


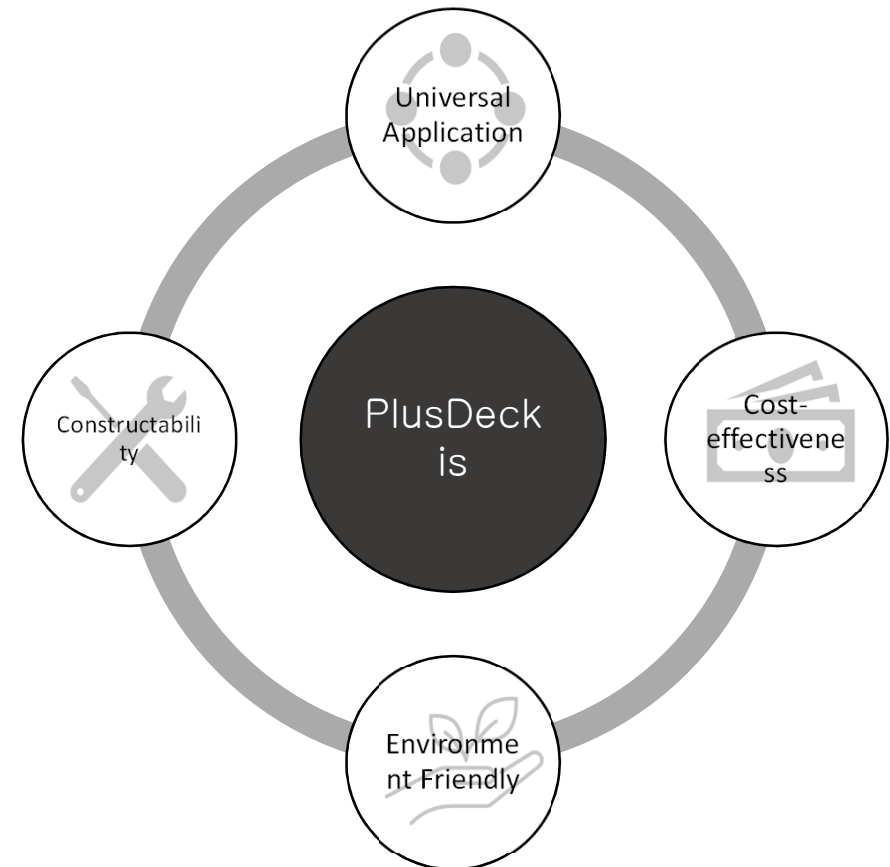
Since 1995

PLUS DECK



 Samgwang SteelWire Co., Ltd

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Welcome. It is an honor to introduce Samgwang Steelwire.

Samgwang Steelwire has made the structural steel in a constantly challenging attitude from the establishment up to the present. Despite of the rapidly changing world situation and the continuous social change, we has aimed at the customer satisfaction management.

Although the small scale, we are planning on growing with recognition of all customers, employees and society. We are very pleased at stepping more closer to customers through the opening of our website. We are making every effort to satisfy customers by the company motto of "the promise with customers rather than the profit of a company".

Through the constant R&D investigation, we will strengthen international competitiveness to the global standard and always be awake until growing into a top global company. We really appreciate your unchanged encouragement and support and are expecting your reproach and opinion.

Thank you.



Chairman Kim Hyung-yeol of Samgwang Steelwire

1995

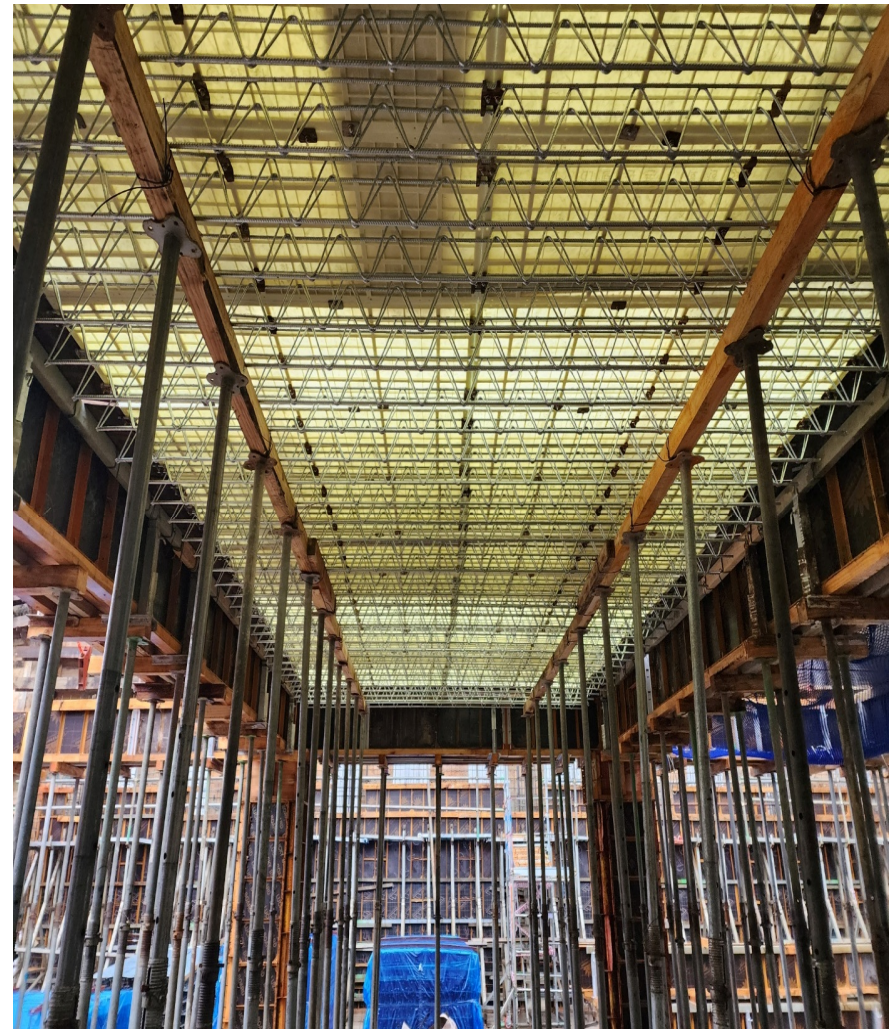
- 1995.01 Establishment of Samgwang SteelWire
- 1998.09 Expansion 4 lines of 24" wire

2008

- 2000.01 Expansion 4 lines of 16" wire
- 2000.08 Factory relocation (Hwaseong)
- 2002.09 Expansion of 1 lines of SteelFiber
- 2003.02 Molybdenum steelwire 0.08mm Product Development
- 2004.02 Daewoo Shipbuilding & Marine Engineering Cooperative Contract
- 2004.03 Samsung Heavy Industries Partner Contract
- 2005.03 Hyundai Heavy Industries Partner Contract
- 2006.01 ISO 9001:2008 certification
- 2006.01 Establishment of Samgwang SteelWire Co., Ltd.
- 2006.11 KS F 2564 certification
- 2008.02 Technology Guarantee Fund Venture Business Certification
- 2008.11 Slab formwork assembly and method patent(10-1078292)

2014

- 2011.04 Technology Innovation INNOBIZ Certification
- 2012.05 Reinforced steel structures for hollow slabs patent(10-1391349)
- 2012.07 Foundation rebar spacer patent(10-1420303)
- 2012.12 Architectural Institute of Korea Building Performance Certification
- 2013.03 Variable deck form for slabs only patent(10-1303955)
- 2014.01 company of kukdong Signing of Memorandum of Understanding
- 2014.04 How to install an insulated deck patent(10-1628255)
- 2014.07 De-molding deck for slab forming patent(10-1439488)
- 2014.09 2014 Hyundai Construction Technology Fair 'Silver Award



