



**L E B** Advanced prefabricated lightweight steel structure  
**SYSTEM**

Light-Gauge Pre-Engineered Steel Building System





## About Company—Introducing CEO

We, Dail Industry & Construction Co.,Ltd. , are a leading manufacturer in prefabricated lightweight steel frame and construction industry.

Established in January. 1st. 2000, our company implemented LEB SYSETM to set up mass production system in celebration of 21st anniversary of foundation.

Through steady development, our company planted factories located in Asansi, ChungNam, which enabled huge leap.

Our LEB-SYSTEM has become standard by broadly adapting this technology to one-story building, especially under 18meters wide building for 21years. This system has been applied not only in domestic industry, but also in overseas. Our company also provides best quality, technology and construction in exterior building materials including steel frame field. By offering professional services, we are satisfying clients' demands.

With experienced skills and performances, our company grew steadily in professional construction field.

In response to customer's demand, our company built a TOTAL-SERVICE system that provides from production of prefabricated lightweight steel to total construction after certification of license in general construction business.

We sincerely appreciate for customers' encouragement and feedback that always lead us .

Dail Industry & Construction Co.,Ltd. promise to grow with clients' requirements, becoming a number one leading company with our clients.

## LEB SYSTEM—System Features

### ■ High-quality System

- It is a fully assembled steel frame structure designed with automation tool using the most advanced program and automatic production.
- We gurantee strong durability by using hot dip galvanized steel sheet(HGI), thus separate top coat is unnecessary.

### ■ Price Reasonability

- Since it is designed to fully pursue stiffness of member, it is possible to maximize reduction of materials.
- This system helps to minimize foundation structure with lightweight.
- Plus, it is able to cut down personnel expenses by shortening construction time. Moreoever, manpower supply is easy since unskilled worker can also install simply.
- In the field, we process our construction only with bolts connection which means there is no cutting or processing procedures.  
Therefore, it is possible to reduce the time for erection as much as possible.
- When it comes to buildings that have floor area between 330m<sup>2</sup>~661m<sup>2</sup>. it takes nearly six to nine days to complete construction including process manufacture and erection.  
In the last moment, we offer perfect building in a quick time without mistakes.
- Steel Frame(LEB-SYSTEM): 1~3 days / Deadline(PANEL): 5~9 days

### ■ Professional Technology Support

- Offering perfect structural calculation and steel structure drawing produced by software program.
- We also provide architecture plan drawing if building owner requires for total gurantee.
- In case of construction, we do our best to assemble. / Offering both construction drawing and purchase order sheets with technology support from head office.

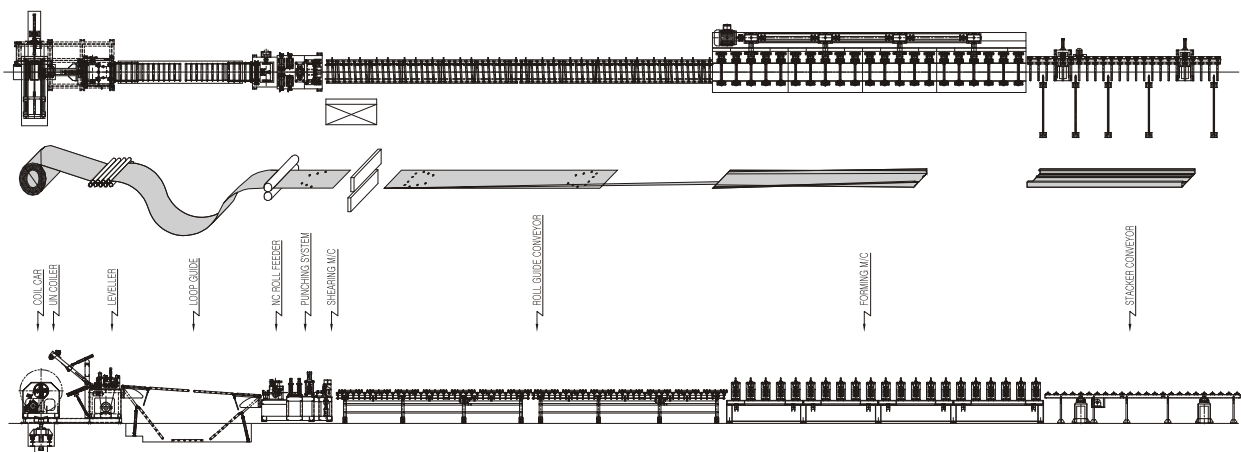
### ■ Rapid Delivery

- We produce one factory building per a day that has floor space between 330m<sup>2</sup>~661m<sup>2</sup>.
- Automation line helps to control period of delivery flexibly since production takes short time.

