

SELF-BRACED SYSTEM



OUR COMPANY

Bedec Pte Ltd was incorporated in 1993. The company specializes in providing heavy duty shoring system solutions to the construction industry using **Bedec-60** Self-Braced Shoring System. Customers are offered rentals, sales and buy back-scheme.

We provide shoring solutions from initial concept to final design supported with design calculations, CAD drawings, professional engineer's endorsement and on-site installation training and supervision to ensure that codes and practices are adhered to, in accordance with the industry safety standards.

Our team of specialists has undertaken numerous challenging building and civil engineering projects over the years and gained much valuable experiences. This expertise has enabled us to understand and provide better economical, reliable, practical and value added quality solutions to all our customers.

Our business philosophy of service dedication, price integrity and performance reliability has lead to all projects being successfully completed and gained us many satisfied repeat customers.



CERT NO: 97-01-0089
ISO 9001: 2008



We aim to deliver safe and cost-effective shoring system solutions to our clients in the construction industry and contribute to its buildability.

OUR MISSION

Productive & Robust

Heavy duty triangular frame shoring system (S.W.L.6 tons per leg, with factor safety of 2)

Three main components:

- Triangular frame
- Standard
- Basic Standard

These frames are assembled fitting onto each other by wedging, to enable the erection of independent towers.

The great flexibility of Bedec-60 multi-directional vertical shoring system enables its usage for erection of all types of structures.

BEDEC-60 SHORING SYSTEM

The Self-Braced Bedec-60 Shoring System thrives on 5 'S' Principles

Standardization

Faster construction, labour saving system.

Simplicity

Easy assembly, multi-purpose and versatile.

Speedy Installation

Major savings in erection / striking time. Improves labour productivity.

System Design

C.A.D. support system with technical drawing and economic solutions.

Supervision

On-site training and supervision



PRODUCT ADVANTAGES

Automatic Locking

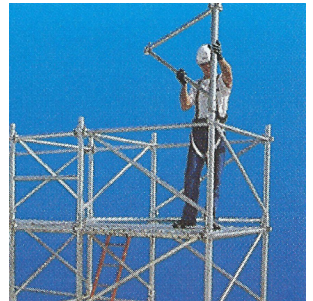
The Bedec-60 benefits from the coupling system (a self-locking pivoting wedge that hooks into a stirrup) so that towers can be linked together quickly with ease and safety. As soon as a triangle is positioned on a stirrup, the wedge pivots automatically, instantaneously securing the system:

- Quicker erection in complete safety
- Fewer erection personnel needed meaning less time and greater efficiency



Safe Erection

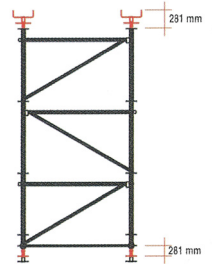
Owing to its triangular design, the Bedec-60 ensures safety throughout the erection. The Bedec-60 triangles act as guardrails for the erectors. The steel platforms of the Bedec-60 can also be fitted to the triangles to provide a working platform in complete safety.



Simple Erection

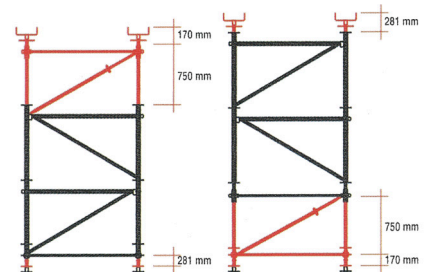
In most cases only 5 components are needed to erect Bedec-60 towers. Erection is extremely simple and is carried out very quickly by assembling:

- The adjustable base-plate
- The basic standard
- The plan brace
- The triangle
- The forkhead



Adjustment

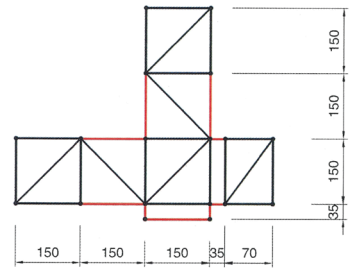
On complicated sites, the Bedec-60 can be fitted as an option with telescopic components that fit to the top or bottom of the towers and can be used to increase the nominal height of the towers by about 1.2m



PRODUCT ADVANTAGES

Space Requirement on the Ground

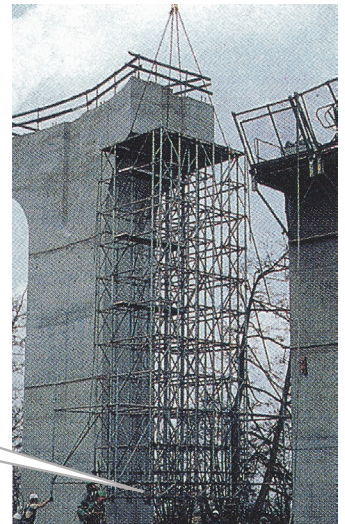
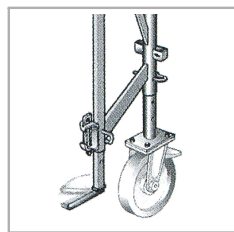
The towers can be extended laterally using Bedec-60 linking components into any configuration necessary for the site.