2018

- 2015.01 LH Plus deck slab method approval (177호)
- 2015.03 company of hyosung Signing of Memorandum of Understanding
- 2015.12 company of daewooc Signing of Memorandum of Understanding
- 2016.01 company of hyosung Energy Companion Project
- 2016.04 2016 ' 10th Korea Green Energy Excellent Company Award '
- 2017.05 Participation in the 43rd IFAWPCA Korea Convention
- 2017.05 Management Innovation MAINBiz Certification
- 2018.01 Ministry of Land, Infrastructure and Transport New Technology Designation (833호)
- 2018.06 2018 Land, Infrastructure and Transport Technology Fair
- 2018.09 2018 Incheon Urban Development Corporation New Technology certification
- 2018.10 Ministry of National Defense New Technology Excellent Product Selected
- 2018.10 Deck for slab forming with early demolding capability patent(10-1907561)

2024

- 2020.07 Korea Architectural Structural Engineering Society Technology Certification
- 2020.11 Deck plate step prevention plate patent(10-2209501)
- 2021.06 Basement retaining deck plate joint patent(10-2269141)
- 2021.08 2021 1st Lotte Construction Technology Innovation Gold Award
- 2022.09 KODIT Credit Guarantee Fund Good Jobs Company Selected
- 2022.11 IBK BANK Selected as a promising company
- 2022.12 2022 3rd HDC Hyundai Industrial Development Technology Competition Bronze Award
- 2023.06 2023 LH certified new technology Selected
- 2023.11 Construction New Technology 2023 Expo
- 2024.10 2024 Gyeonggi-do Construction New Technology Expo

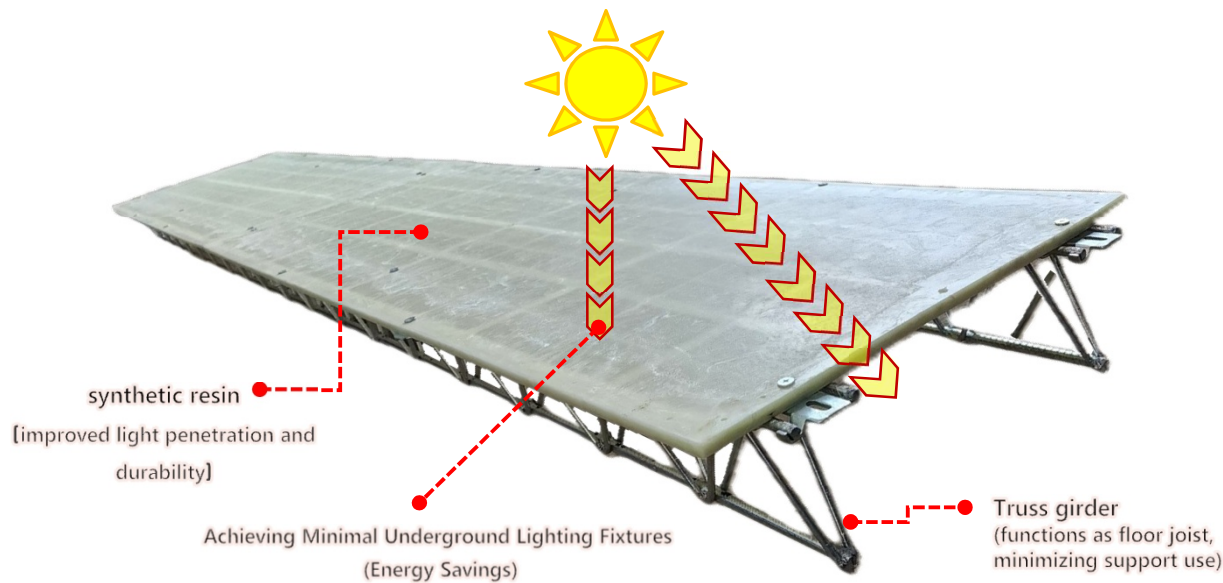
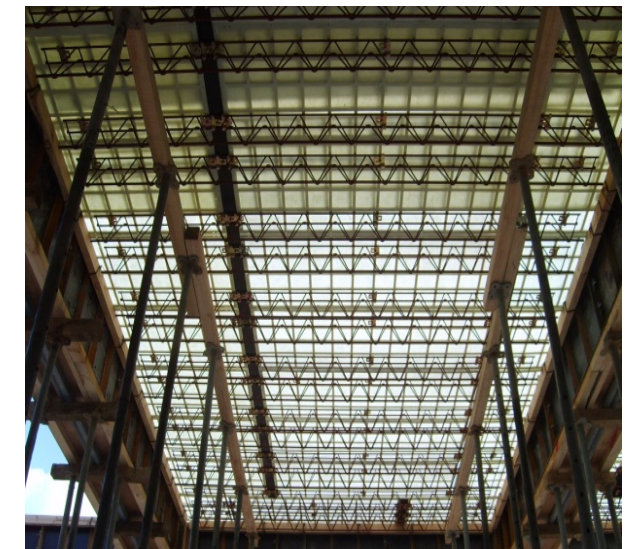


■ Formwork PlusDeck Advantages

- Excellent natural lighting for accident prevention in underground workplaces
- High-strength truss girders used only at both ends for support
- Rebar spacing applied uniformly according to the existing structural calculation
- Use of synthetic resin plates(GMT Panel) to ensure
- durability and natural lighting
- Cost savings due to increased reuse of synthetic resin plates(GMT Panel)
- Excellent bearing surface when detaching thanks to the use of synthetic resin plates(GMT Panel)
- Environment friendly demolding without chemical remover enhances safety

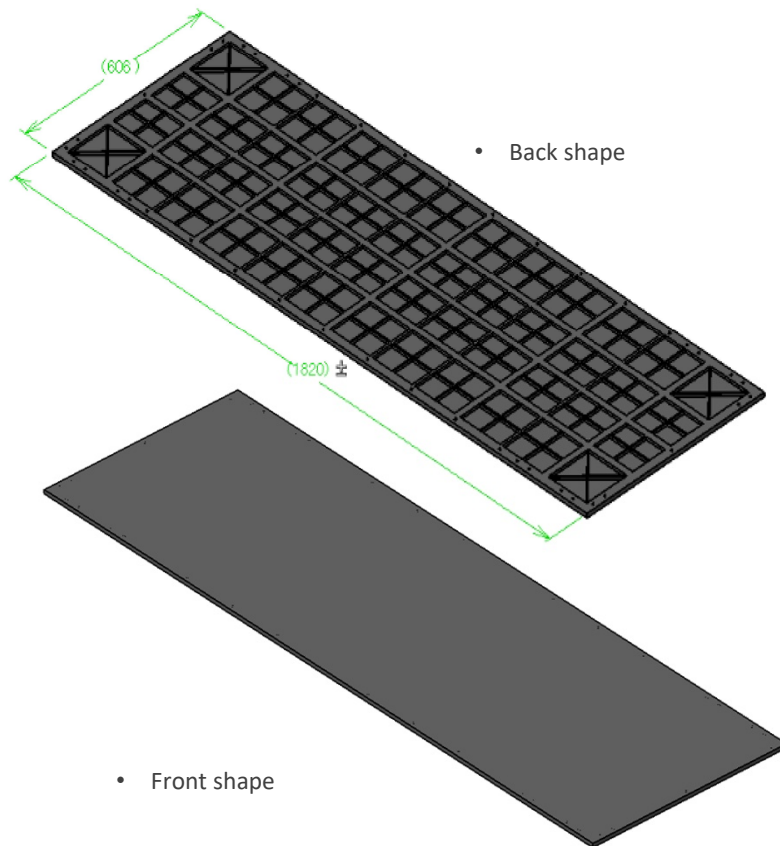


After Deck Installation: 1,612 lux
(Fluorescent Light 20W approximately 150 lux)



■ Formwork PlusDeck Detail

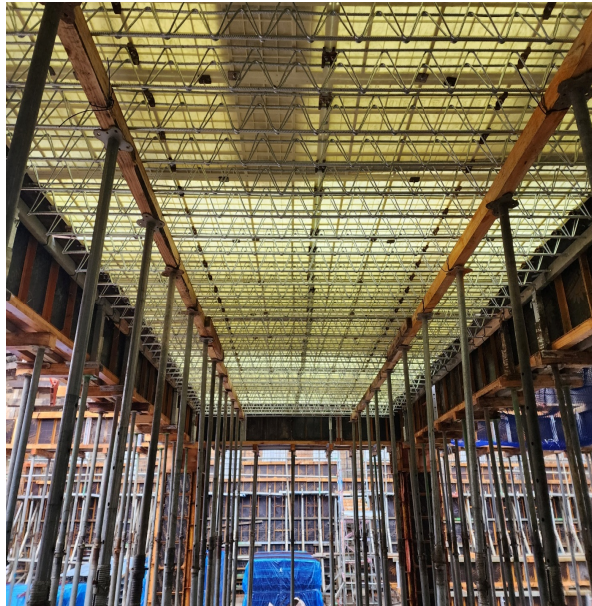
A reusable, retractable deck is made by cutting variable fillers according to the span interval. The overall length can be easily adjusted, Even if one end of the deck plate is buried in the concrete during dismantling after pouring the slab, it can be easily removed simply by separating the wooden base and variable filler joined by nails.



