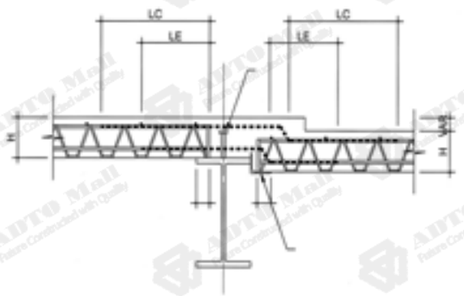
收边悬挑处理截面详图



收边悬挑角钢支撑截面



阶差较大的截面详图



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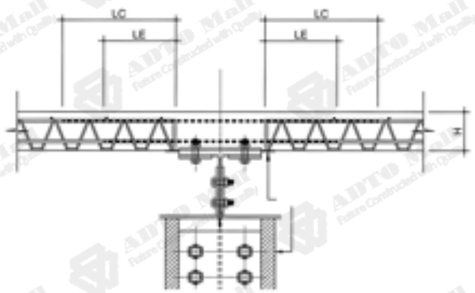
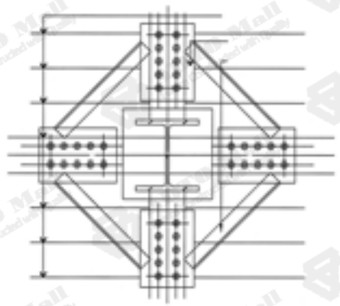
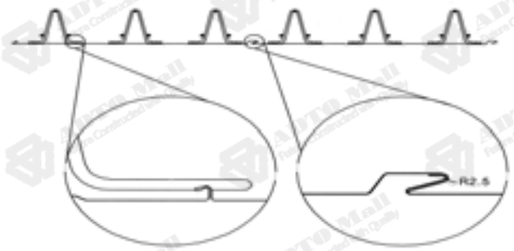


