



**AL MANARATAIN**

AL MANARATAIN COMPANY AND ALI AL SHAAB GROUP W.L.L.

# ALMANARATAIN SMART BUILDING SYSTEM

## WHY LIGHT GAUGE STEEL ?

The future of construction lies in sustainable materials that are delivered using fast modern methods. Light Gauge Steel can result in faster build times, lower costs, versatile design solutions and a durable, practical solution to premium buildings.

## 6 REASONS WHY ( LGS ) IS A SUPERIOR CONSTRUCTION METHOD ?

- Speed in construction
- Reduce need for highly skilled labour
- Versatility in design
- Faster return of investment
- creates less waste
- lends itself to offsite construction



## BENEFITS OF USING LIGHT GAUGE STEEL

### THE BUILDER GAINS BECAUSE OF

- Reduced on-site labour costs
- Significant potential for reduction in contract duration
- Dry-shell / lock-up stage achieved earlier and therefore subsequent trades can work under cover.

### THE CLIENT GAINS BECAUSE OF

- The construction is quicker and as per international standards
- Less disruption and disturbance because of reduction of site labour, bulk material deliveries and building rubble.
- Outstanding design flexibility
- Environmentally sensitive

## APPROXIMATE WEIGHT ( WITH STANDARD SPECIFICATIONS )

- WEIGHT OF WALL = 30 Kg/Sqm
- WEIGHT OF ROOF = 50 Kg/Sqm

## WHAT IS LIGHT GAUGE STEEL ( LGS )

LGS frames and components are produced and fabricated from structural quality steel coils and are shaped at ambient temperatures by roll-forming machines. They can be produced in large quantities and at high speed with consistent quality and precision.