Division	Standard	Value	Test results
specific gravity	ASTM D792	1.20±0.03	1.20
weight(kg/m ²)	-	-	7.6
thickness(mm)	-	-	12
Flexural strength(kgf/cm ²)	ASTM D792	1,100 ↑	1,600
Flexural modulus(kgf/cm ²)	ASTM D792	43,000 ↑	60,000
tensile strength(kgf/cm ²)	ASTM D638	800 ↑	1,400
Impact strength((kgf/cm)	ASTM D256	50 ↑	70
Shrinkage rate(%)	-	-	0.1-0.2
Function rate(%)	-	-	0.05 ↓
temperature(°C)	ASTM D648	155 ↑	160
G/F (%)	-	38±3	38
uses	-	-	50

[Synthetic resin plate]

Formwork PlusDeck construction method



Constructability / Safety

- Simplification of construction procedures, excellent work safety
- Ensuring durability with TG-type joist
- Shortening of construction time

Cost-effectiveness

- Cost savings due to reduced labor input (Approximately 30% labor cost savings)
- Increased material utilization rate

Universal application

- Customized manufacturing and supply tailored to specific sites
- Ensuring diversity according to structural design (Rahmen structure, flat slab construction)

Environment Friendly

- No use of adhesives (environmental pollution mitigation)
- No generation of construction waste
- Excellent daylighting performance due to the use of resin panels (GMT)

Existing construction method



- Excessive use of support, wooden sleeper, floor joist
- Wastage after cutting plywood board
- Lower work safety
- Lower workability due to excessive use of supports

■ Formwork PlusDeck Installation

The construction method and order of the formwork deck are modularized, unlike the existing conventional construction methods, so the work safety during installation and dismantling is excellent and demolition is easy.