## Comparison of LEB SYSTEM with Hot Rolled H-Shape member steel frame system

Classification	Hot Rolled H-Shape member steel frame system	Prefabricated Lightweight Steel Structure system	Note
Quality	<ul style="list-style-type: none"> <li>Since it depends on existing staffs' handwork, the quality isn't constant.</li> <li>It has difficulty to set complete system since work proceed on the site that makes rough surface.</li> </ul>	A 100% automation equipment helps to keep consistent material quality all the time.	
Completion Time	<ul style="list-style-type: none"> <li>It is necessary to get SHOP DRAWING for producing steel structure drawing which requires lots of drawing. Plus, this task requires experts, thus taking much time.</li> <li>In the process of raw material supply, the factory production takes long time since it has complicated process. Therefore, it is imprecise.</li> </ul>	Thanks to automation program, the structural calculation and steel structure drawing process in a very short time. Moreover, the automated facilities helps to manufacture automatically that shorten completion time and increase stability.  We use metal bracket which is easy to produce in large quantities and guarantee performance.	
Structure Stability	<ul style="list-style-type: none"> <li>Most of sub-materials are hot rolled molding products, which means it is so thick that it has possibility of excessive design.</li> <li>Typically, it is usual to construct small-sized building by experience without accurate structural calculation. Therefore, it is hard to expect its stability.</li> </ul>	A structure-exclusive program design structure layout perfectly using the best sub-materials.  According to practical building test and analysis, strength and stiffness of structure are guaranteed.	Saving over 40% in weight ratio
Reliability of Materials	<ul style="list-style-type: none"> <li>A general steel member needs to be coated for rust prevention which results low reliability.</li> <li>Plus, it is necessary to re-paint over and over to smooth edged surface.</li> </ul>	Every material is manufactured using hot dip galvanize steel sheet(HGI), guaranteeing rust prevention. Furthermore, it stays longer than usual rust preventative painting.(semipermanent)	In case of COIL production of main material, high quality is guaranteed by galvanizing steel sheets.
Recycling degree	<ul style="list-style-type: none"> <li>It is impossible to reuse sub-materials since they are joined with welding and bolts.</li> </ul>	Recycling is available in case of using 100% prefabricated structures for moving by disjoining and re-joining connection bolts.	Our LEB-STSTEM is eco-friendly products. We do not occur environmental pollution.
Construction Time	<ul style="list-style-type: none"> <li>A complex construction process low construct ability and excessive field works such as welding on site or high tension bolt assembly take lots of time.</li> <li>Reconstruction occurs using Touch-Up paint after initial painting in the field. Thus, the construction periode and quality is low.</li> </ul>	Most of construction proceed in factories. Thus, only assembly work is required in a field which reduce construction time. (661m2 area: about 2 days)	It takes about 7days to complete finish stage works. (In case of common structure, it takes one month.)

## LEB SYSTEM Product Process





## LEB SYSTEM Material

1) Standards : KS D3506 Hot dip galvanized Sheets and coil

Kind	Yield Strength		Tensile Strength		Elongation(%)	Test specimen
	N / mm <sup>2</sup>	kg / mm <sup>2</sup>	N / mm <sup>2</sup>	kg / mm <sup>2</sup>		
SGH 295Y	295 above	30 above	400 above	41 above	18 above	No. 5 rolling direction

2) Connection Bolt : M16 X 45

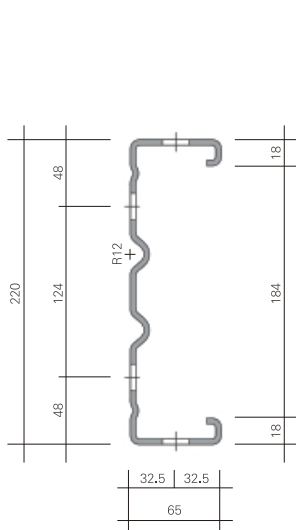
Kind	Diameter	Area	Effective area	Allowable strength (long term)	Allowable strength (Short term)	Material strength	Fracture strength
	mm	cm <sup>2</sup>	cm <sup>2</sup>	Ton	Ton	Ton	Ton
M16	16	2.01	1.51	2.41	3.62	3.62	61.18