Shifting Towers

Bedec-60 towers can be shifted in 2 ways:

- With a crane. In this case they should be bolted using the usual erection practices.
- Using the shifting frame.



Recommendation

To guarantee the maximum load-bearing capacity of Bedec-60 structures (6 tonnes per leg), it is essential that the following principles are always followed:

Volume Shoring

Systematic and comprehensive connection with horizontal members at the base. This is set at ground level to simplify subsequently the plumbness of the towers, since the initial stage determines all the others. Also for very high towers and shoring scaffolds designed to support sloping or banking permanent structures, the towers should be linked together by a series of double connections 2m in height (Maximum distance between connecting planes: 4m).

Rows

Intended mainly for supporting large span sections, these should be connected and anchored to concrete piles or to the adjacent shoring scaffold. They are stabilized by continuous longitudinal bracing arranged vertically between the bottom and top of the structure.

Slopes and Banking

Shoring towers can only cope with vertical forces. Oblique force components due to slopes and banking can be passed on by butted shuttering or by the introduction of heavy duty raking shores.



IMPORTANT

The formwork deck should be a single structure and always butted between the concrete walls.
The stringers should be centred and chocked in the forkheads.

Please contact our engineers if you require any additional information.

ERECTION INSTRUCTIONS



01

Position adjustable base-plates on the load distribution sole plates, at the intervals determined by the horizontal member.

Fit the basic standards into the adjustable base-plates.

Fit the first plan braces, rings downwards.



04



Position temporary erection platforms, and the definitive platform and ladder in the access lift of towers every 2 meters.

Check that the structure is plump using the sighting device provided on each triangular frame sleeve.

The upper and lower tubes should be in contact at each leg.

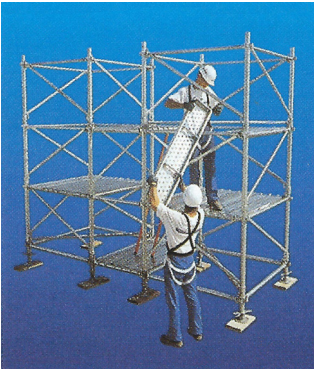


02



Clamp the first horizontal member. Insert and lock the first lift of triangular frames.

Check the structure is level and plump.

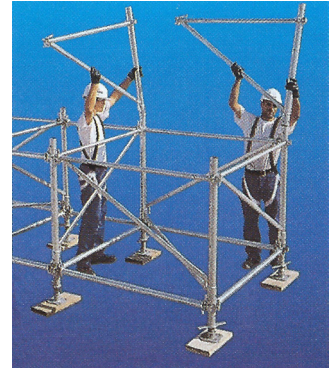


05

Erection must be carried out from inside the towers. Fit the second plan braces, reversed with respect to the previous ones.

Fit the triangular frames at lift 3, observing the safety regulations, protected by the triangular frames of the lower lift.

The temporary platforms from lift 1 are moved to lift 2.



03

Still working from the ground, fit the second lift of triangular frames, so that they face the opposite way.

The triangular frames should be obligatorily pinned together.



06

Fit triangular frames at lift 4, still working safety from the second platform.

Reverse the direction of the triangular frames.

ERECTION INSTRUCTIONS



07

Position the new access platform and its ladder.

Still working in safety from lift 3, protected by the triangular frames of lift 4, insert the adjustable heads with screw-jacks.



08

Link up the adjustable lift with the horizontal member; diagonal braces set and adjusted to the lift size must be installed.

Fit on the adjustable forkheads.



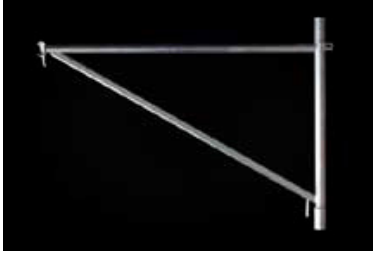
09

Complete the service platform for fitting girders, joists, wall pieces and formwork panels.

This platform should remain in position to allow inspection of the slab underside, as well as leveling, removing formwork and dismantling.