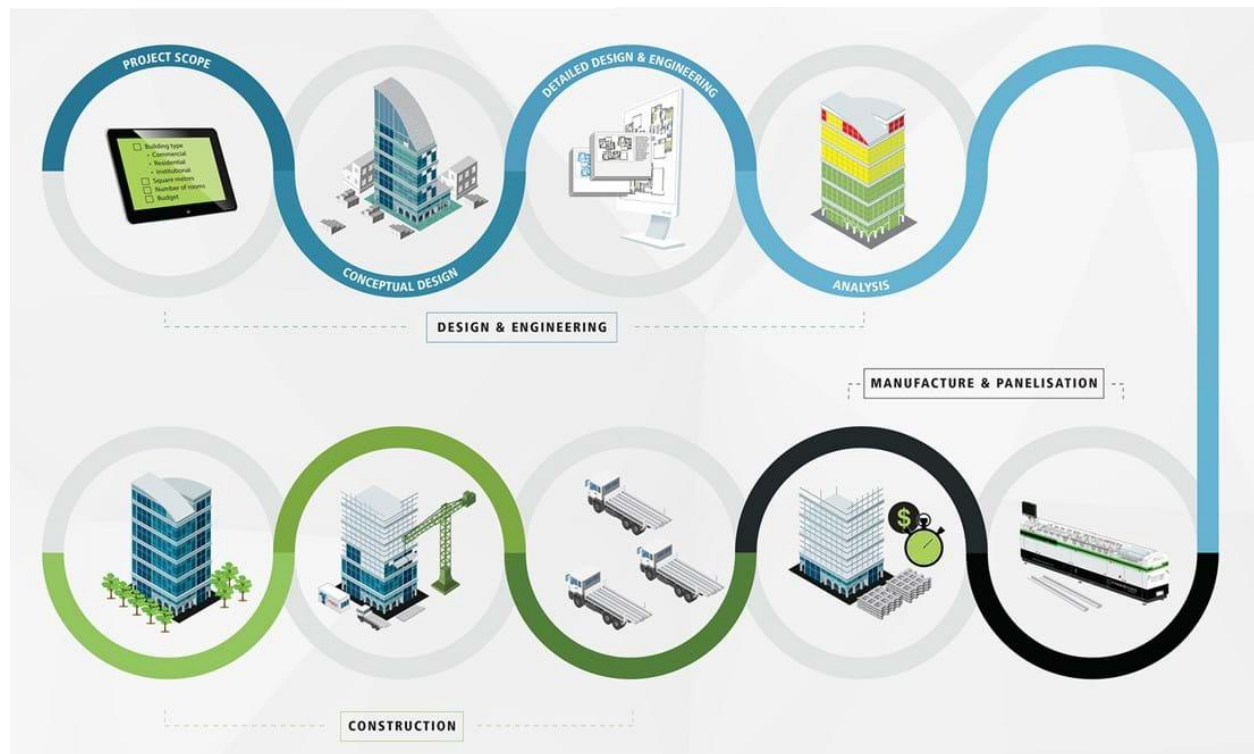


## ABOUT LIGHT GAUGE STEEL CONSTRUCTION (LGSC)

### WHY LIGHT GAUGE STEEL (COLD FORMED STEEL)?

The future of construction lies in sustainable materials that are delivered using fast modern methods. Light Gauge Steel can result in faster build times, lower costs, versatile design solutions and a durable, practical solution to premium buildings.

### HOW THE LGSC DESIGN PROCESS WORKS



### DESIGN & ENGINEERING STAGE

LGS construction is a design-led process, meaning that the need for skill to construct the building is more in the design stage and less so on-site. Design and engineering is performed using sophisticated software that is incredibly accurate, reducing the need for engineer involvement during the detail design, speeding up compliance, reducing engineering cost and minimizing room for error on-site.

## MANUFACTURE & PANELISATION STAGE

LGS frames and components are produced and fabricated from structural quality steel coils and are shaped at ambient temperatures by roll-forming machines. They can be produced in large quantities and at high speed with consistent quality and precision.

## CONSTRUCTION PHASE

LGS frames are factory assembled, strong and straight, and clearly identifiable. No on-site, welding or cutting is normally required. This means that the erection process is fast and simple – requiring less labour time on-site and heavy lifting equipment.

There is no delay waiting for curing as frames are ready to take any type of finishing as soon as it is erected.

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## APPLICATIONS OF LIGHT GAUGE STEEL CONSTRUCTION (LGSC)

Designed using specialist computer aided CAD design and engineering software, the FRAMECAD system allows for Cold Formed Steel to be implemented across a variety of construction applications

## Institutional Buildings



## Internal Drywall Framing



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## Mid-Rise Residential & Commercial buildings



## Modular Construction and Portable Cabins



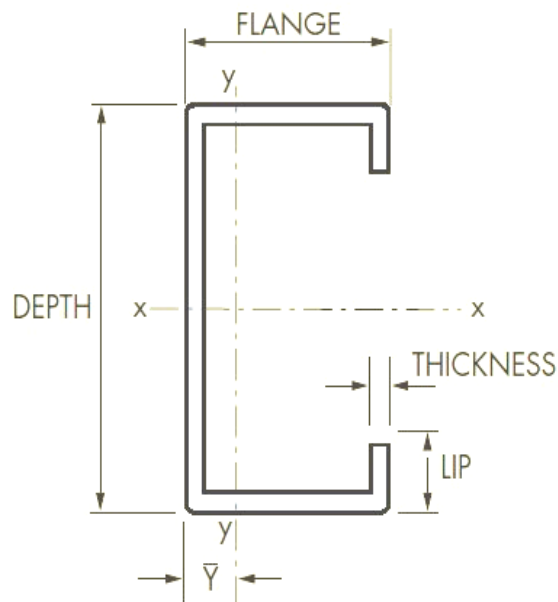
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## Roof Extensions



### PROFILE OF LIGHT GAUGE STEEL CONSTRUCTION (LGSC)



<b>Flange</b>	<b>= 41mm</b>
<b>Depth</b>	<b>= 89mm</b>
<b>Lip</b>	<b>= 11mm</b>
<b>Thickness</b>	<b>= 0.95</b>