3) Foundation Anchor Bolt – M16 X 145 (fck ≥ 21Mpa)

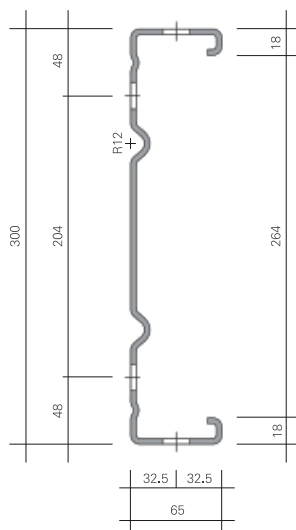
	M16(kN)
Tensile Force	0.
Combined Force	30.
	45.
	60.
Shear Force	90.

## LEB SYSTEM Profile

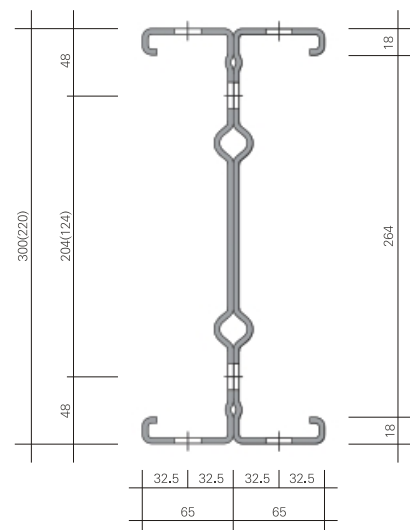
- Thickness 1.6, 2.0, 2.3, 3.0T



C – 220 X 65 X 18 X 12



C – 300 X 65 X 18 X 12

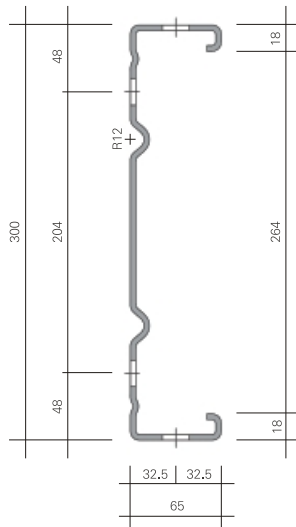


• Column and Rafter Profile



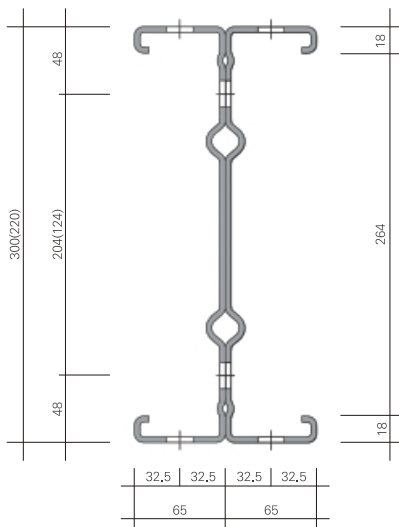
# Section Properties

## LEB SYSTEM SINGLE TYPE



SPECIFICATION		C-220 X 65 X 18 X 12				C-300 X 65 X 18 X 12			
THICKNESS(mm)		1.6	2.0	2.3	3.0	1.6	2.0	2.3	3.0
WEIGHT(kg)		4.9	6.2	7.1	9.2	5.9	7.4	8.5	11.1
SECTION AREA A(mm <sup>2</sup> )		675.3	838.9	960.3	1,239.0	803.3	998.9	1,144.4	1,479.0
CENTER AXIS	X(mm)	109.2	109.0	108.3	108.5	149.2	149.0	148.8	148.5
	Y(mm)	18.6	18.4	18.3	17.9	15.6	15.4	15.3	14.9
INERTIA MOMENT	I <sub>xx</sub> (cm <sup>4</sup> )	467.4	574.4	658.1	830.2	945.0	1,165.2	1,327.1	1,693.6
	I <sub>yy</sub> (cm <sup>4</sup> )	36.2	44.1	49.8	62.1	40.4	49.2	55.5	69.2
SECTION MODULOUS	Z <sub>xx</sub> (cm <sup>3</sup> )	41.7	51.6	58.9	75.4	62.6	77.4	88.4	113.3
	Z <sub>yy max</sub> (cm <sup>3</sup> )	19.5	24.0	27.3	34.7	25.8	31.9	36.3	46.3
	Z <sub>yy min</sub> (cm <sup>3</sup> )	8.1	9.9	11.2	14.0	8.4	10.3	11.7	14.2
