

We hunt the demons of construction sites



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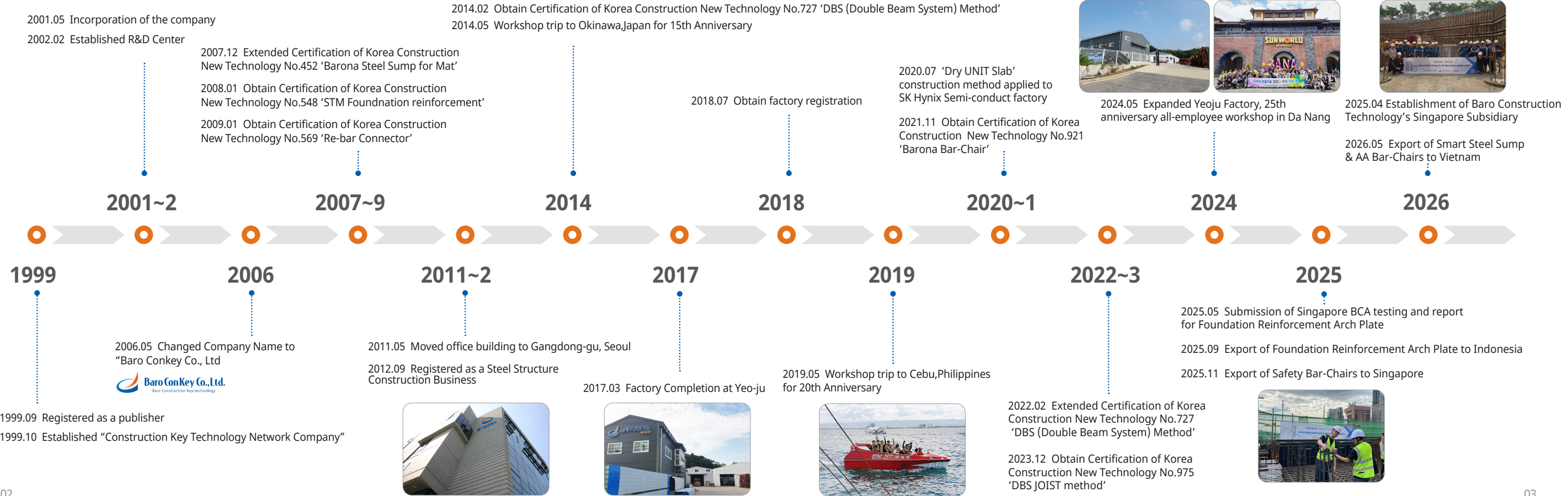


Introduction

Baro Con Key Co., Ltd since 1999

We develop technology to innovate difficult parts of construction sites.

HISTORY



Technical Services



Baro Con Key Provides the Technology **Absolutely** Needed on Site.

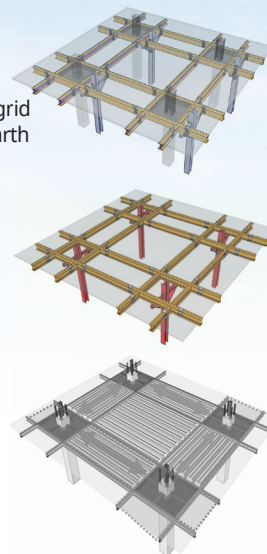


01 DBS Top-Down

Certification of Korea Construction New Technology No.727

An economical top-down method that applies a Drop Panel grid structure with a Double Beam System steel girder to form earth retaining struts as a permanent structure. DBS-I Top-Down, DBS-II Top-Down, DBS Joist Top-Down, Ramp Top-Down, Apartment Remodeling Top-Down

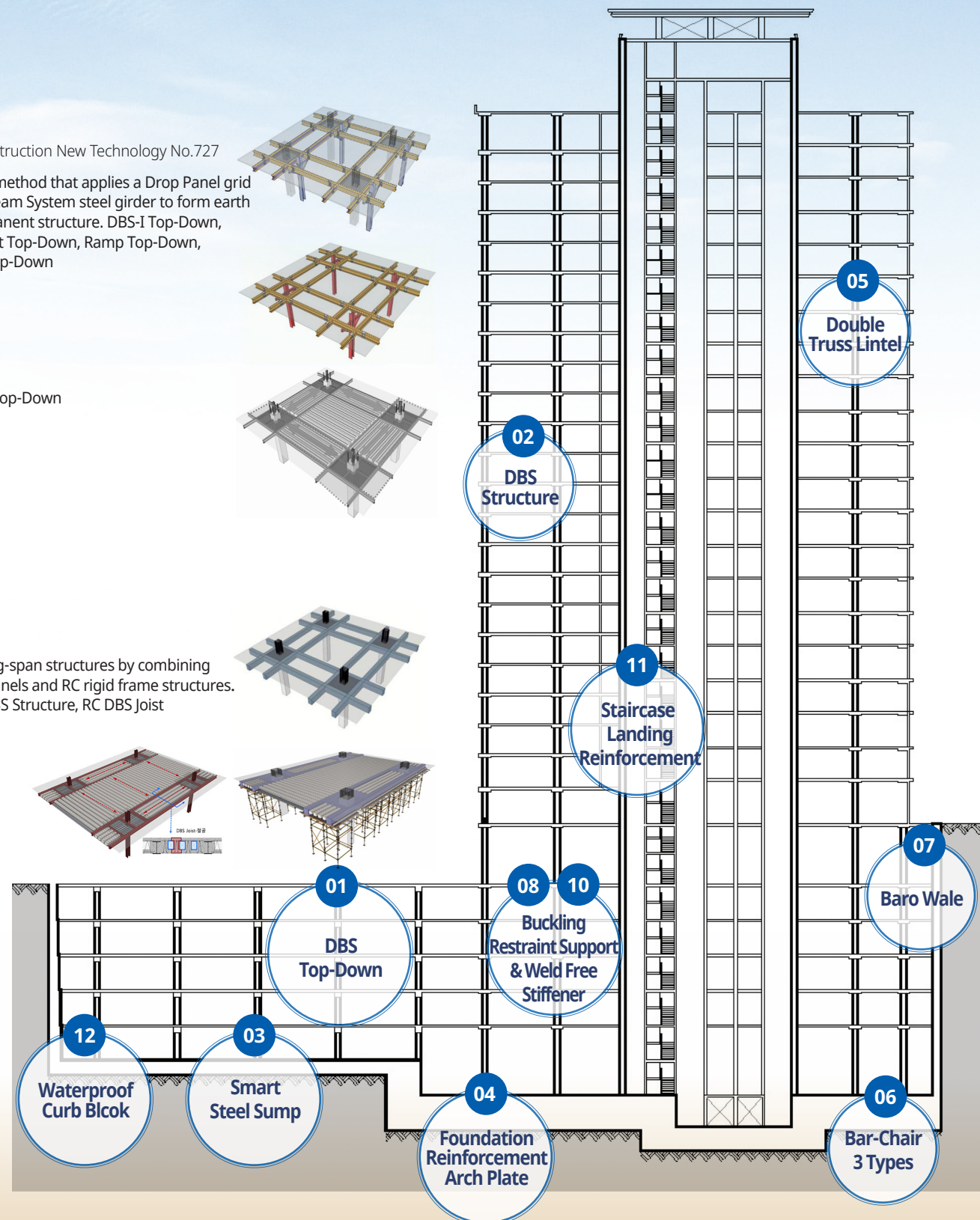
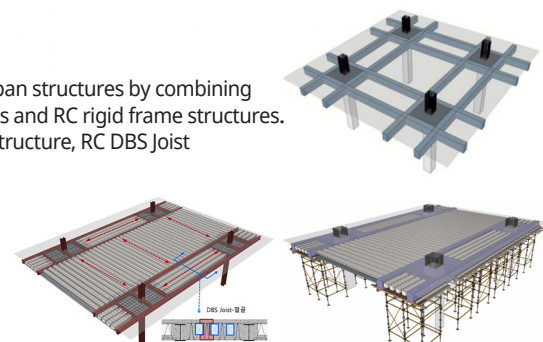
- DBS-I Top-Down
- DBS-II Top-Down
- DBS Joist Top-Down
- Ramp Top-Down
- Remodeling Apartment Top-Down