Install

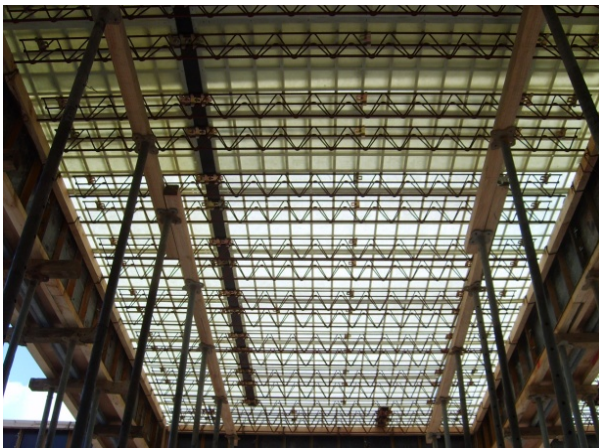


Uninstall



■ Formwork PlusDeck Sample

■ Ramen structure



■ Weightless plate structure Drop

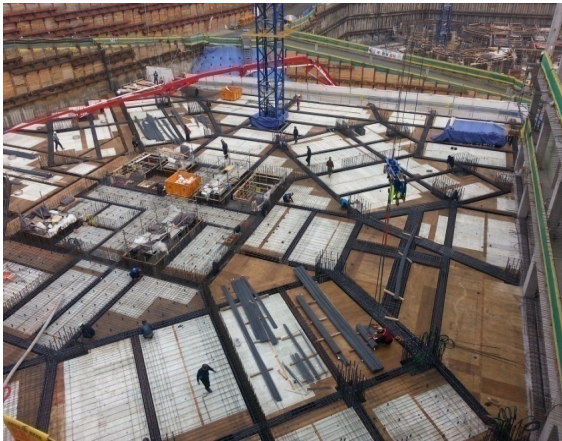


■ Weightless plate structure



■ Formwork PlusDeck Sample

■ inside the core



■ inside the basement

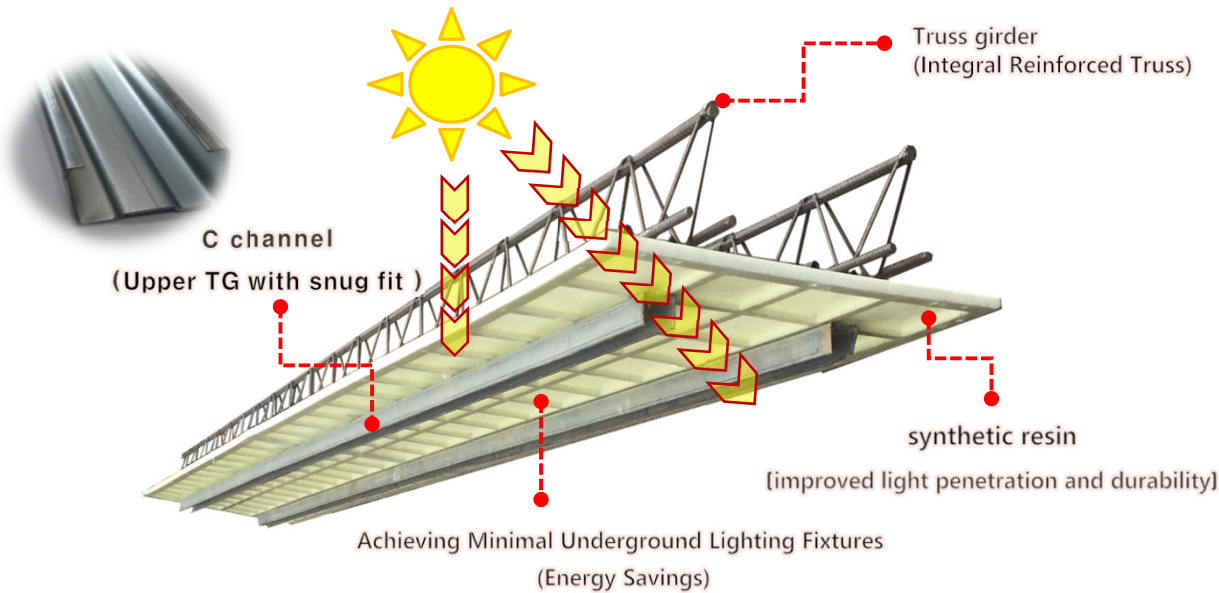


■ System support

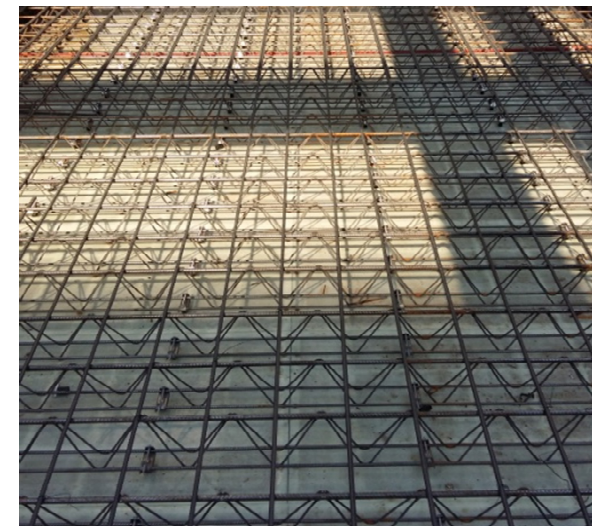


■ Integral PlusDeck Advantages

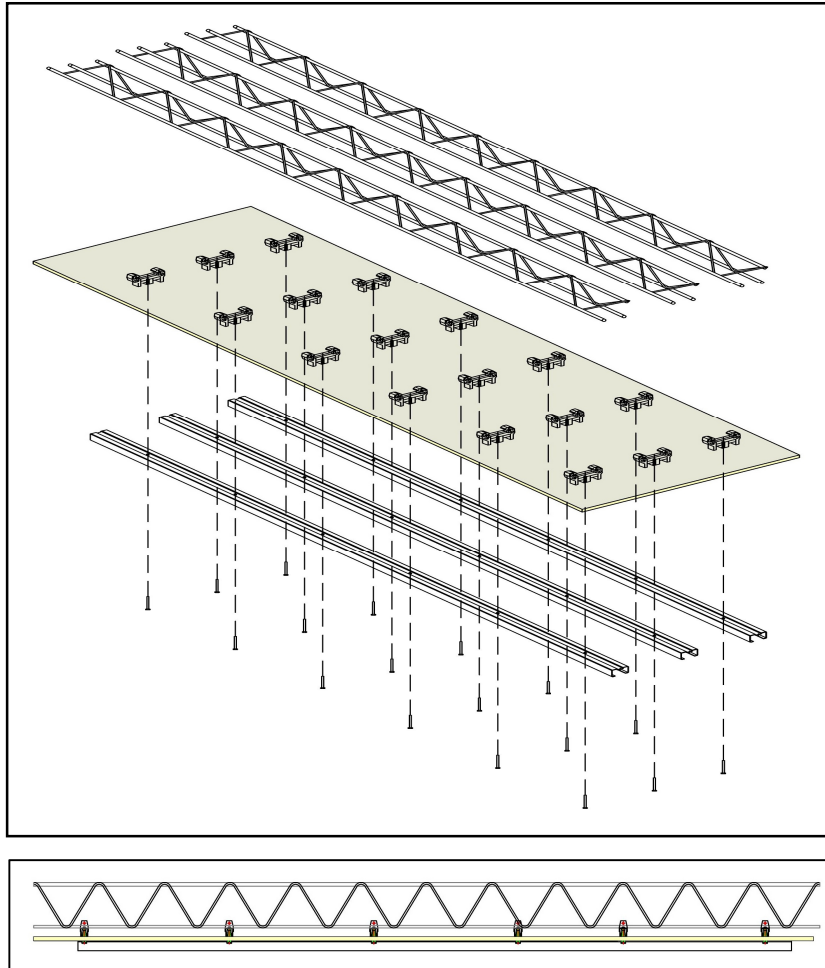
- Excellent natural lighting for accident prevention in underground workplaces
- With the non-support method, the support and falsework are omitted
- Minimizing on-site rebar work with pre-assembled integral truss girders
- The bottom C channel and the upper truss girder are connected firmly, reducing the concentration of load and decreasing deflection
- Cost savings due to increased reuse of synthetic resin plates(GMT Panel)
- Excellent bearing surface when detaching thanks to the use of synthetic resin plates(GMT Panel)
- Environment friendly demolding without chemical remover enhances safety



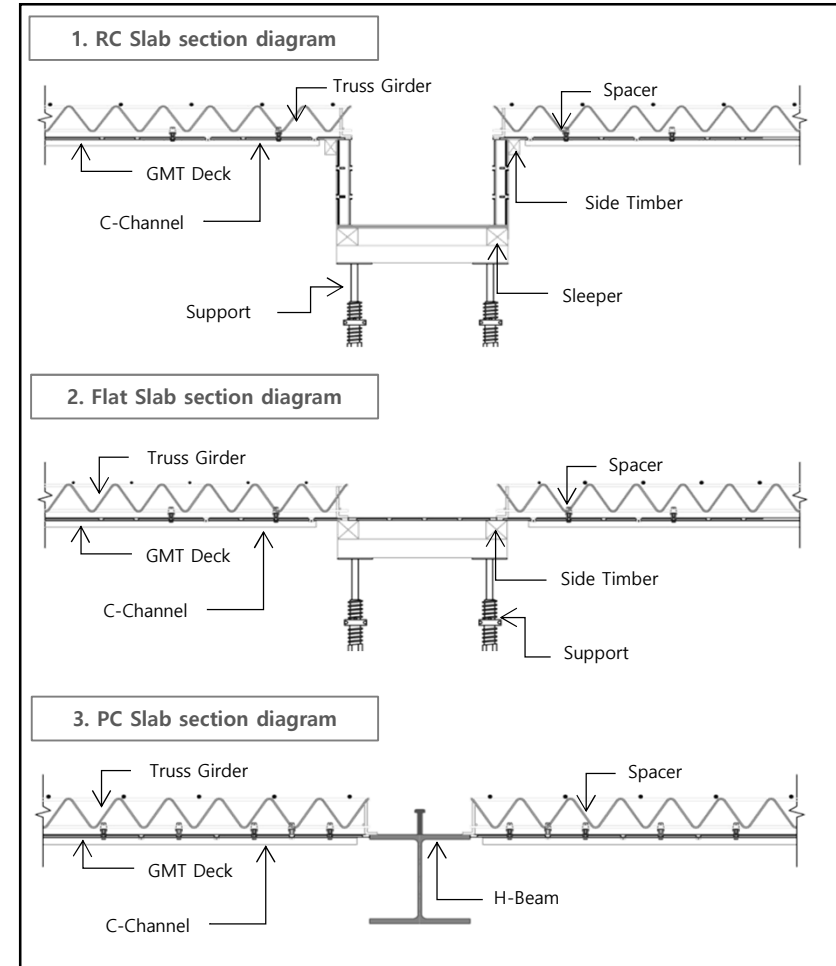
After Deck Installation: 1,612 lux
(Fluorescent Light 20W approximately 150 lux)



■ Integral PlusDeck Detail



[Construction method concept]



[Installation details]

Integral PlusDeck construction method

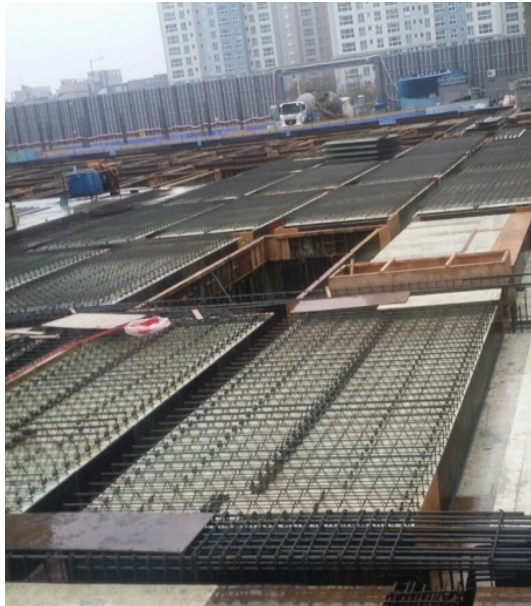


Cost-effectiveness

- TG can be adjusted to 3 rows or 2 rows, allowing for a reduction in rebar quantity (approximately 30% reduction in rebar quantity)
- Cost savings due to reduced labor input (Approximately 30% labor cost savings)

Constructability / Safety

- Simplification of construction procedures, excellent work safety
- Shortening of construction time



Universal application

- Customized manufacturing and supply tailored to specific sites
- Ensuring diversity according to structural design (Rahmen structure, iron frame construction)

Environment Friendly

- No use of adhesives (environmental pollution mitigation)
- No generation of construction waste
- Excellent daylighting performance due to the use of resin panels (GMT)

Existing construction method



- Excessive use of support, wooden sleeper, floor joist
- Wastage after cutting plywood board
- Lower work safety
- Lower workability due to excessive use of supports

■ Integral PlusDeck Installation

The construction method and order of the integral deck are not much different from the existing integral deck construction method, but the number of bolts is small, making it easy to remove the mold when dismantling, and the work safety is excellent.