Approx. Weight of wall = 30 kg/sq.m (with standard specifications)

Approximate Weight of roof = 50 kg/sq.m (with standard specifications)

## DETAILED SPECIFICATIONS

### 1) CORE STRUCTURE:

#### Exterior / Interior walls:

All the exterior and interior walls will be cold-formed high tensile galvanized steel profiles manufactured on fully automatic machines. The size of the C profiles is 89 x 41 x 11 mm. The steel coils are galvanized with Z275 zinc coating on both the sides with 350 MPA yield strength. All the studs and bracings will be pre punched with holes of 40mm for the concealed pipes of electricity and water. All screws holes will be dimpled for flush fitting of the screws.

#### Roof

The complete roof joists will be manufactured out of cold formed high tensile galvanized steel profiles. The size of the C profiles is 89 x 41 x 11 mm. The steel coils are galvanized with Z275 zinc coating on both the sides with 350 MPA yield strength.

### 2) INTERIOR AND EXTERIOR BOARDS:

#### Interior Boards On Walls

Interior boards to be fitted on the galvanized walls and the roof are Cement fiberboards of 10mm thickness or Gypsum boards of 12mm thickness. Water proof Cement fiberboards are used for kitchen and bathrooms. All the joints of the boards will be sealed with the silicon sealant and mesh tape will be fitted on all the joints to avoid any cracking in the joints. The entire walls will be finished and painted as per choice of colors specified.

#### Exterior Boards on Walls

All exterior walls are covered with Waterproof Cement fiberboards of 10mm thickness, all boards are to be fitted with 25mm self drilling screws. The complete exterior of the building will be cement plaster finished and painted with weatherproof paints.

#### Roof sheets

All roof sheets will be Waterproof Heavy Duty Cement fiberboards of 18mm thickness, all boards are to be fitted with 25mm self drilling screws. Proper slope will be provided to drain rain water and water proofing will be done to avoid any leakage.

#### Ceiling sheets

All ceiling sheets will be Gypsum boards of 12mm thickness, all boards are to be fitted with 25mm self drilling screws with 40mm thick polystyrene for insulation.



## All Tooling at the factory for Fast and accurate assembly



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## ADVANTAGES



### GREEN

100% free of harmful substances and are of A non-radioactive products. Eco friendly materials are used for construction.



### LIGHTWEIGHT ECONOMIC

Less Weight - reduction in foundation and overall costs.



### EASY AND FAST CONSTRUCTION

The process of installation is easy and fast.



### INCREASE VALID SPACE

More carpet area can be achieved as the thickness of LGS walls are less compared to conventional wall



### HEAT PRESERVING

Enhanced Thermal Efficiency



### LESS LABOUR

Simple, easy to fix and Less labour requirement at site.



### CLEAN

Clean construction and less wastage.



### COST SAVING

Reduction in contract duration, reduction on-site labour, outstanding design flexibility, lighter and faster in construction which leads to cost saving.



### WATERPROOF

Waterproof materials can be used for bathrooms / roofs / indoor and outdoor



### FIRE RESISTANCE

Fire resistance limit is ranges from 0.5 - 2 hours and does not emit toxic.

## **ADVANTAGES OF LIGHT GAUGE STEEL CONSTRUCTION**

- Speed in Construction.
- More carpet area can be achieved as the thickness of LGS walls are less compared to conventional wall
- Less Weight - reduction in foundation and overall costs.
- Enhanced Thermal Efficiency
- Eco friendly materials are used for construction.
- Less labour requirement at site.
- Any type of finishes are readily achievable.
- Clean construction and less wastage.
- Complies with the rational design requirements as per BS / ASTM Standards
- Only quality certified materials are used.
- Frames are assembled under controlled factory conditions - Quality Assured.

### **The builder gains because of:**

- Reduced on-site labour costs
- Significant potential for reduction in contract duration
- Dry-shell / lock-up stage achieved earlier and therefore subsequent trades can work under cover.

### **The client gains because of:**

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## MORE PICTURES



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