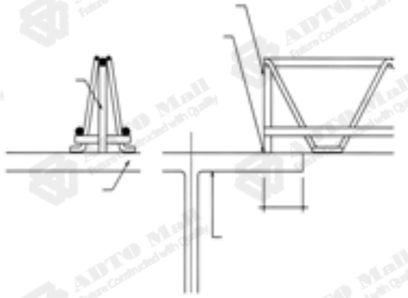
钢板支撑详图



边角支撑详图

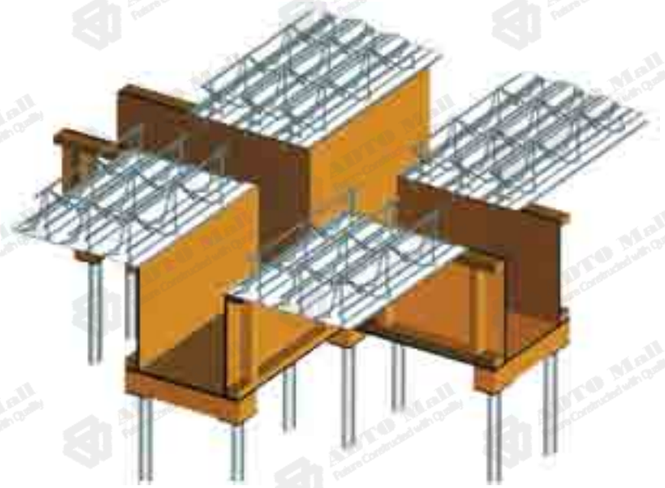


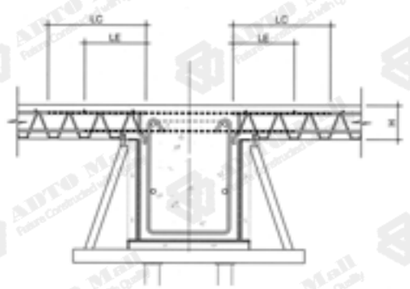
底模扣接详图



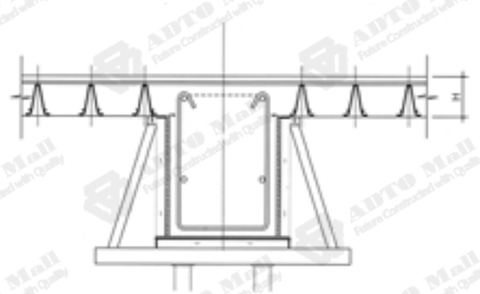
端部固定详图

Application in steel structure projects

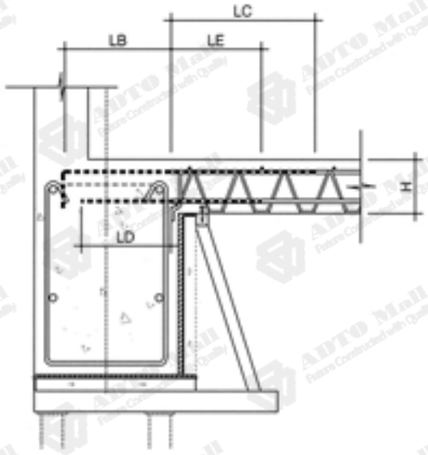




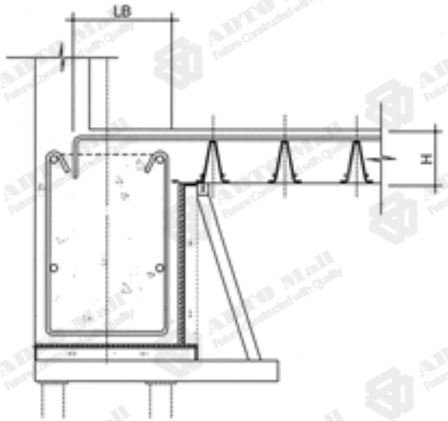
主筋方向截面详图



辅筋方向截面详图



主筋方向截面详



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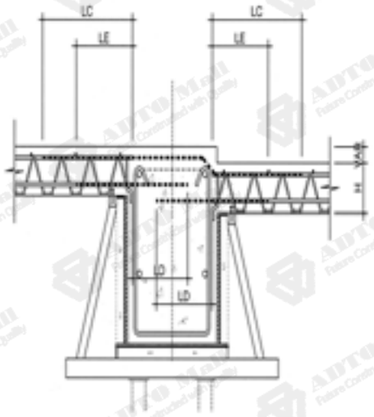
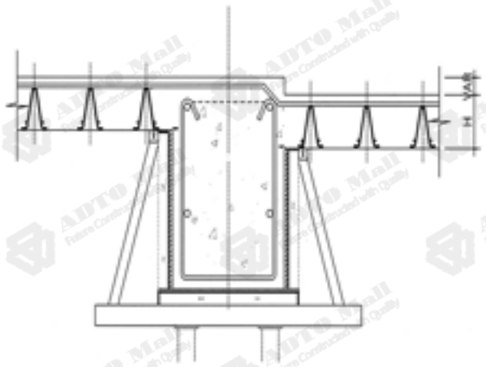


阶差较小的截面详图



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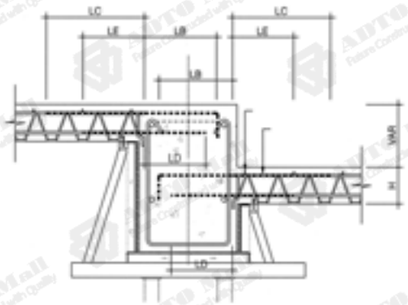