Install

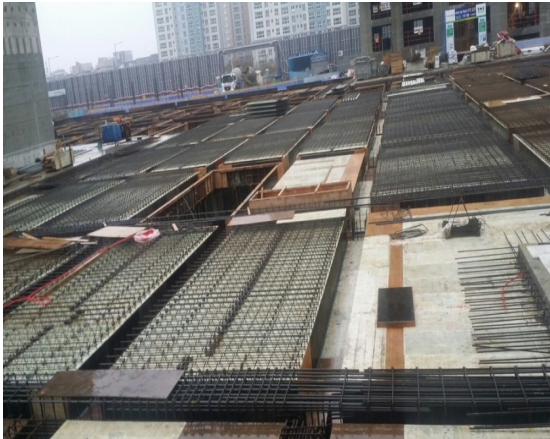


Uninstall

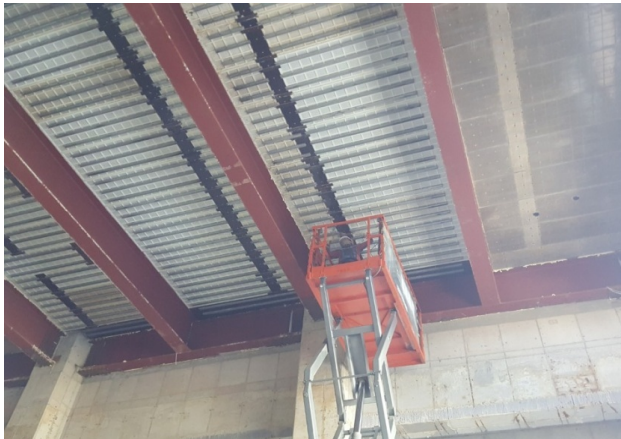


■ Integral PlusDeck Sample

■ Ramen structure



■ Steel structure

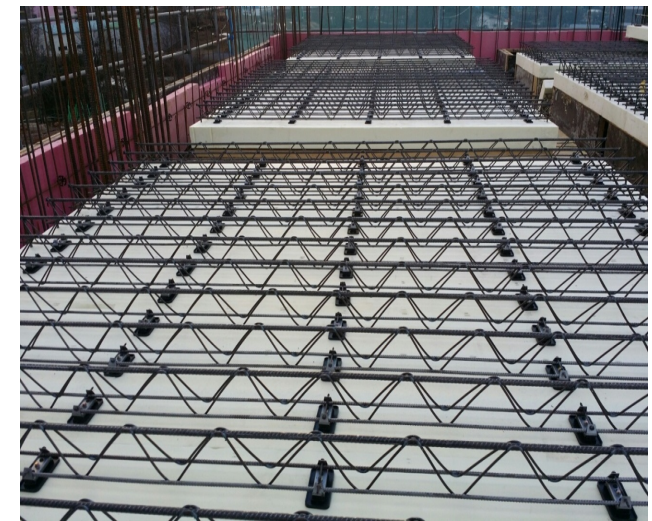
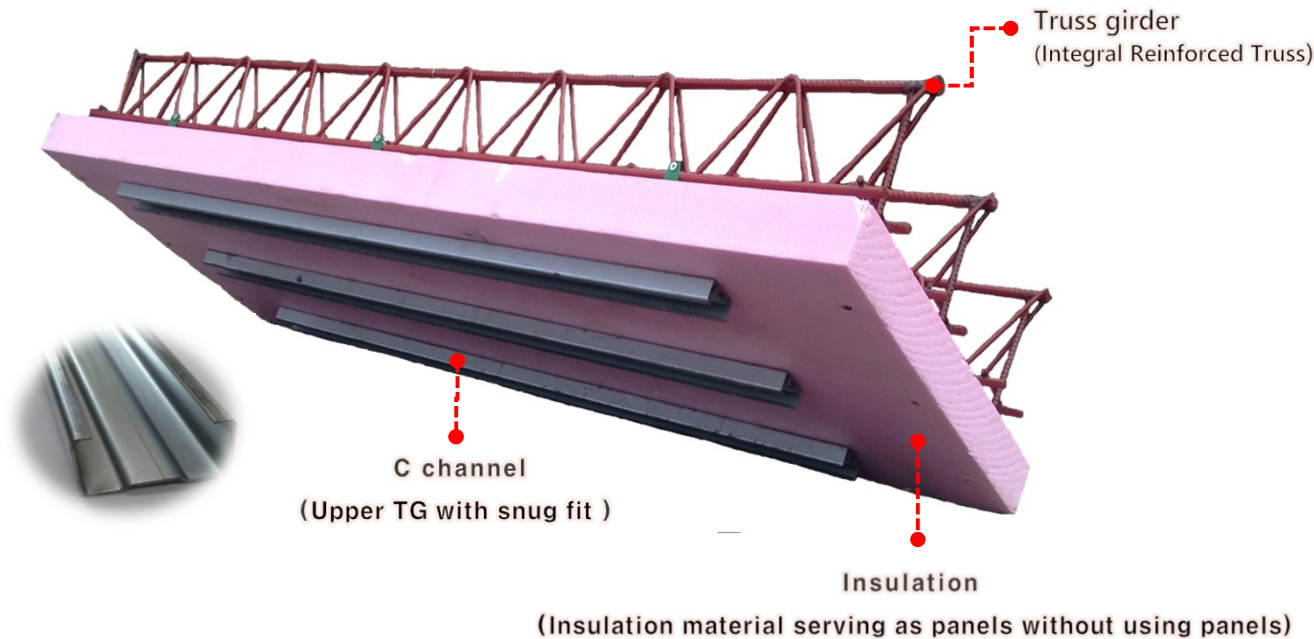
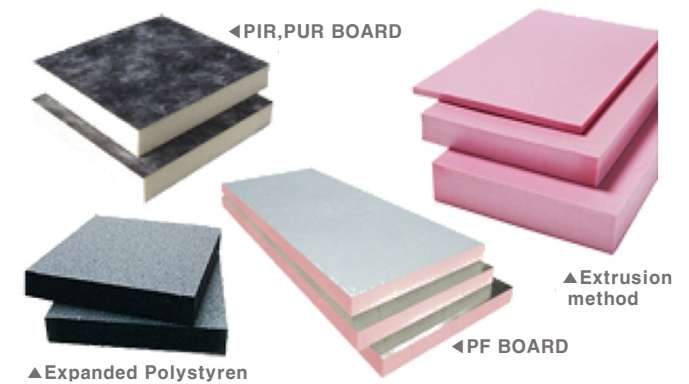


■ DH girder structure



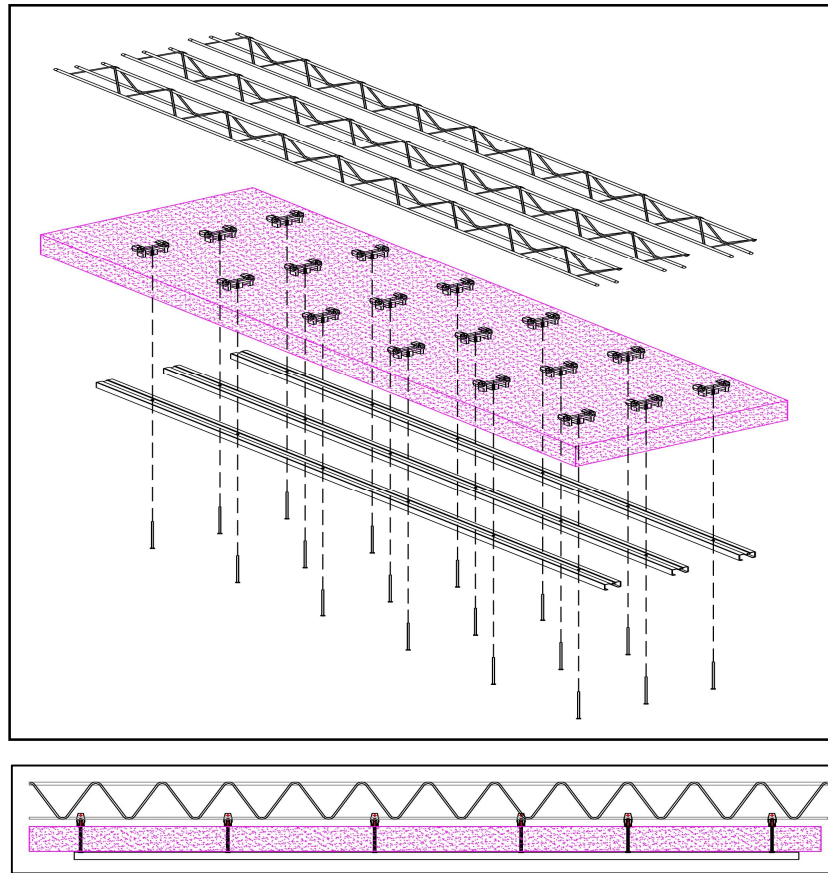
■ Insulation PlusDeck Advantages

- By omitting the construction of slab formwork, construction costs are reduced
- With the non-support method, the support and falsework are omitted
- Minimizing on-site rebar work with pre-assembled integral truss girders
- The bottom C channel and the upper truss girder are connected firmly, reducing the concentration of load and decreasing deflection
- The construction method where insulation material and formwork are installed simultaneously, resulting in a shortened construction period