02 DBS Structure

Economically achieves long-span structures by combining the advantages of Drop Panels and RC rigid frame structures. RC DBS Structure, Steel DBS Structure, RC DBS Joist

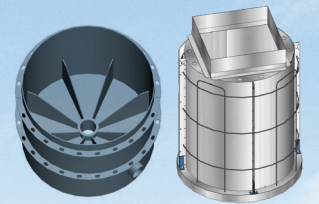
- RC DBS Structure
- Steel DBS Structure
- RC DBS Joist Structure



03 Smart Steel Sump

Certification of Korea Construction New Technology No.452

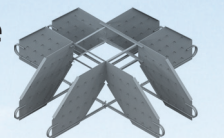
The industry's first prefabricated sump tank.



04 Foundation Reinforcement Arch Plate

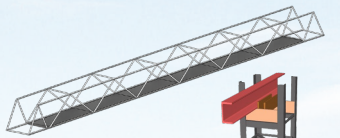
Certification of Korea Construction New Technology No.548

Design with 30% reduction in foundation thickness with STM reinforcement



05 Double Truss Lintel

Economical Truss Lintel that is flexible to every type



06 Bar-Chair(3 Types)

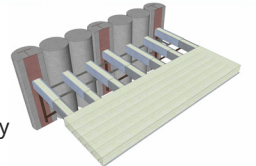
Certification of Korea Construction New Technology No.921

Ensures on-site safety by replacing hazardous support rebar with the Bar-Chair



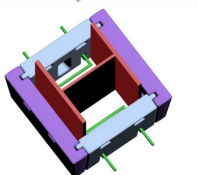
07 Baro Wale (Drawer-type CIP support)

Drawer-type CIP earth pressure support eliminates the need for waler beams and flexibly copes with CIP eccentricity



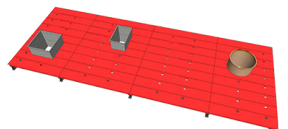
08 Buckling Restraint Support

Buckling Restraint Support that is easy to install, dismantle, and fill open areas



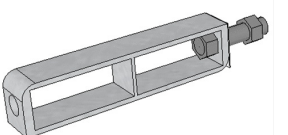
09 Steel UNIT Slab

Steel UNIT Slab, as a prefabricated steel unit, enables quick and easy floor installation between pipes



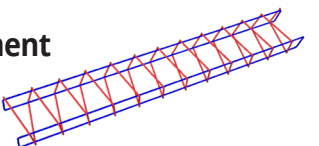
10 Weld Free Stiffener

Weld Free stiffener installed using bolts instead of welding



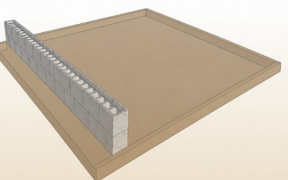
11 Staircase Landing Reinforcement

Simplifying complex rhombic rebar layouts in inclined staircases with prefabricated reinforcements



12 Waterproof Curb Block

Functionality is reinforced concrete, workability is prefabricated block



Barona

Products Completely Eliminate On-Site Inconveniences.

Top rebar Bar-Chairs Optimized and Designed for Each Foundation Height

3 Types of Bar-Chair



The height adjustment function allows for immediate response to construction errors on-site

Easy installation and wide installation spacing

Ensuring safety through structural calculations

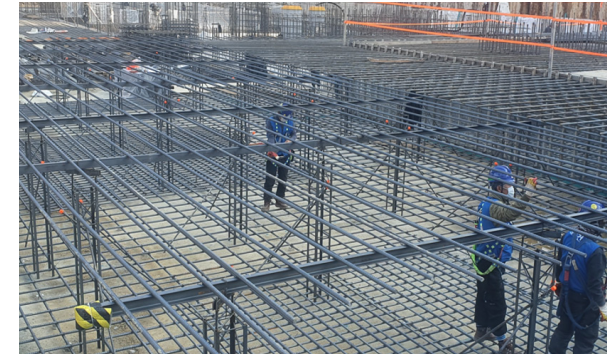
Ensuring quality through factory prefabrication

More economical compared to conventional rebar bar chair

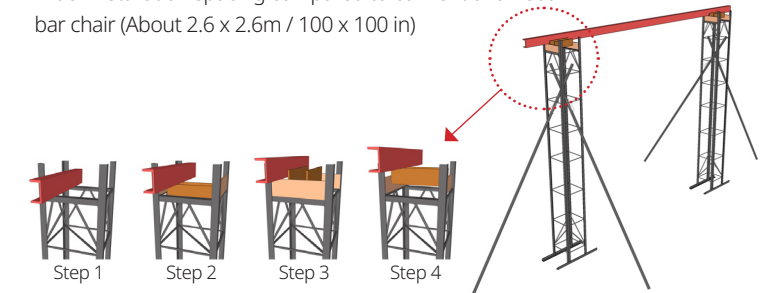
Barona

Height-Adjustable Safety Bar-Chair

Applied to Foundation Thickness of 1,500mm(59.1in) or more
Certification of Korea Construction New Technology No.921