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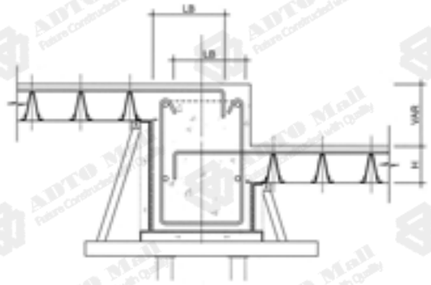
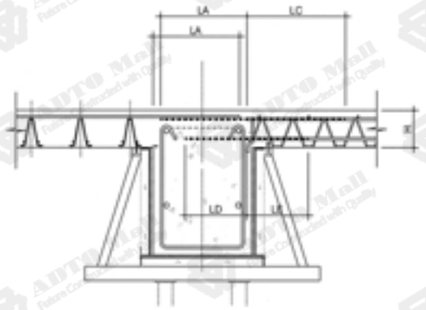
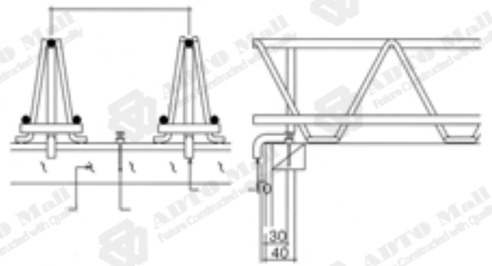


阶差较大的截面详图



辅筋+主筋方向截面详图



端部固定详图

APPLICATION

1. HIGH-RISE AND ULTRA-HIGH STRUCTURE

High-rise and ultra-high buildings not only have strict requirements for structure quality but also have special requirements for construction period and site safety. Due roles of construction form and bearing bar possessed by the steel bar truss floor deck can sufficiently play its advantages in construction of high-rise and ultra-high buildings. Many relatively independent and safe working surfaces can be formed if high-rise buildings use steel bar truss floor deck, which can greatly improve the construction progress.

2. TWO-WAY SLAB STRUCTURE

Relative to the profiled sheet, two-way slab design and construction scheme are extremely favorable to steel bar truss floor deck, for which two-way reinforcing bars can be made at the site without increasing the floor slab thickness, thus, achieving two-way slab design requirements are easy.

3. LARGE-SPAN STRUCTURE (SCHEME FOR SUPPORT AVAILABLE)

During the use of large floor span, in order to save the cost, small steel bar can be used for steel bar truss floor deck. Simple temporary supports can be constructed in the middle of floor spans prior to concrete pouring, which can meet construction demand and also ensure to reach floor slab strength requirements in the use stage.

4. LARGE-SPAN STRUCTURE (SCHEME FOR SUPPORT UNAVAILABLE)

With scientific and reasonable mechanics design, the design requirements of 5m large floor span without support can be realized for steel bar truss floor deck by properly adjusting type of steel bars, so it can speed up the construction progress and save the construction cost in practical use.

5. SLAB THICKNESS DESIGN

For floor slab with thickness more than 300mm, steel bar truss floor deck can be used for thick slab design, which can reduce or doesn't require the temporary support and speed up the construction progress.

6. MULTILAYER AND HIGH-RISE REINFORCED CONCRETE STRUCTURE

Using steel bar truss floor deck in reinforced concrete structure can reduce form erection and removal works and number of labors at the site and greatly speed up the construction progress.

7. PLANE IRREGULAR SPECIAL SHAPE STRUCTURE (ROUND, ELLIPTICAL, OR OTHER IRREGULAR SHAPE)

Floor slab of these kinds of structures are normally designed based on two-way slab, not only bearing vertical load but also bearing horizontal pull; moreover, support problems of floor construction are often difficult to be solved due to irregular shape of these structures. Using steel bar truss floor deck can well solve the above problems.

8. SLOPE ROOF STRUCTURE

For slope roof, steel bar truss floor deck can be used for laying the roof panel. Floor decks can be laid along the slope or laid in parallel. Waterproofing works must be well done for the roof.

9. BOTTOM FORM REMOVAL SCHEME

As the bottom form of steel bar truss floor deck is free from load in use stage, so galvanized steel sheet of bottom form can be removed after concrete of floor slab is poured and cured. The effect same as the cast-in-place concrete floor slab bottom can be reached after bottom treatment is made. This scheme is normally used by the projects such as residential building or the hotel without ceiling. Bottom form can use the cold rolled steel sheet with thickness of 0.4mm.

JOBSITE INSTALLATION:

COMPOSITE SLAB

Adto profiled sheet-composite slab, as permanent form in construction stage, bear construction load and concrete weight. In use stage, the profiled sheet will be used as the bottom reinforcing bar and will generate composite effect after concrete reaches the strength.

