BSL Scaffolding Limited
ALUMINIUM FORMWORK SYSTEMS

Formwork for a BETTER WORLD
Bringing innovations to the construction community
COMPANY PROFILE

Over the past years, BSL, the three times winner of export Excellency Awards from the Govt. of India, Has established itself as the leading organisation in the field of the high quality formwork & scaffolding system for the construction & maintenance industry in India and also as a major exporter.

Through a network of joint-Venture Companies and subsidiaries, it is now spread a lot of part of the world. BSL’s reputation has been built up steadily over the years by putting the needs its customers above every other consideration. Everything we do is designed to help our customers achieve maximum on-site efficiency without compromising safety standards.

The success of any construction project depends on how closely you stick to planned time schedules and cost estimates. When you purchase formwork & Scaffolding equipment from BSL, you are able to draw the resources of a well-spread service organisation.

Regardless of the specific type of equipment and site location, we will work with you to ensure your project to run according to plan.

The extensive design and manufacturing resources of BSL give us the ability to develop or adopt products quickly to suit the constantly changing needs of our customers.
ALUMINUM FORMWORK SYSTEMS

Aluminum Formwork System is highly suited to load bearing wall construction whereas traditional formwork consisting of plywood and timber is not suitable to the high pressures of fresh concrete on the wall. Use of this formwork in load bearing design gives an average of 15 per cent cost saving in the structure of the building and increased usable floor space of 8 per cent over RCC design of the assembly, only unskilled labours are required with minimal supervision. The Aluminum Formwork System is removable and can be reused hundreds of times with little maintenance. Moreover, the requirement of steel is also reduced in this technology as aluminum has a higher scrap value.

This system is based on a handled light aluminum formwork system. It is capable of forming the concrete for both, load bearing wall design and column beam design. Unlike other systems it is equally suited to both high rise and low rise buildings. In case of load bearing wall design, the systems forms all of the concrete in a building, including walls, floor slabs, columns, beams, stairs, window hoods and balconies. Specifically designed to allow the rapid construction of multiple unit projects at optimum productivity, the aluminum formwork can be used for a broad range of applications, from straightforward panels to more complicated structures involving bay windows, stairs and A/C hoods. The degree of pre engineering and inherent simplicity of the aluminum formwork enables unskilled labour to be used. Every component is light enough to be handled by one operative, minimizing the need for heavy lifting equipment.

The simplicity of Aluminum Formwork and the repetitive nature of the assembly process make it possible to accurately program construction sequences and thus cycle times well in advance. In addition, this enables the unskilled labour to work with the formwork, therefore reducing the burden on skilled labour when this is in short supply. On leaving the factory, all panels are clearly labelled to ensure that they are easily identifiable on site and can be smoothly fitted together using the formwork modulation drawings.
### SPECIAL FEATURES

#### CHARACTERISTICS

- Can Pour All Walls, Columns & Beams Together With Floor Slabs, Permitting Cellular Design & Savings In Stell & Concrete
- Lowest Formwork To Forming Area Ratio
- No Skilled Labor Required
- Strike Floor Slabs Formwork Without Movint Props
- Able To Pour Walls (column) And Floor Slabs With Beams Woth One Lift
- Can Form Concrete In Place As Part Of Work Cycle
- Can Form Concrete Columns And Beams Together
- No Cranes Or Other Heavy Equipment Required
- Suitable For Single(1) Or Two(2) Storey Buildings
- Suitable For High-rise Buildings
- Formworks Equipment Adapts To Different Designs
- Able To Form All Concrete Elements
- Conforms To Architects Design With No Need Modifications To Suit The System
- Self Correction Feature Providing Unmatched Forming Accuracy
- Environmentally Friedly no Huge Debris, No Messy Disposals

### ALUMINIUM (A6061-T6)

<table>
<thead>
<tr>
<th>MATERIAL</th>
<th>Specific Gravity</th>
<th>Allowable Bending Stress</th>
<th>Young’s Modulus</th>
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<tbody>
<tr>
<td></td>
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<td>kg/cm²</td>
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<td></td>
<td></td>
<td></td>
<td>7.0 x 10⁵</td>
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<tr>
<td>COMPOSITION</td>
<td>INNER WALL PANEL</td>
<td>SLAB CORNER &amp; BEAM</td>
<td>SLAB PANEL &amp; SUPPORT</td>
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<tr>
<td></td>
<td>SLAB PANEL &amp; SUPPORT</td>
<td>IN-OUT CORNER &amp; HUNCH</td>
<td>ACCESSORY WALL TIE / ROUND PIN/ WEDGE PIN</td>
</tr>
<tr>
<td>NORMAL MODULE</td>
<td>WALL PANEL</td>
<td>2050MMX600</td>
<td>SLAB PANEL</td>
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<td></td>
<td>1200MMX600</td>
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Aluminium Formwork Components

Wall Panel
- Size: 2050x600
- Approx. Weight(kg): 23.97

Slab Panel
- Size: 1200x600
- Approx. Weight(kg): 12.82
- The slab panel will be used to support the concrete weight during concrete pouring and casting.