- Safety Bar-Chair for ultra-deep foundations ensuring structural stability (Maximum load of 100kN)
- 4-step height adjustment plate
- Wider installation spacing compared to conventional rebar bar chair (About 2.6 x 2.6m / 100 x 100 in)



Height-Adjustable Safety Bar-Chair Performance

Wohhup_Marina View Residence, Wohhup_Zyon Grand, Hanwha E&C_Goyang Samsung Data Center, and over 60 other sites

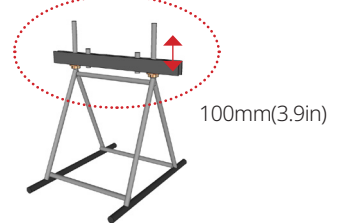
Barona

AA Bar-Chair

Applied to Foundation Thickness of 500~1,500mm(19.7~59.1in)



- Structurally secure triangular shape
- On-site height adjustment available via upper flange nut
- Ensuring structural stability (maximum 4t or 8.818lb)
- Cost reduction effect compared to conventional rebar bar chair



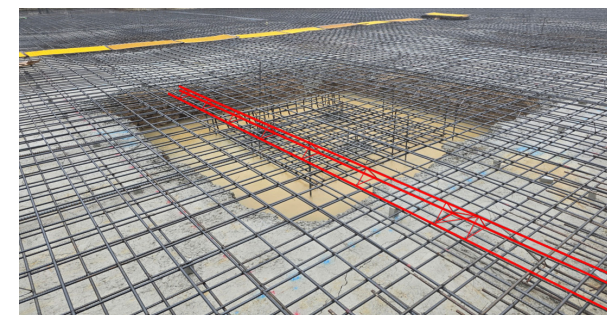
AA Bar-Chair Performance

Daewoo E&C_VINA_Starlake The Prime K8CT1, Bando Construction_Incheon Seongnam Eoulim Center Construction

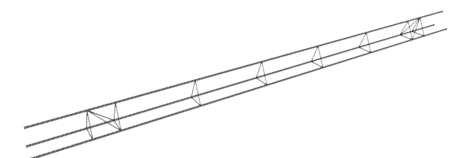
Barona

Continuous Safety Bar-Chair

Applied to Anti-Buoyancy Slabs & Foundation Thickness of 250~500mm (9.8~19.7in)



- Continuous long truss-shaped configuration
- Rebars of the main body function as upper and lower reinforcement bars
- Continuous long-length installation at one time faster installation speed compared to conventional rebar bar chair



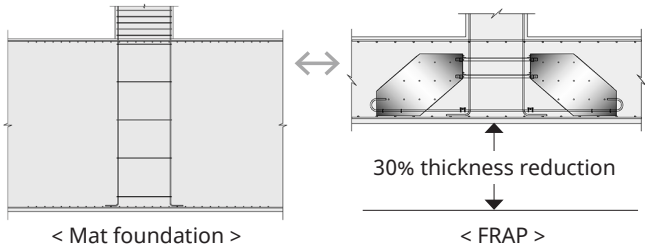
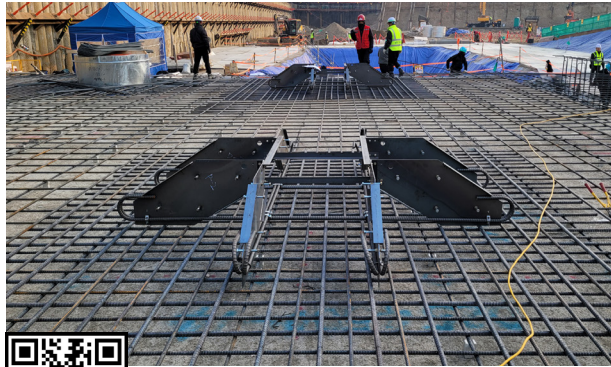
Continuous Safety Bar-Chair

Doosan Construction_Dohwa Zone 4 Urban Redevelopment Project, and 4 other sites

Barona

Foundation Reinforcement Arch Plate

Minimizing Mat Foundation Thickness & Highly Economical
Certification of Korea Construction New Technology No.548

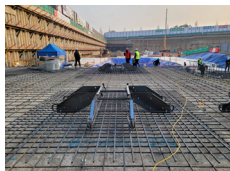


1-leg FRAP



- Approximately 20% reduction in foundation thickness
- Isolated footing and for light-loads

2-leg FRAP



- Approximately 30% reduction in foundation thickness
- Universally used on mat foundation

3-leg FRAP



- Approximately 40% reduction in foundation thickness
- Thickness advantageous for high loads

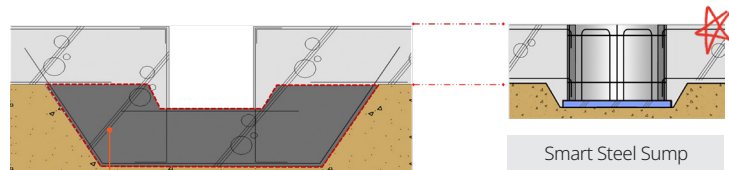
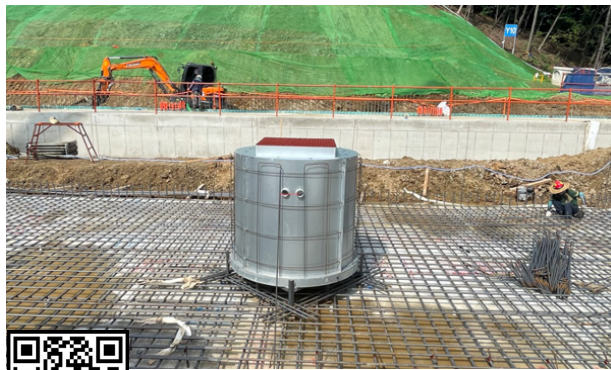
Foundation Reinforcement Arch Plate Performance

SK Eco Plant_SK Hynix Yongin Cluster Y1, Kyeryong Construction_Busan BGF Retail Logistics Center New Construction, and 354 other sites