MAIN COMPONENTS



Triangular Frame

4 adjacent triangular frames enable to form 1.00m high lift of a tower. The vertical member is equipped with 3 Bedec-60 stirrups. One end of the horizontal tube is provided with a wedge-clamp.

Frame Size: 0.70m 1.50m



Plan Brace

It is used to check horizontal distortion in tower construction. It is located in every other lift.

Size: 0.70m x 0.70m
0.70m x 1.50m
1.50m x 1.50m



Horizontal Member/HM Tube

It is made of tube $\varnothing 48$ and is provided at both ends with a wedge-clamp.

Size: 0.35m / 0.50m
0.70m / 1.00m
1.50m



Basic Standard

It facilitate the erection, the tower levelling and the general layout.



Standards

They are used in conjunction with triangular frames to erect narrow rows. They can be coupled to a tower in case of load concentrations. Also, they are used for height adjustment.

Size: 0.30m / 0.50m
0.75m / 1.00m



Adjustable U-Head

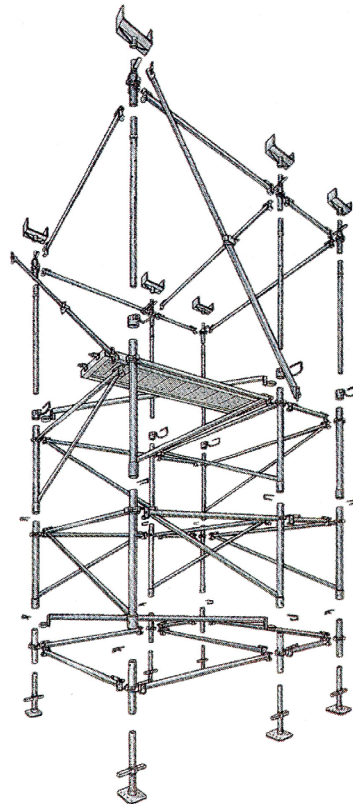
It is designed to accomodate double bearers placed edgeways and for levelling,



Jack Base

It enables to compensate the ground unevenesses.

A Typical Assembly



TRANSFER BEAMS/SLABS



Condo @ Marina Boulevard

Depth of Slab: 4m x 23m (H)
Shoring Volume: 44000m³



Condo @ Claymore Road

Depth of Slab: 1.8m x 24m (H)

TRANSFER BEAMS / SLABS



Condo @ Angullia Park

Depth of Slab: 2.5m x 20m (H)



Condo @ Novena

Depth of Slab: 2m x 25m (H)

HIGH FLOOR SLABS



Commercial Development @ Orchard Road

Height of Shoring: 49m



Condo @ Spottiswoode Park

Height of Shoring: 34m

 HIGH FLOOR SLABS



Temasek Polytechnic

Height of Shoring: 36m



Condo @ Amber Road

Height of Shoring: 36m

VEHICULAR RAMPS / DRIVEWAYS



Vehicular Ramp @ Tanjong Kling

Shoring Volume: 18000m³



Vehicular Driveway @ Pioneer Road



Vehicular Ramp @ Upper Changi Road

 CROSSHEADS / PIERS



Pier @ Bartley Flyover

Depth of Pier: 4m x 11m (H)



Pier @ Bukit Timah Flyover



Pier @ Bukit Timah Flyover

VIADUCTS / FLYOVERS



Bartley Flyover

Shoring Volume: 19000m³



Viaduct Crossing @ Hougang Avenue 3

Shoring Volume: 19000m³

ROAD OPENINGS



Bartley Flyover

Size of Opening: 7m (H) x 10m (W)



PMS @ Changi Airport

Size of Opening: 10m (H) x 9m (W)

 BACK PROPS



Pedestrian Bridge @ MRT Station



Viaduct @ People Mover System

ADVANTAGES OF BEDEC-60 HEAVY SHORING SYSTEM

Light Weight in Design

Each frame is about 12kg compared with conventional frame of about 17kg.

Small in Size

Each frame is only 1m in height by 0.7m or 1.5m in width. This implies that material handling and storage area is minimized. Light weight also provides ease of erection and dismantling during the construction of structures.

Shoring Versatility

This system is so versatile that it can be used for almost all shoring applications, namely, heavy structures, conventional slabs, curves, ramps and be used as a table forms as all components are interchangeable. Due to its tower design, it can be used as temporary support for any kind of RC structures.

Integral in Design

Each frame comes with integral components attached to them. That means no loose pieces of joint pins, bolts or nuts. Hence, practically no losses is possible on these components.