ADVANTAGES

1,There are pre-processed slots between the corrugations of the profiled steel plates, available for engineering use like electric power and communications.

2,The dead load of the entire structure is reduced, saving the basic cost of the lower part.

3,During construction, the profiled steel plate can enhance the lateral stability of the supporting steel beam.

4,It gives full play to the mechanical properties of two materials - steel and concrete.

5,It does not require formwork, getting rid of the removal and installation of formworks.

6,The profiled steel plate is equal to tensile main rib based on calculation, only moisture reinforcements are needed.

7,The profiled steel plates provide an even ceiling surface for concrete buildings.

8,After installation, the profiled steel plate can be used as a safety work platform for workers, tools, materials and equipments.

EIGHT MAJOR CHARACTERISTICS

1,STRONG CONCRETE BOND SHEAR RESISTANCE

With Special closed-rib design, good longitudinal shear-bearing capacity, there has never been slippage between the steel bearing plate and the concrete upon closed built-up slabs within design load limit.

2,EXCELLENT FIRE PERFORMANCE

The ribs of slab are completely encased in concrete, just like the cast-in reinforcement. Closed built-up slabs can completely replace the positive moment tensile reinforcement in the floor slabs, and an 1.5-hour refractory power can be achieved without need to brush fire-resistant coating.

3,UPERIOR SECTION OF BUILT-UP SLABS

Closed built-up slabs have a higher effective height of the floor slab and a bigger combination stage to provide a more powerful positive moment resistance.

4,BOARD(SLAB)END SLOT-TYPE SUSPENSION SYSTEM

For the use of ceilings, plumbing installation, etc., no need of drilling or welding; during the building period, it can be moved, removed or reinstalled, according to the need.

5,SIMPLE, RAPID CONSTRUCTION

It does not require any plug, with no leakage of mortar, available to shorten the construction cycle.

6,EVEN SLAB BOTTOM APPEARANCE

The slab bottom is even, it is beautiful for the buildings not planned for the ceilings .

7,EFFECTIVELY REDUCE THE SLAB HEIGHT

According to fire regulations and shatterproof requirements, the total thickness of the closed built-up slab is only 110-130 mm, 30-40 mm less than the opening profiled steel plate composite slab, thus getting a reduced self weight, reduced costs, and increased height.

8,LOW COST

The reinforcements bearing the positive moment of the closed built-up slabs are replaced by the profiled steel plates, without need to brush fire-resistant coating, thus reducing the usage of reinforcements and cutting down the costs.