Barona

Smart Steel Sump

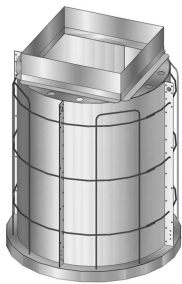
The industry's First Prefabricated Sump Tank
Certification of Korea Construction New Technology No.452



Conventional Cast in Place Concrete Sump

No excavation required beyond the indicated area

- Excavation reduction
- Concrete & rebar quantity reduction
- Easy construction
- Construction time reduction
- Maximum sump capacity 8m³



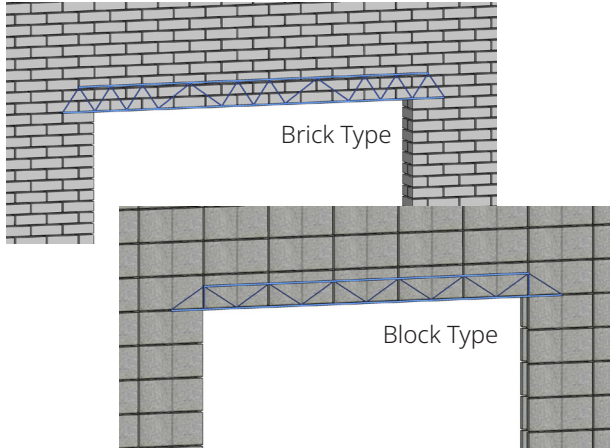
Smart Steel Sump Performance

Daewoo E&C_Sejong Prugio, Hyundai E&C Hillstate Daejeon, and over 2,000 other sites

Barona

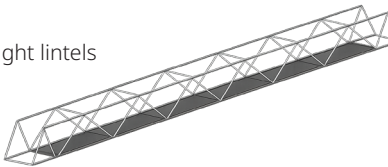
Double Truss Lintel

Lightweight Ready-Made Lintel



Double Truss Lintel is lightweight and used for openings of 1.2-2.8m(3.9-9.2ft)

- Immediate installation as a prefabricated product
- Ensuring structural safety with double truss configuration
- All sizes and types available for bricks and blocks
- Easy installation for switch boxes and wires
- Long-span capability
- More affordable than lightweight lintels



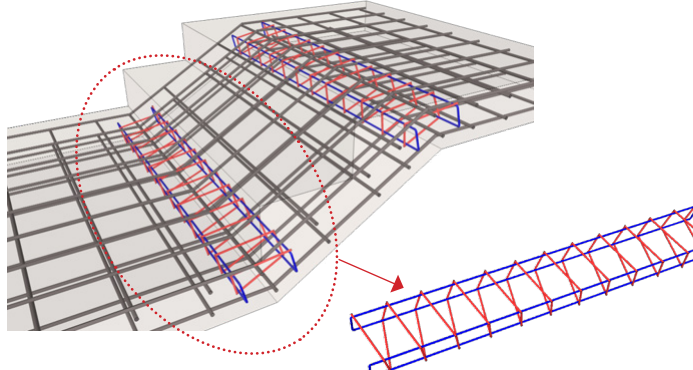
Double Truss Lintel Performance

Hanwha E&C_Pangyo iSquare C2, POSCO E&C_Pohang Iron & Steel site, etc.

Barona

Staircase Landing Reinforcement

Easy Installation for Rhombic Rebar Layouts in Inclined Staircases



- Resolving inconveniences of rhombic rebar layouts at staircase landings
- Prefabrication and quality assurance
- Construction convenience

Staircase Landing Reinforcement Performance

Juwon Project_Macheon 1-dong Multi-purpose Government Building New Construction, Planners Design Group_Pongnap 2-dong Multi-purpose Government Building New Construction



Provide **Optimal** Performance for Data Centers.



TSPRC

Temporary Steel, Permanent Reinforced Concrete

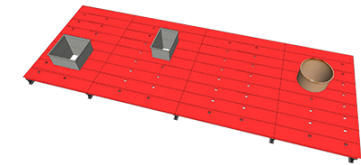


- Applicable to long spans up to 20m(65.6ft)
- Excellent control in vibration and deflection with high loads
- No fire protection required
- 20% cost savings compared to conventional composite beam systems



Steel UNIT Slab

Easy Installation of Modular Flooring Between Pipes



1 Module

- A simple and clear method that forms a module through UNIT connections
- Enhanced performance through continuous bolt fastening between UNITs
- Can be manually transported, installed, and dismantled
- No welding required for opening reinforcement, eliminating fire hazards

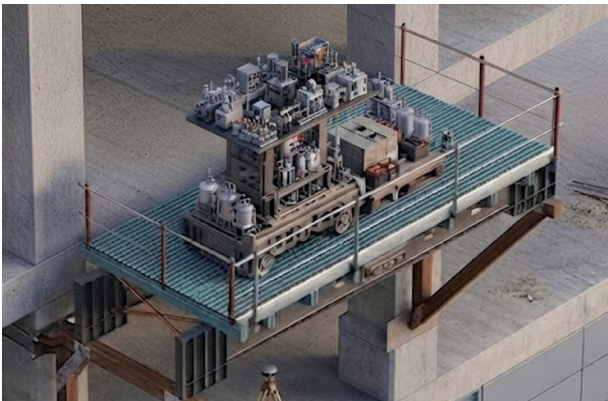
Steel UNIT Slab Performance

SK Eco-plant_Hynix M16 EUV Finishing, SK Eco-plant_Hynix M16 Ph-2, SK Eco-plant_Hynix M16 Ph-1C, SK Eco-plant_Hynix M16 Ph-1, Private House_Yangpyeong Seohu-ri House