Prpp Head (PH)
- Dependent upon each structure
- Used to join the beams together (Middle beam and/or End beam) the pipe support will be placed under the prop head.

Slab Corner
- Dependent upon each structure
- Connection between wall panel & Slab panel

Slab Inner Corner
- Dependent upon each structure
- Connection between wall panel & Slab panel (Inside)

Prpp Outer Corner
- Dependent upon each structure
- Connection between wall panel & Slab panel (Outside)

Beam Bottom Panel
- Dependent upon each structure
- Soffit panel will be used to cover the bottom of the beam

Middle Beam (MB)
- Dependent upon each structure
- Used to join the prop heads, the middle beam supports the slab panels

End Beam (EB)
- Dependent upon each structure
- Used to join the prop head and slab corner, the end beam supports the slab panels
Soldier Tie (ST)
Dependent upon each structure
Used to join the prop head with the beams (Middle beam and/or End beam).

ECA
Dependent upon each structure
Used to join panels together around the corners.

Waller-Bracket & Square Pipe
Dependent upon each structure
The Waller bracket and Square pipe are used to allow the horizontal straightness of wall panels and a flat wall surface (especially at the bottom) after concrete casting.

Long Pin
Dependent upon each structure
The Long pin and Wedge pin will be used to fix the Joint pin with the prop head and beams (Middle beam or End beam) together.

Wall Tie
Dependent upon each structure
The Flat tie is used to join the wall panel to the opposite side’s wall panel. Depending on the wall panel’s height, the number of flat tie used will vary.

PVC Sleeve
Dependent upon each structure
Made of PVC material, the PVC sleeve will be installed between the Wall panel and the opposite side’s wall panel. The flat tie will be inserted inside this item in order to protect the flat tie to be casted within the concrete.

Pipe Support
Dependent upon each structure
The pipe support is used to support the weight of the slab during concrete pouring and casting. It will remain under the prop head until 2 levels of casting.

Tie Rod
Dependent upon each structure
This accessory will be used as an embedded anchor in order to fix the Bracket on the concrete surface during its installation.

Wall & Slab Platform
Dependent upon each structure
As a substitute of a scaffolding system, this Wall platform, slab platform will be fixed on the concrete (wall/slab) and used as a working platform for workers.

Wedge & Round Pin
Dependent upon each structure
The Round pin and Wedge pin will be used to join the Wall or Slab panels together.

Bolt, Nut & Washer
Dependent upon each structure
This set of accessories will be used as an embedded anchor in order to fix panels on the concrete surface during its installation.

Bringing innovations to the construction community
ADVANTAGES

- NO Plastering required
- Savings on overhead expenses due to speedy construction (7 days per floor)
- Monolithic crack free structures
- Doesn’t require timber or plywood for construction activities
- Casting of walls and slabs possible simultaneously
- Doesn’t require skilled labour
- Floor slab forms removed without moving props
- Earthquake resistance of resulting structures increases manifold
- The Formwork is specifically designed to allow rapid construction on all types of architectural layouts
- Total system forms the complete concrete structure
- Custom-designed to suit project requirements
- Unsurpassed construction speed
- High quality finish
- Eliminates plastering, saves almost 50 percent construction time.
- The system becomes cost effective where there is considerable repetition of floor layouts on a project such as in the case of low cost mass housing
- Panels can be reused up to 200 times
- Erected using unskilled labour
- Requires no cranes or heavy lifting equipment
- Suitable for low as well as high rise buildings

PIN AND WEDGE SYSTEM

The panels are held in position by a simple pin and wedge system that passes through holes in the outside rib of each panel. The panels fit precisely, simply and securely. They require no bracing. Buildings can be constructed quickly and easily by unskilled labour with a hammer being the only tool required. Once the panels have been numbered, measuring is not necessary. As the erection process is manual, tower cranes are freed up and can concentrate on other handling operations. The result is a typical 4 to 5 day cycle for floor to floor construction.
SPEED AND QUALITY

The in situ construction of all walls and partitions reduces the requirement for follow-on wet trades. The concrete surface finish produced with the aluminium forms allows achievement of a high quality wall finish without the need for extensive plastering. Doors and windows are formed in position, with this high degree of precision items such as door and window frames can be directly installed on site with minimal resizing required.

High quality Aluminium Formwork panels ensure consistency of dimensions. On the removal of the Formwork mould, a high quality concrete finish is produced to accurate tolerances and verticality. The high tolerance of the finish means that no further plastering is required. Typically a 3mm to 4mm skim coat is applied internally prior to finishing and a 6mm build up coat prior to laying tiles.

QUICK STRIP PROP HEAD

One of the principal technical features which enables this speed to be attained using a single set of formwork panels is the unique V shaped prop head which allows the ‘quick strip’ to take place whilst leaving the propping undisturbed. The deck panels can therefore be reused immediately.
Projects & Many More...

Formwork for a BETTER WORLD
OUR PRESENCE

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