RADIUS OF GYRATION	R <sub>xx</sub> (mm)	83.9	83.7	83.5	83.1	109.7	109.3	109.1	108.5
	R <sub>yy</sub> (mm)	24.2	24.0	23.8	24.4	23.4	23.2	23.0	22.6

## LEB SYSTEM DOUBLE TYPE

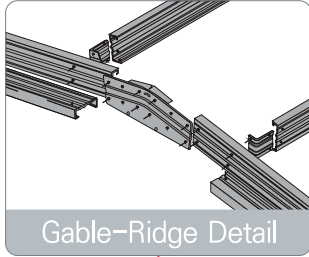


SPECIFICATION		2C-220 X 65 X 18 X 12				2C-300 X 65 X 18 X 12			
THICKNESS(mm)		1.6	2.0	2.3	3.0	1.6	2.0	2.3	3.0
WEIGHT(kg)		9.9	12.3	14.1	18.4	11.9	14.8	17.0	22.2
SECTION AREA A(mm <sup>2</sup> )		1,350.6	1,677.8	1,920.6	2,478.0	1,606.6	1,997.8	2,288.7	2,958.0
CENTER AXIS	X(mm)	109.2	109.0	108.3	108.5	149.2	149.0	148.8	148.5
	Y(mm)	18.6	18.4	18.3	17.9	15.6	15.4	15.3	14.9
INERTIA MOMENT	I <sub>xx</sub> (cm <sup>4</sup> )	834.8	1,148.8	1,316.2	1,660.4	1,890.0	2,330.4	2,654.2	3,387.2
	I <sub>yy</sub> (cm <sup>4</sup> )	72.4	88.2	99.6	124.2	80.8	98.4	111.0	138.4
SECTION MODULOUS	Z <sub>xx</sub> (cm <sup>3</sup> )	83.3	103.1	117.7	150.7	125.1	154.7	176.7	226.5
	Z <sub>yy max</sub> (cm <sup>3</sup> )	38.9	47.9	54.5	69.3	51.5	63.7	72.5	92.5
	Z <sub>yy min</sub> (cm <sup>3</sup> )	16.3	19.9	22.5	28.1	16.9	20.7	23.5	28.5
RADIUS OF GYRATION	R <sub>xx</sub> (mm)	167.7	167.3	166.9	166.1	219.3	218.5	218.1	216.9
	R <sub>yy</sub> (mm)	48.5	48.1	47.7	48.9	46.9	46.5	46.1	45.3