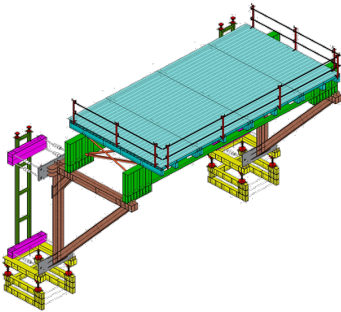


Loading Deck

Loading Deck System for Heavy Equipment

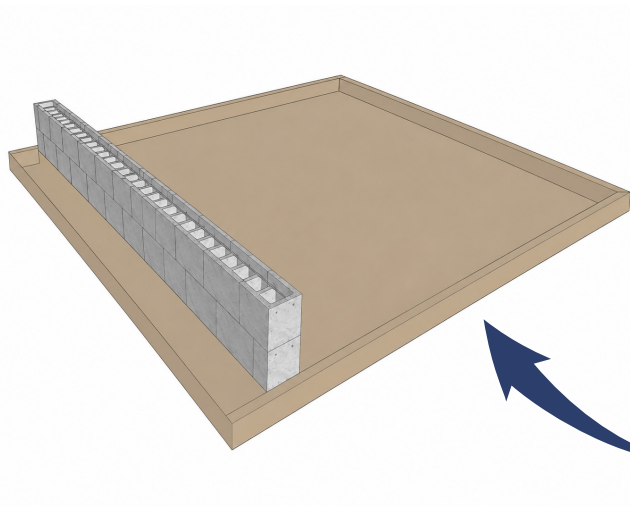


- Supports up to 50t equipment loads
- Faster installation with pre-assembled modules
- Flexible installation—no cast-in anchor bolts or structural reinforcement required



Waterproof Curb Block

RC-Level Strength with Faster Installation



- No form work concrete work required.
- Fast and easy prefabricated installation
- Provide the required structural performance



Conventional Reinforced Concrete Waterproof Curb

DBS Top-Down **Significantly** Reduces Excavation.

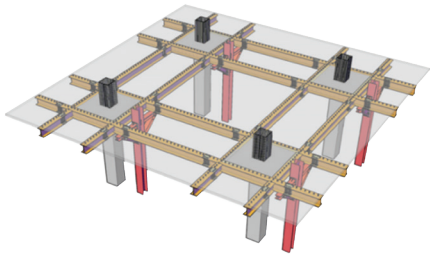
DBS - I Top-Down

The Top-Down Method More Economical than Strut Method
Certification of Korea Construction New Technology No.727



The more economical slab support method than the strut method

DBS Top-Down I Performance : Lotte E&C_Cheonho Woosung Apartment Reconstruction, Samsung C&T_Ansan Global Data Center and 70 other



- Precise construction possible with post-construction of RC columns
- The optimal construction method for urban areas that maximizes the advantages of top-down construction

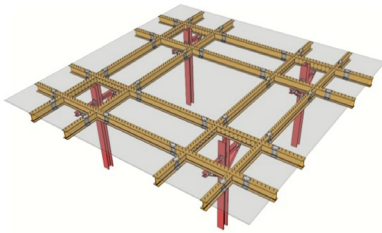
DBS - II Top-Down

The Top-Down Method Highly Advantageous for Long Spans



Slab support method using King post
(Up-Up, Semi-Topdown, Full Topdown)

DBS Top-Down II Performance : Daemyung Construction_Seocho Mixed-Use Apartment, Hyundai E&C_The Parkside Seoul and 49 other sites



- Method for joining structures without the influence of construction errors of King post
- A systemized method that minimizes on-site risks without measurement process
- Applicable to CFT columns, column steel material amount reduced by 40-50%

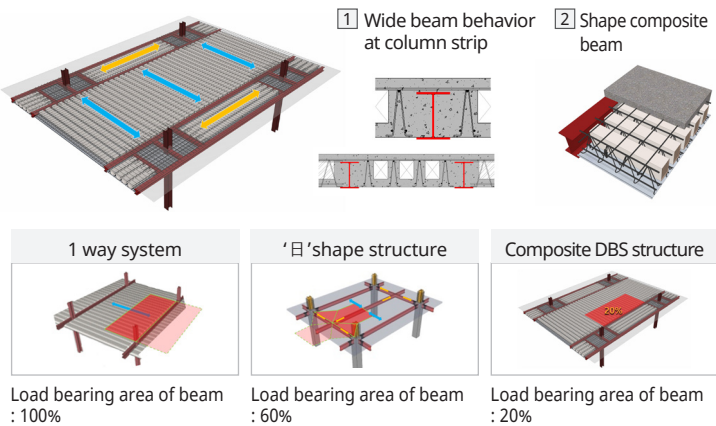
Steel DBS Joist Top-Down

Minimize Rock Excavation
Certification of Korea Construction New Technology No.975



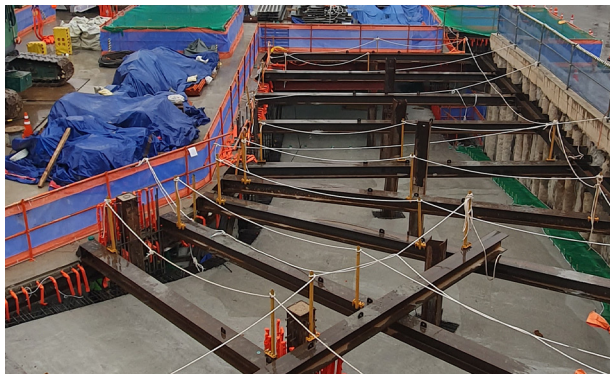
Slab support method with minimum underground total depth
(Up-Up, Semi-Topdown, Full Topdown)

Steel DBS Joist Top-Down Performance : Hwaseong Industrial_Hanwha Life Daegu Building and 15 other sites



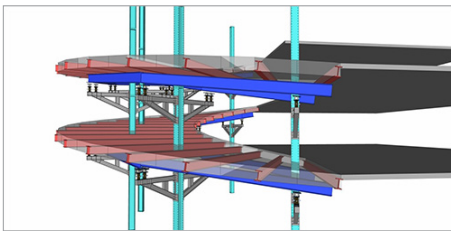
Ramp Top-down

Reduce Construction Period and Manpower



A construction method that can shorten the construction period by 4 to 5 months at a top-down site

Ramp Top-Down Performance : GS E&C_Seun 5-1, Zone 3 Urban Renewal Redevelopment Project, Bando E&C_Seodaemun Bando Ubona Housing Redevelopen



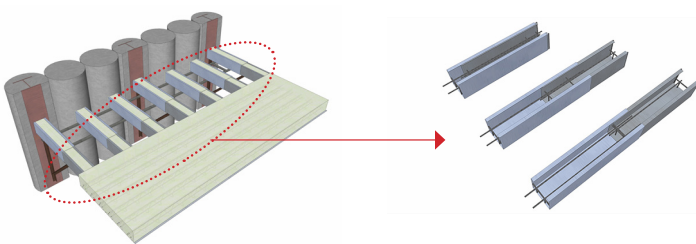
- No delay in construction period due to post-processing of the ramp
- Reduced manpower and risk due to no ramp formwork
- Utilization of underground floor during top-down construction (temporary parking, material storage)
- Top-down construction without design changes to frame thickness and wall size