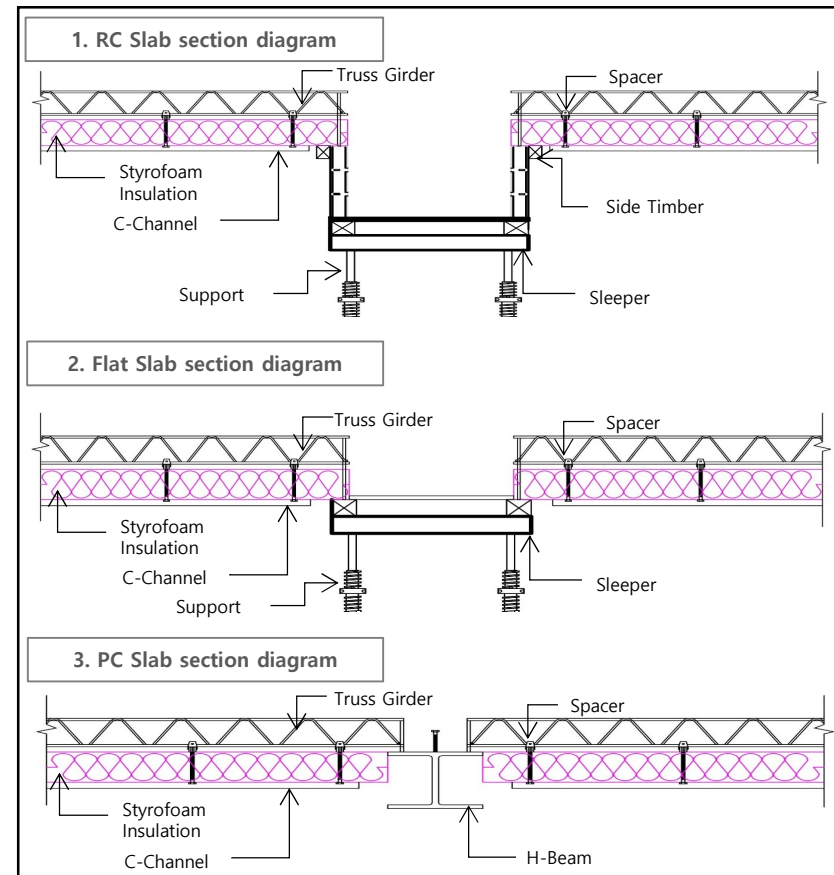


■ Insulation PlusDeck Detail

Since the insulation deck uses the insulation board as a formwork, separate formwork construction and dismantling work is not required, and the construction period and cost for slab forming can be significantly reduced, and construction costs due to the separate construction of the formwork and insulation at the construction site are reduced.



[Construction method concept]



[Installation details]

Insulation PlusDeck construction method



Cost-effectiveness

- The construction method where insulation material and scaffolding are installed simultaneously
- Cost savings due to reduced labor input (Approximately 30% labor cost savings)

Constructability / Safety

- Simplification of construction procedures, excellent work safety
- Shortening of construction time



Universal application

- Compatibility with various insulation materials
- Ensuring diversity according to structural design (Rahmen structure, iron frame construction)

Environment Friendly

- No use of adhesives (environmental pollution mitigation)
- No generation of construction waste

Existing construction method



- After the installation of slab formwork, insulation material is installed
- After the installation of slab formwork, residual waste materials are generated
- Lower work safety
- Lower workability due to excessive use of supports

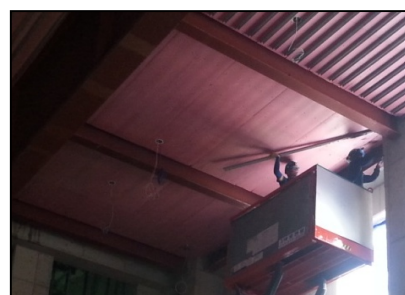
■ Insulation PlusDeck Installation

The construction method and order of the insulation deck are not much different from the existing insulation deck construction method, but the number of bolts is small, making it easy to remove the mold when dismantling, and the work safety is excellent.