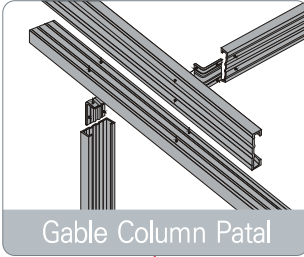


LEB SYSTEM

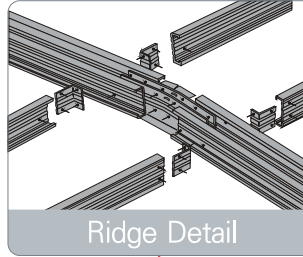
# LEB SYSTEM Construction Diagram



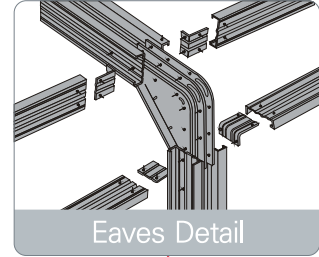
Gable-Ridge Detail



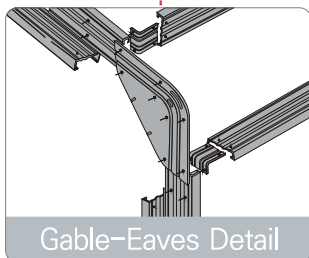
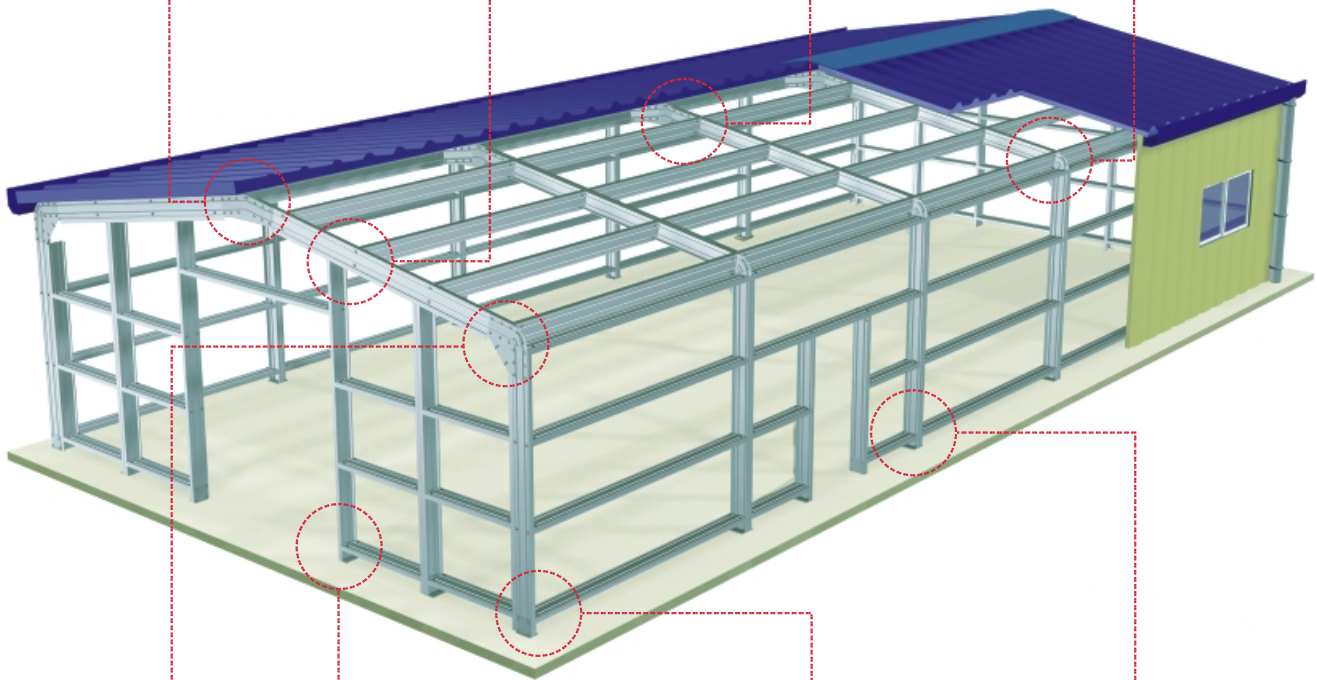
Gable Column Patal