Barona Baro Wale (Drawer-type CIP Support)

Flexibly Copes with CIP Eccentricity



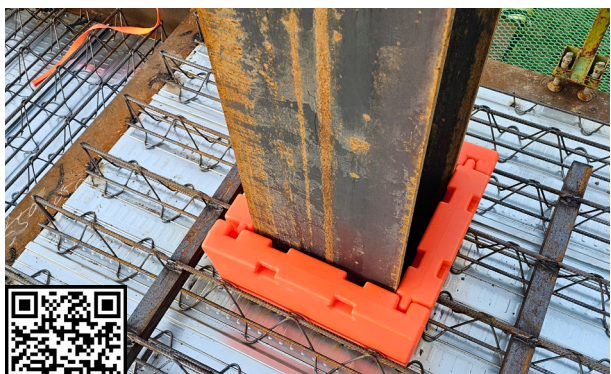
BARO Wale Performance : Dongbu Construction_Seoul Yangcheon Post Office Complex Building Construction Project and 3 other sites



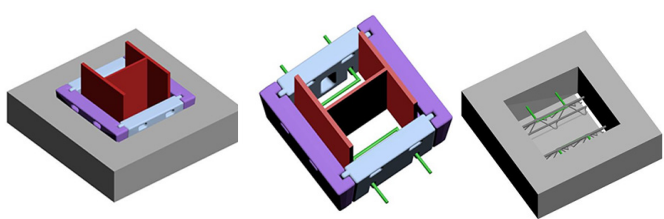
- Directly mounted on the CIP without steel waler beams
- Lightweight, easy to install, and economical
- Designed in a drawer-type configuration to absorb variations in CIP width
- Concrete is easily filled during slab pouring

Barona Buckling Restraint Support

Easy Installation, Dismantling, and Opening Backfills



Bucking Restraint Support Performance : Doosan E&C_Samsan Doosan We've The Central Bupyeong New Construction, Samsung C&T_Ansan Global Cloud Center New Construction, and 15 other sites

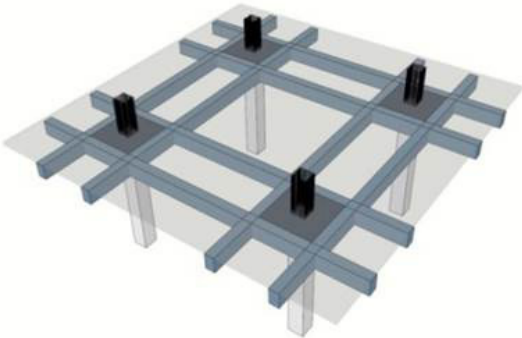


- Solving the difficult opening formation problem
- Solving the problem of frequently missing parts when supporting with lumber
- Easy to install

DBS Structure is **More** Economical for Long Spans & High Loads.

RC DBS

Structure Advantageous for Long Spans of 10~15m(32.8~49.2ft) and High Loads



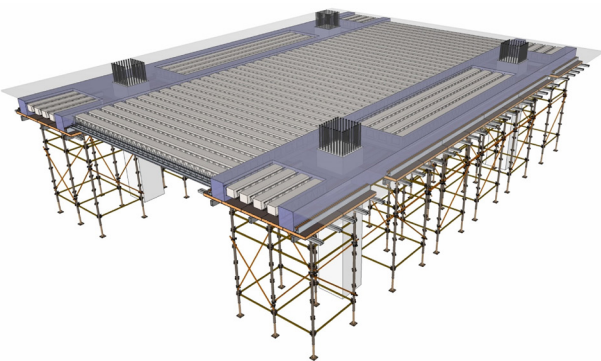
- 10-15% reduction in skeletal construction costs compared to general RC structures
- Long-span structures without steel frames or post-tensioning
- Improved constructability by unifying the width and depth of the beam

RC DBS Performance

SK E&C_Anyang Hogye Knowledge Industry Center and 16 other sites

RC DBS Joist

Economical RC Structures for Parking Lots and Office Buildings
Certification of Korea Constrution New Technology No.975



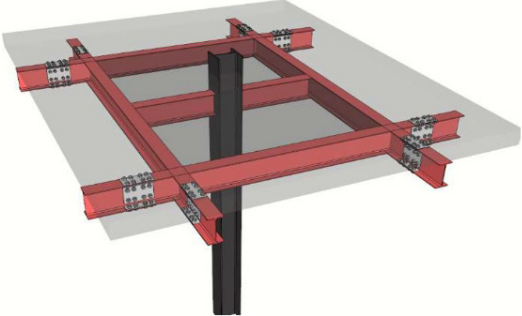
- Horizontal frame (beam & slab) thickness about 400mm(15.75in)
- 10% reduction in construction cost compared to general RC structures
- Reduced horizontal skeleton thickness by 250mm(9.84in) per floor / Reduced number of supports installed

RC DBS Joist Performance

Bando Construction_Yeongdeungpo Knowledge Industry Center New Construction and 2 other locations

Steel DBS

Structure Advantageous for Long Spans of 10~15m(32.8-49.2ft) and High Loads



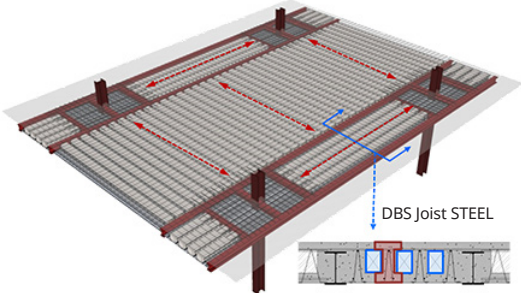
- Reduce steel usage by 30% and construction costs by 10-15%
- Reduction of construction cost and construction period for long spans over 12m(39.4ft)
- Improved sagging and vibration structural performance compared to general steel structures