Install



Uninstall



■ Insulation PlusDeck Sample

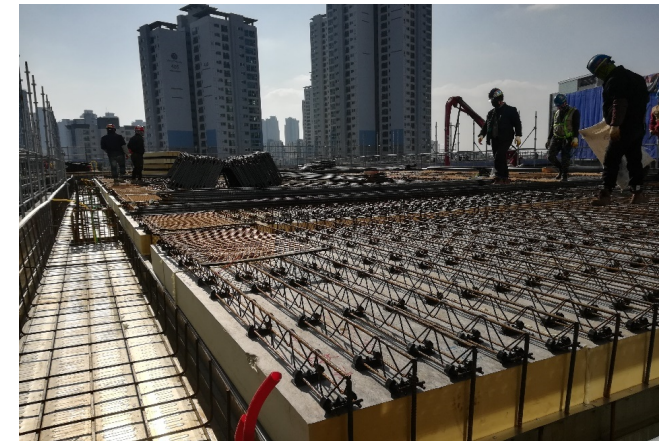
■ Ramen structure



■ Steel structure



■ DH girder structure

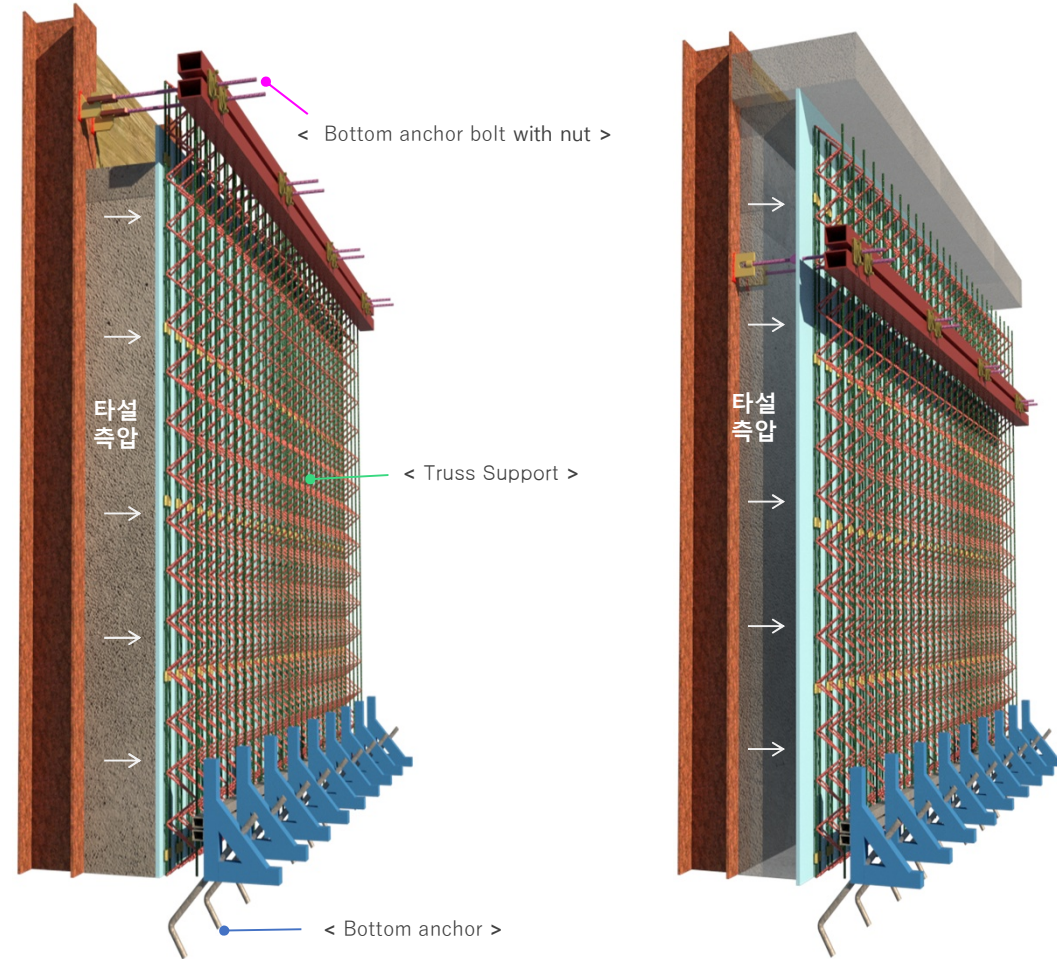


■ Combined-Wall PlusDeck Advantages

- Adaptation to various combined wall constructions
- Customized production and supply according to on-site concrete filling height
- Simultaneous installation height : H 1.5m ~ 8.0m
- Single-stage construction, multi-stage construction (Example of 4-stage / 12m construction)
- V.H Separate installation, V.H Simultaneous installation



[Excellent surface]



[Open Cut]

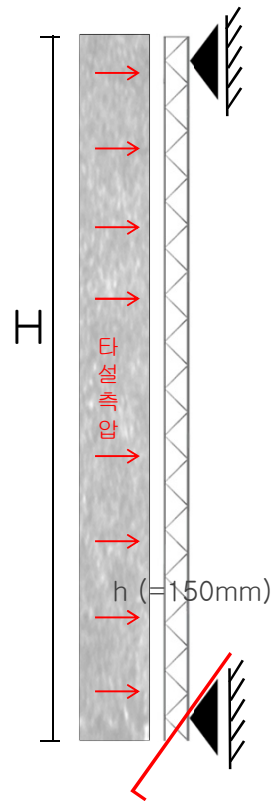
[Top Down]

Combined-Wall PlusDeck Detail

The wall module deck plate is variable according to the height of the wall at the construction site, and can be easily connected without special equipment when synthesizing the deck plate and the truss girder, minimizing the assembly time, and can secure the distortion of the plate and structural stability at the synthesizing point of the module deck plate.



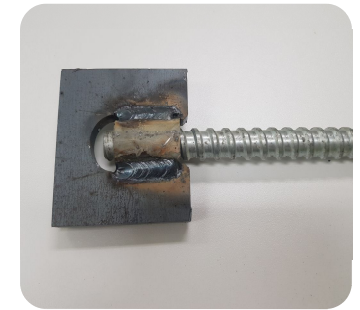
[Combined-Wall PlusDeck]



[Lower support structure]



[Ring-shaped welded plate]



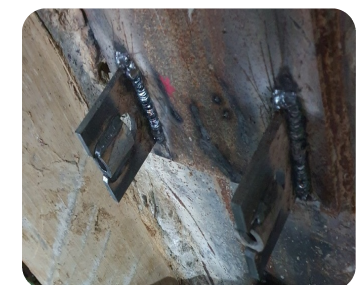
[One-piece welded plate with nut]



[the bottom anchor bolt]



[When V.H is installed separately / during precast site]



[One-piece welded plate with nut / during cast-in-place site]

Combined-Wall + Open Cut



Feasibility and Safety in Construction

- Combining factory-produced TG-type wall deck components on-site
- Shortening the construction period for lightweight wall deck transportation

Economic Efficiency

- Improved productivity due to reduced labor input. (Approximately 30% reduction in labor input)

Combined-Wall + Top Down



Universal application

- Customized production and supply according to wall site specifications (H1.5~8.0m)
- Possible construction of 1 to 4 tiers (up to H12m)
- Applicable to Open Cut and Top Down construction sites

Environment Friendly

- Use of GMT (Glass Mat Thermoplastics) panels eliminates construction waste

Soldier pile + Euroform

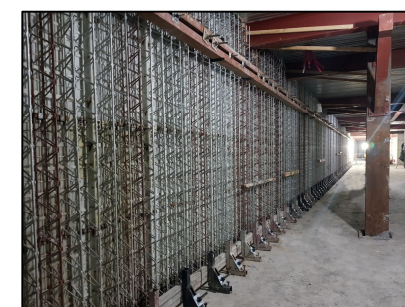
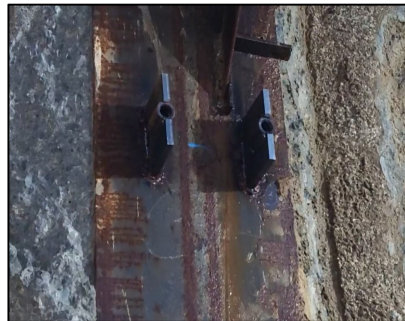


- Excessive Material Quantity
- Heavy Weight challenges during installation, removal, and transportation
- Extended Construction Period
- Increased Construction Costs

■ Combined-Wall PlusDeck Installation

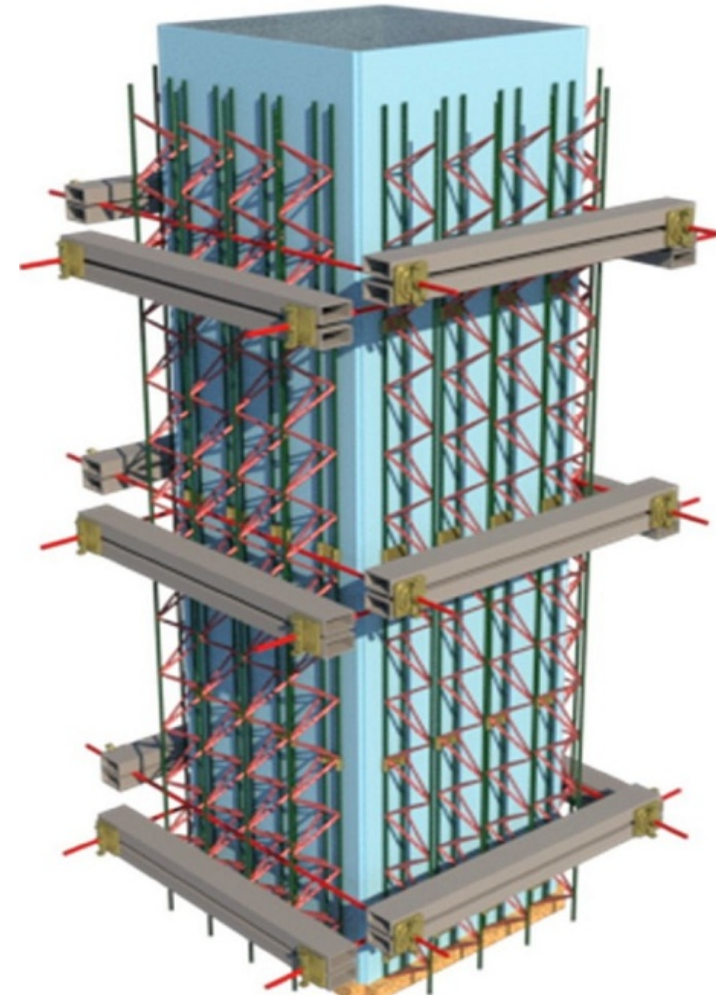
The construction method and order of the combined deck are different from the existing soldier method in that the volume is small, making it easy to install and dismantle, and the work safety is excellent.