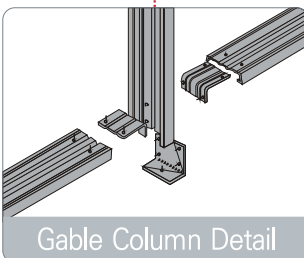
Ridge Detail



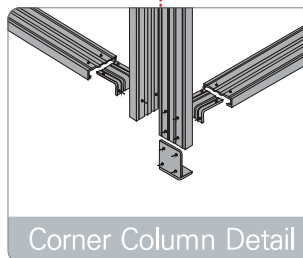
Eaves Detail



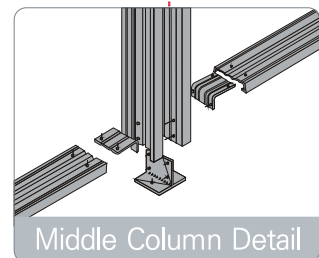
Gable-Eaves Detail



Gable Column Detail

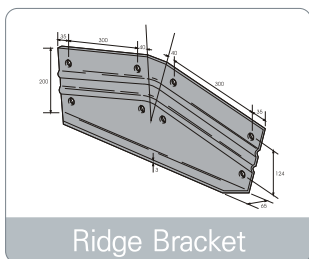


Corner Column Detail

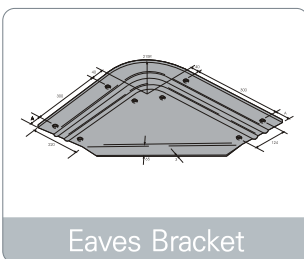


Middle Column Detail

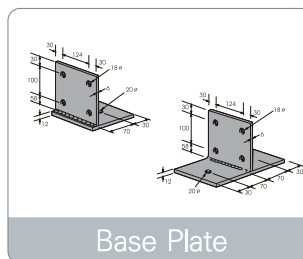
## LEB SYSTEM Brackets



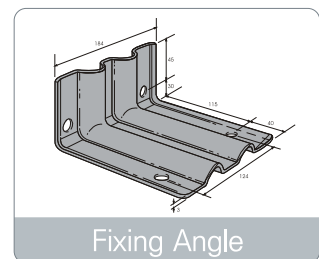
Ridge Bracket



Eaves Bracket



Base Plate



Fixing Angle



# LEB Construction Case



Factory



Ware house



Rooftop Extend



Convenience facilities



Livestock Production Facility



Training facilities





LEB SYSTEM

# LEB Construction Case



Factory



Ware house



Rooftop Extend



Convenience facilities



Livestock Production Facility



Training facilities

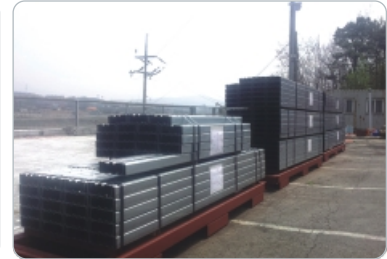






# Overseas Export and Construction Case

Japan



Mongolia



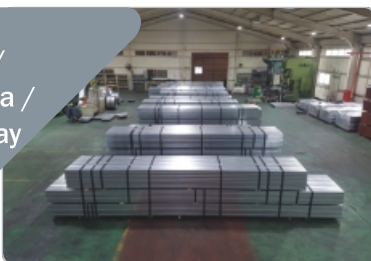
Saipan / Myanmar



India / Brunei



Sudan / Tanzania / Paraguay



Saudi Arabia / Mexico / Oman





LEB SYSTEM

# Application Construction Case



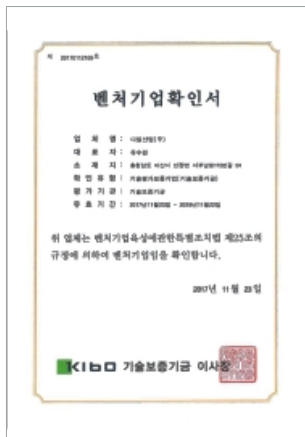
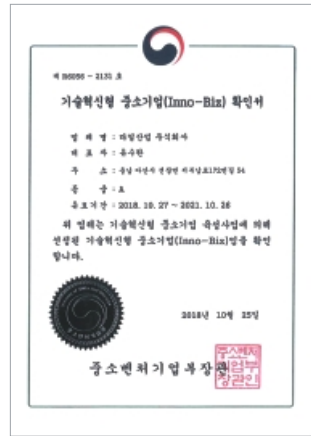


LEB SYSTEM

# Application Construction Case



# License / Certification



E-mail [dail2015@naver.com](mailto:dail2015@naver.com)  
<http://www.dailsteel.co.kr>

## Office

경기도 안양시 동안구 학의로 282(관양동) 금강펜테리움 IT타워 B동 1815호  
 B-1815, Kumgang Penterium IT Tower, 282, Hagui-ro(Kwanyang-Dong),  
 DongAn-gu, Anyang-si, Gyeonggi-do, Republic of Korea  
 TEL. 82-31-463-3050 FAX. 82-31-463-3060

## Factory

충청남도 아산시 선장면 서부남로 172번길 54  
 54, Seobunam-ro 172beon-gil, Seonjang-myeon, Asan-si, Chungcheongnam-do,  
 Republic of Korea  
 TEL. 82-41-544-5740 FAX. 82-41-544-5743