Steel DBS Performance

GS E&C_Siksa District Data Center New Construction and 13 Other Sites

Steel DBS Joist

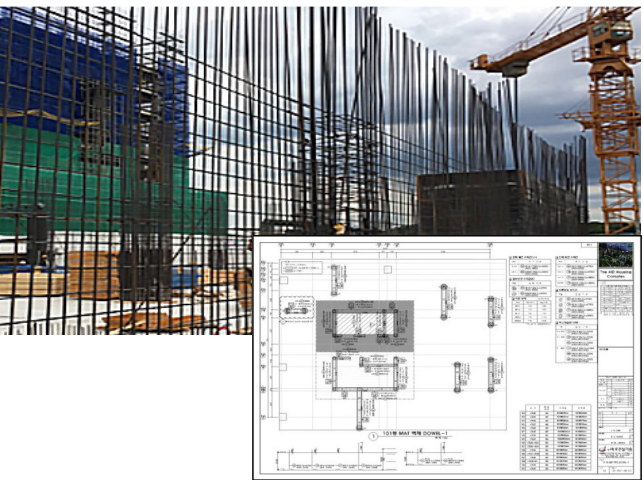
Minimize Floor Height



- Efficient load distribution of DBS Joist
- One-way slab(Joist) minimizes the load on the beam, reducing the thickness of the beam.
- The Steel DBS Joist beam is encased in concrete except for the bottom surface, providing excellent corrosion and fire resistance.
- Enables 6m(19.7ft) long span construction without temporary supports, creating a thick yet light weight on-way voided slab
- Reduce floor height and rock excavation

Baro Con Key's Services and Technology are Truly Safe.

Rebar Detailing



Track Record_Rebar Detailing

Hyundai E&C_Sejong NAVER Data Center, Hyundai Engineering_Gwangcheon-dong Hillstate Mixed-use Complex, Daewoo E&C_Geomam Station Royal Park City Prugio 1st & 2nd Complex, Lotte E&C_Dunchon Main Apartment Urban Reconstruction Housing Cooperative, POSCO E&C_Sipjeong Zone 2 Apartment Construction and many others

Overseas Rebar Detailing



Track Record_Overseas Rebar Detailing

Samsung C&T_Taiwan Taoyuan International Airport / Bangladesh Hazrat Shahjalal International Airport / Mongolia Ulaanbaatar Shangri-La / Mongolia New International Airport, Hyundai E&C_WATERFRONT COLOMBO and many others

Structural Design

High-Rise Mixed-Use Complexes



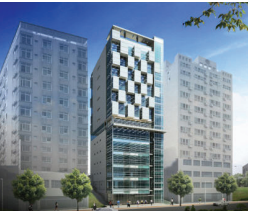
- Busan Gyeongnam WBC Block 24
- Daewoo Trump World Centum II
- Bangbae Lotte Castle Heron

Residential Facilities



- Gunsan Miryong Benecity
- Kumho District 18 GS Xi
- Gongdeok District 5
- Samsung Raemian
- Gimpo Han River GS Xi
- Pohang Daejam-dong GS Xi
- Sejong City Block 1-2M Apartment
- Bupyeong Samsung Raemian

Office



- KEPCO Incheon Branch Office
- Jeju Nohyeong-dong Office
- Siheung-dong Office
- Seongnam IT Tower
- Newtronic Research Institute
- NICE Group Headquarters
- W-Tower

Religious Facilities



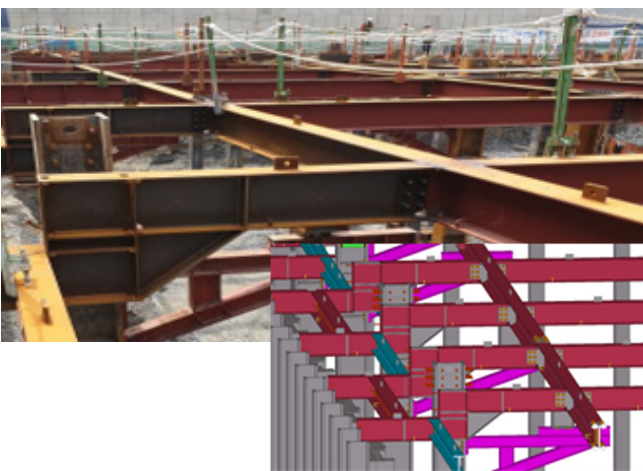
- Incheon Jeongwang Church
- Uijeongbu Jail Church
- Sindang-dong Munhwa Church
- Gwanak Church
- Seokgwang-dong Sinsaeng Church
- Wangsimni Kkotjae Church
- Busan Yeonsan Joongang Church

Cultural and Industrial Facilities



- Asan Spavis
- Incheon Port Logistics Rest Area
- Incheon GS Auto Service Center
- Changpogo Cheonghaejin Memorial Hall
- Suwon Welfare Center for the Disabled
- Eco Green Tea Tourism Park
- Hanwha Bizmetro

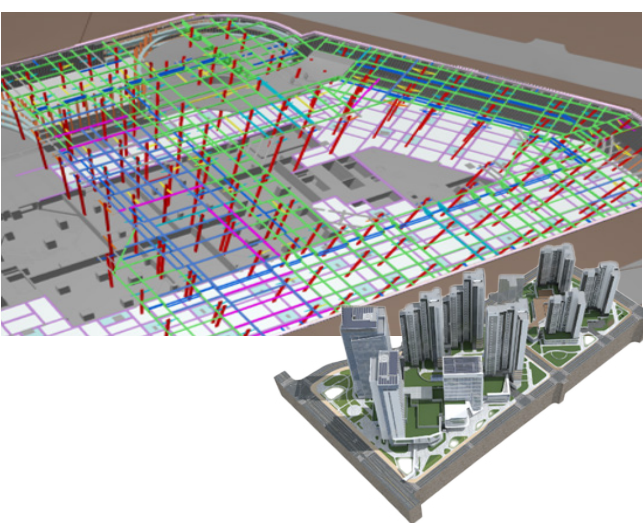
Steel Detailing



Track Record_Steel Detailing

Lotte E&C_Cheongdam Samik Apartment Urban Reconstruction Project / Sinbanpo 13th Apartment Urban Reconstruction Construction, SK E&C_Gasan-dong AP Tower Construction, POSCO E&C_Dongdaegu Sincheon-dong The Sharp Center City, Bando Construction_Pyeongtaek Godeok District 9-1, 9-2 BL and many others

3D BIM



Track Record_3D BIM

Lotte E&C_Seochon-dong Youth Housing / Daegu Namsan 2-2 Zone Redevelopment / Seongbuk-gu Gireum 1 Apartment Redevelopment, Daewoo E&C_Yeouju Gyo-dong Apartment, SK Eco-plant_SK Hynix M16 Construction, Daewoo E&C_Busan Munhyeon Complex Development Phase 3 Site and many others