Self-Braced System

This system does not require bracings. This is a self-braced design and therefore gives extreme advantages in terms of safety and productivity. Costs that may be incurred in labour and material for additional bracings of pipes is therefore eradicated.

Cantilever Use

The frame component can be used as a cantilever, when required. This would be useful for access work / working area in edges of building. Hence, possible savings in additional costs for access scaffoldings

Galvanized

Material is galvanized for long lasting use, especially near coastal areas.

6-tons by leg load

Although it is light weight and small in size, the frame is designed to take heavy loads @ 6 tons per leg. Hence when erected, each tower is capable of holding a SWL of 24 - tons. (Safety factor of 2)

PROJECT REFERENCES

AIA Building @ Changi Road
Airport Project @ T3
Airport Project @ T4
Alexandra Canal @ Zion Road
Apts @ Race Course Lane
C1687 EW31 @ Tuas West Ext
C912 Vehicular Flyover @ Bt Timah
Changi Prison @ Jln Bena
Changi Taxi Deck
Comm Bldg @ Robinsons Road
Commercial Bldg @ Serangoon
Commercial Office @ Depot Rd
Condo @ 49 A-K Nassim Road
Condo @ Alexandra
Condo @ Bassein Road
Condo @ Bradell Road
Condo @ Devonshire
Condo @ Fort Road
Condo @ Geylang
Condo @ Macpherson
Condo @ Pheng Geck Ave
Condo @ Redhill
Condo @ Sing Joo Walk
Dormitory @ Kaki Bukit Rd 3
Dormitory @ Woodlands Ave 10
E296 @ Sentosa Gateway Tunnel
ER391 @ CTE/TPE/SLE Interchange
ER412 Flyover @ Toh Tuck Rd
Factory @ 7 Playfair Road
Factory @ Ang Mo Kio
Factory @ Benoi
Factory @ Gul Dr
Factory @ Kallang Ave
Factory @ Kim Chuan Terrace
Factory @ Tuas
Flat @ Spottiswoode Park (Dragon Mansion)
Flat Dev @ 6 Jalan Ampas
Hillion Condo @ Bt Panjang
Hotel @ Middle Road
Ind Bldg @ Henderson
Ind Bldg @ Sims Drive
Interpol Bldg @ Nappier Rd
ISH @ Bartley Secondary School
ISH @ Chong Zheng Primary School
ISH @ Geylang Methodist Primary School
ISH @ Greenwood Primary School

ISH @ Hougang Primary School
ISH @ Macpherson Primary School
ISH @ North Spring Primary School
ISH @ Northland Primary School
ISH @ QiHua Primary School
ISH @ Westwood Secondary School
ISH @ Xingnan Primary School
ISH @ Xinmin Primary School
ISH @ Yew Tee Primary School
ISH @ Zhenghua Secondary School
ISH @ Yu Hua Primary School
Lakeside Condo @ Jurong West/Boon Lay Way
Light Ind Dev Bldg @ Kallang Pudding
Marina Square Extension
Millage Project @ Changi Road
MRT C922 @ Changi
MRT C923 @ Upper Changi
MRT C928 @ Bedok
MRT C932 @ Mattar Road
MRT C935 @ Jalan Besar
MRT C936 @ Bencoolen Road
N4C27 HDB Project @ Sengkang
N6C11 HDB Project @ Bukit Panjang
Novena Church @ Thomson Rd
Office Tower @ Venture Ave/Jurong East (Vision)
Parcvera Condo @ Hougang
Ramp @ Kranji Camp
Residential Dev @ Punggol Central
SCCC Project @ Shenton Way
Selarang Camp
Shopping Complex @ Simei Street 3
ST Hilda's School @ Tampines
Temasek Poly @ Tampines Ave 1
Terrace Bldg @ 34 Tagore Lane
Treasure Trove Condo @ Punggol
Trilliant Condo @ Tampines
Ubi @ Oxley 2
Vehicle Bridge @ Punggol
Warehouse @ Jln Buroh
Warehouse @ Tampines
Warehouse @ Tg Kling
Warehouse @ Woodland Ave 10
Warehouse Ramp @ Penjuru Road
Warehouse Ramp @ Serangoon
Warehouse Ramp @ Sunview
Warehouse Ramp @ Tuas South Ave 10



PRIVATE LIMITED

1 Sungei Kadut Crescent
Singapore 728684

Tel: +65-6747 0200

Fax: +65-6747 9877

Website: <http://bedec.com.sg>

Email: bedec@singnet.com.sg

Co Reg No: 199307515H



CERT NO: 97-01-0089
ISO 9001: 2008



DESIGN

•

RENTAL

•

SALES

•

SALES & BUY BACK