CLOSED TYPE

1、DW65-510型

2、DW48-600型

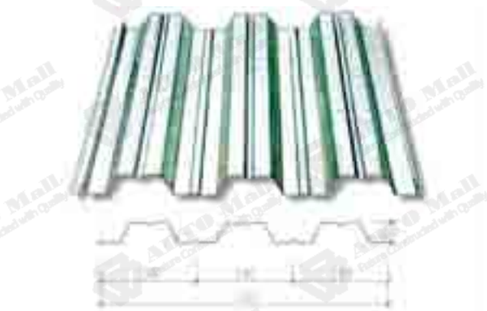
OPEN TYPE

3、DW66-720型

4、DW51-760型

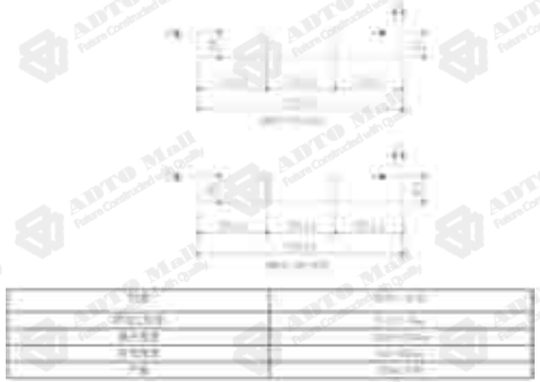
5、DW75-600型

6、DW51-720型



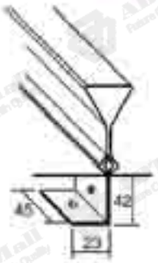
7、DW76-688型

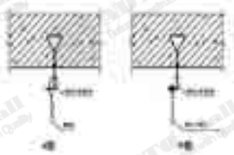
8、DW76-915型

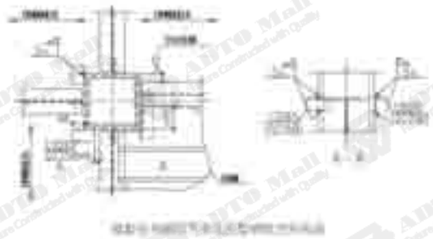


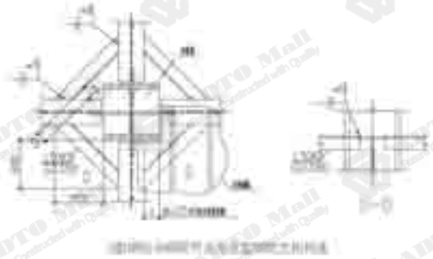
9、DW63-555型 / DW63-510型 dovetail type

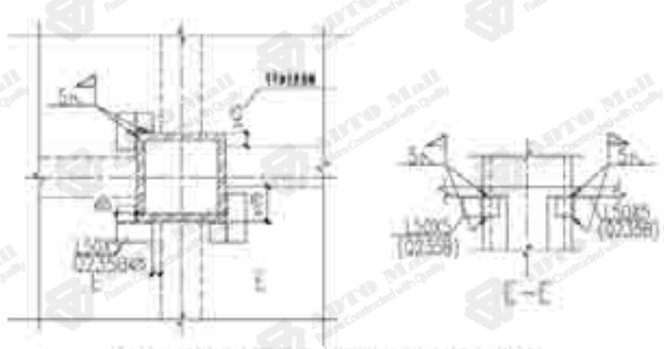
APPLICATION FACTORS：

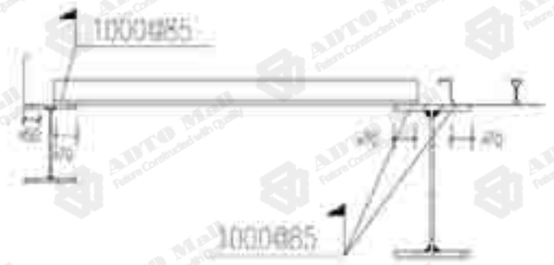












CONSTRUCTION STEPS:

1. SIZE RECHECKING AND LINE SNAPPING

1. Size of axis: recheck whether size of axis for steel girder installation meets layout of profiled sheet;
2. Surface treatment of girder: determine ring on the steel girder top surface is removed and smoothed, and rust scale, greasy dirt and sundries on the girder surface are cleaned;
3. Position line: profiled sheet laying starting line and middle control line should be snapped on the girder top surface in accordance with layout of profiled sheet. The laying starting line should indicate laying direction and steel sheet hanging bundle number. The middle control line also can be used as the laying starting line when laying by sections.

2. Hanging and laying

1. ADTO profiled sheet should be constructed in accordance with approved laying drawing. Attention should be paid to the design support strength of structural member when bundled profiled sheets are placed on the structure to prevent exceeding their allowable load;

2. When ADTO profiled sheets are piled up in bundles, many girders should be crossed, and when they are placed between two girders, attention should be paid to the support width at both ends to avoid falling accident caused by toppling;

3. After ADTO profiled sheets are hoisted in place, they should be in position piece by piece from the snapped laying starting line of steel sheet along the laying direction, and plate joint should be properly adjusted after reaching the control line;

4. In case of strong wind,construction should be stopped and unpacked profiled sheets should be immediately re-bundled; otherwise, they may be blown up by the wind, thereby causing accident or damaging the profiled sheets.

3. Fixation

1.steel slab should be immediately fixed onto the structural member through welding after being fixed;

2. Any cement before unfixed properly cannot be stacked together ,should pave it quickly to avoid slab distortion.