Structural Safety Inspection

Songpa Seongji Apartment Remodeling, Cheongdam Paragon Adjacent Building Assessment, Salvation Army Centennial Hall, Cheonan Bugil High School Main Building and Dormitory, Haan Jugong Apartment, Busan Western Bus Terminal, Cheongyang Eco-Park Reinforcement Review, KEPCO Central Training Institute, Chosun Trade Headquarters, Sungwoo Pohang Factory, Mokhwa Villa Structural Reinforcement Review, Sanjeong Lake Hanwha Resort, Sungwoo Automobis Chungju Plant

Technical Literature Publication

The Story of Robust and Aesthetic Building Construction (Volumes I to VI)



Construction story I II III IV V VI

Introduction of Executives

Bachelor's degree in Architectural Engineering,
Sungkyunkwan University
Master's degree in Architectural Engineering,
Sungkyunkwan University
Ph.D. in Architectural Engineering,
Sungkyunkwan University
Professional Engineer in Structural Engineering
Former Seoul Architecture Co., Ltd.
Former Director of Changminwoo Structure
Consulting Co., Ltd.
Current CEO of Baro Con key Co., Ltd.

Bachelor's degree in Architectural Engineering,
Ajou University
Master's degree in Architectural Engineering,
Ajou University
Current Managing Director of Baro Con key Co., Ltd.

Bachelor's degree in Architectural
Engineering,, Namseoul University
PE(Professional enginner)
Former Jaehyun SI Co., Ltd.
Former KM Co., Ltd.
Current Director of Baro Con key Co., Ltd.

Bachelor's degree in Architectural
Engineering, Kyungpook National
University
Master's degree in Architectural
Engineering, Dankook University
Current Director of Baro Con key Co.,
Ltd.

Bachelor's degree in Architectural Engineering,
Geumgo Institute of Technology
Master's degree in Architectural Engineering,
Geumgo Institute of Technology
Current Director of Baro Con key Co., Ltd.

Bachelor's degree in Architecture,
University of Maryland, USA
Master's degree in Architecture &
Master's degree in Civil & Environmental Engineering,
University of Illinois, USA
Project Engineer of Samsung Engineering, Korea
Current Overseas Business Team Director of Baro Con key Co. Ltd.



Bachelor's degree in Architectural Engineering,
Sungkyunkwan University
Master's degree in Architectural Engineering,
Sungkyunkwan University
Professional Engineer in Building Construction
Former Director of Ssangyong Engineering & Construction Co., Ltd.
Current Apec Engineer of CEO of Baro Con key Co., Ltd.
Current member of the New Technology Deliberation Committee
of Ministry of Land, Infrastructure and Transport
Current Seoul City Quality Inspection Committee Member

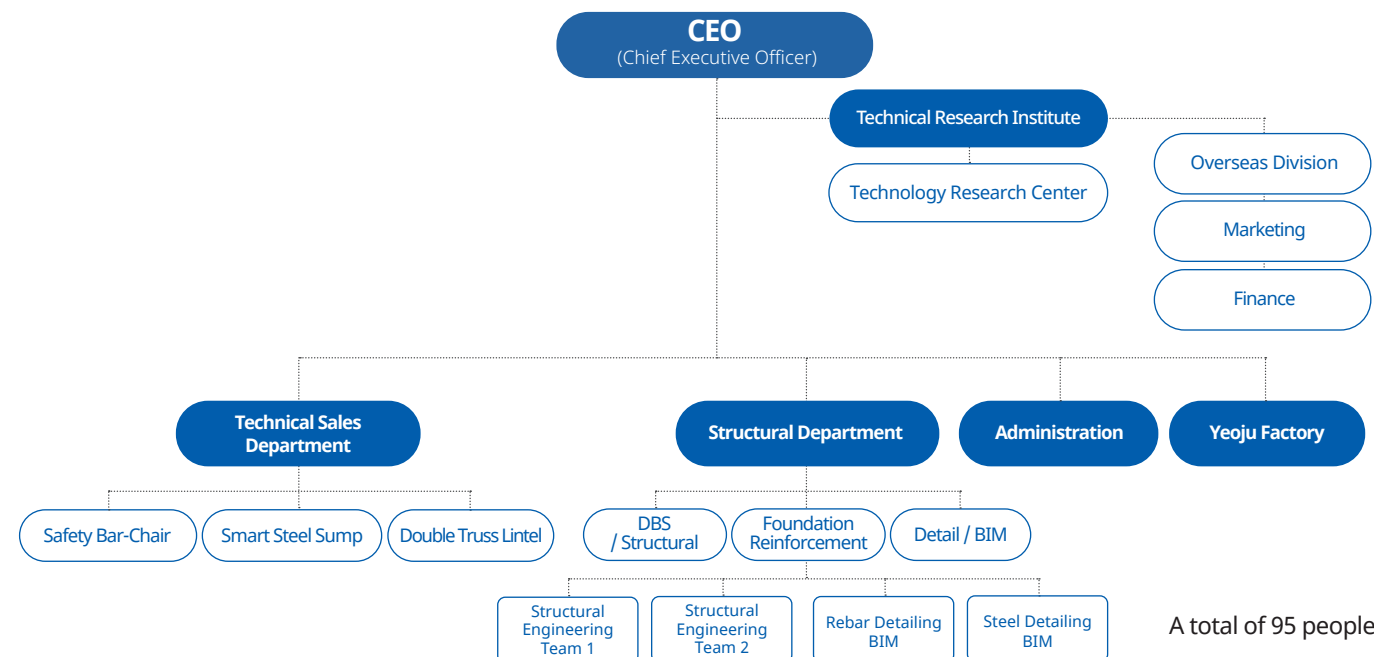
Bachelor's degree in Architectural Engineering,
Kyungpook National University
Master's degree in Architectural Engineering, Sungkyunkwan University
Doctor of Engineering, Graduate School of Myongji University
PE(Professional enginner)
CVS (CERTIFIED VALUE SPECIALIST)
Former manager of Ssangyong Engineering & Construction Co., Ltd.
Current CEO of Baro Con key Co., Ltd.
Current Seoul City Quality Inspection Committee Member



Bachelor's degree in Architectural Engineering,
Chosun University
Master's degree in Architectural Engineering,
Chosun University
Current Director of Baro Con key Co., Ltd.

Bachelor's degree in Architectural Engineering,
Hoseo University
Current Director of Baro Con key Co., Ltd.

Organization



Licenses and Construction New Technology