Install



■ Column PlusDeck Advantages

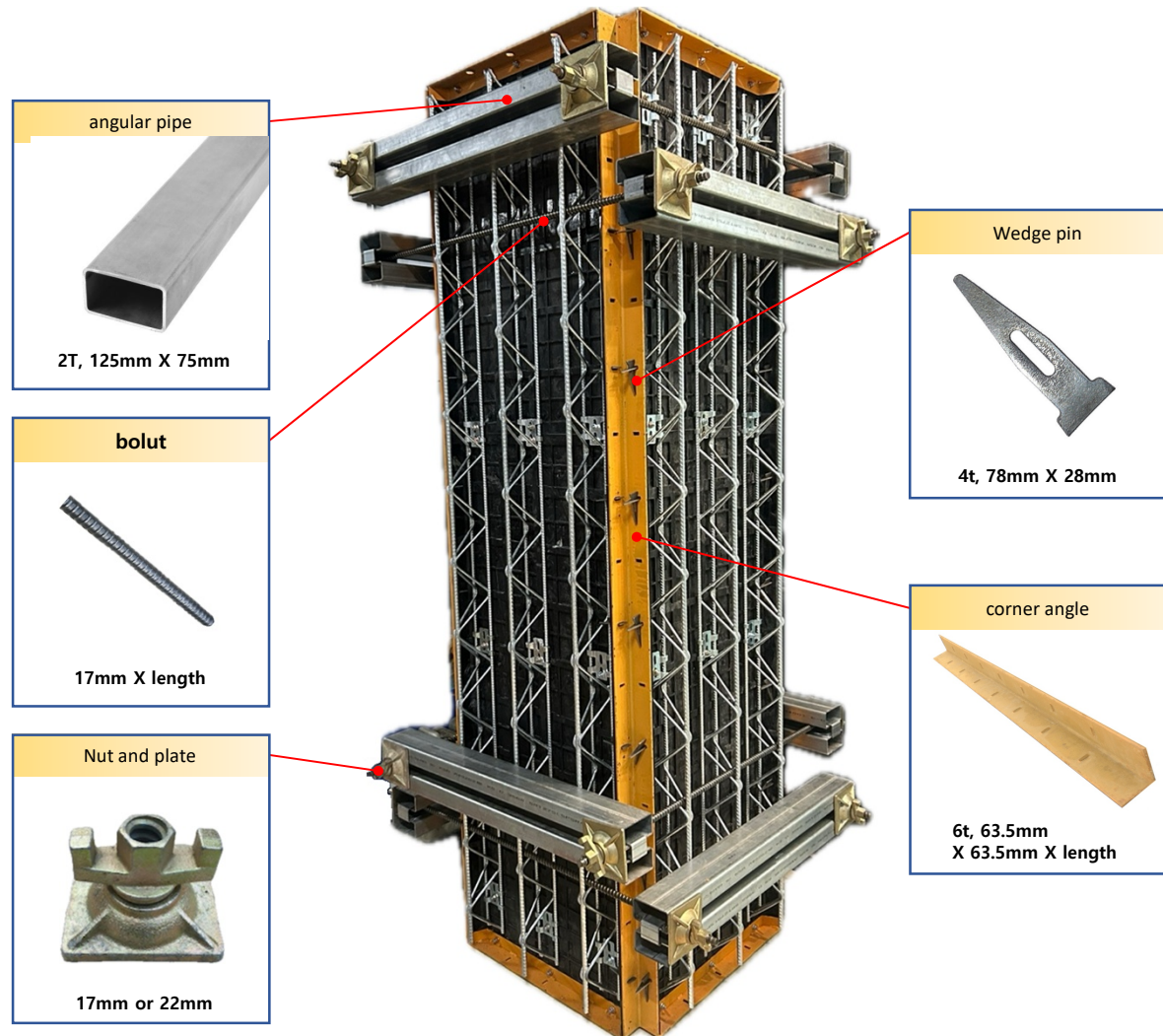
- Adaptation to various column constructions
- Customized production and supply according to on-site column height
- Pre-assembly for transportation reduces formwork construction time at the site
- Due to the lightweight nature of the material and its ability for mass production, construction costs are reduced.
- Expectation of increased productivity due to savings in labor input



[Installation concept]

Column PlusDeck Detail

This product can significantly shorten the construction period by minimizing on-site work. It is designed to effectively block the pressure generated inside the column deck when pouring concrete and secure structural stability by installing column bands at regular intervals on the outer axis of the formwork.



Column PlusDeck + Open Cut



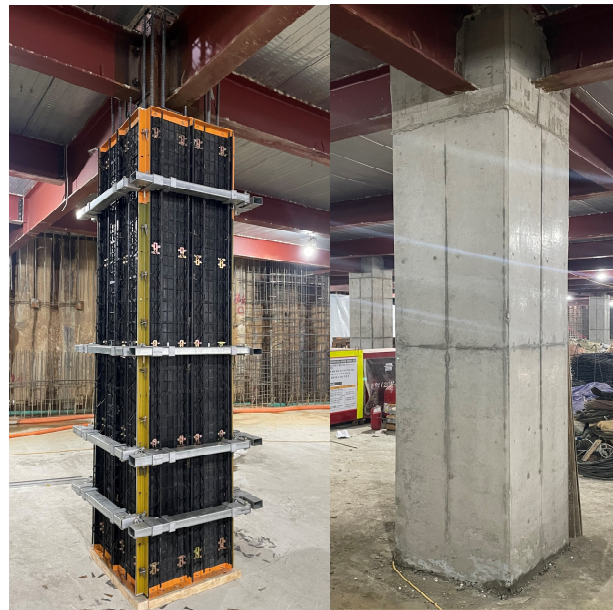
Easy and Safety in Construction

- Combining factory-produced TG-type column forms on-site
- Shortening the construction period for light weight column form transportation

Economic Efficiency

- Improved productivity due to reduced labor input. (Approximately 30% reduction in labor input)

Column PlusDeck + Top Down



Diversity

- Customized production and supply based on site-specific column heights (H1.5~8.0m)
- Applicable to both Open Cut and Top Down construction sites

Environmental Sustainability

- Use of GMT (Glass Mat Thermoplastics) panels eliminates construction waste

Existing construction method

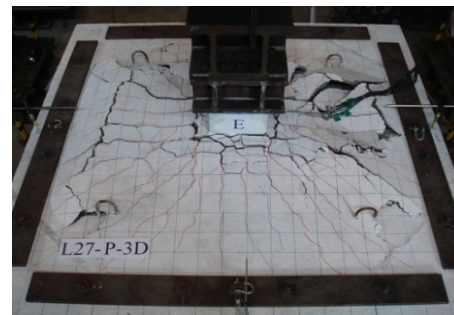


- Excessive Material Quantity
- Difficult installation and demolding work due to heavy weight from column band
- Extended Construction Period
- Increased Construction Costs

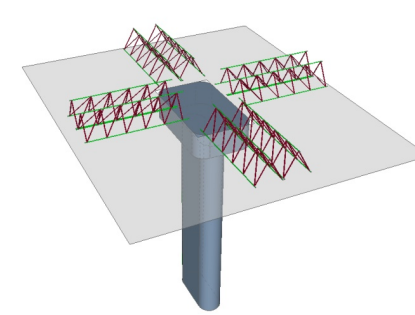
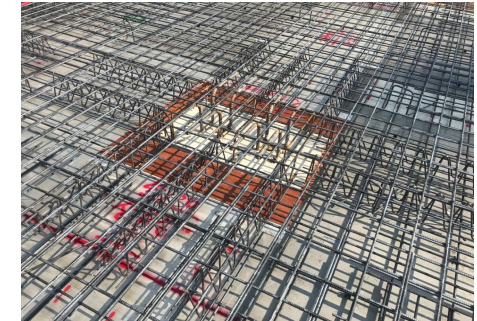
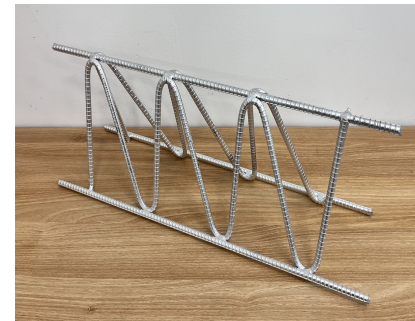
■ TrussStud Advantages

A shear reinforcement for slab-column joints of reinforced concrete flat plate structures vulnerable to shear failure, providing structural resistance performance against shear failure and unbalanced moments. It enables independent structural behavior of the slab-column joint even after damage to the concrete slab.

TrussStud



Solid TrussStud

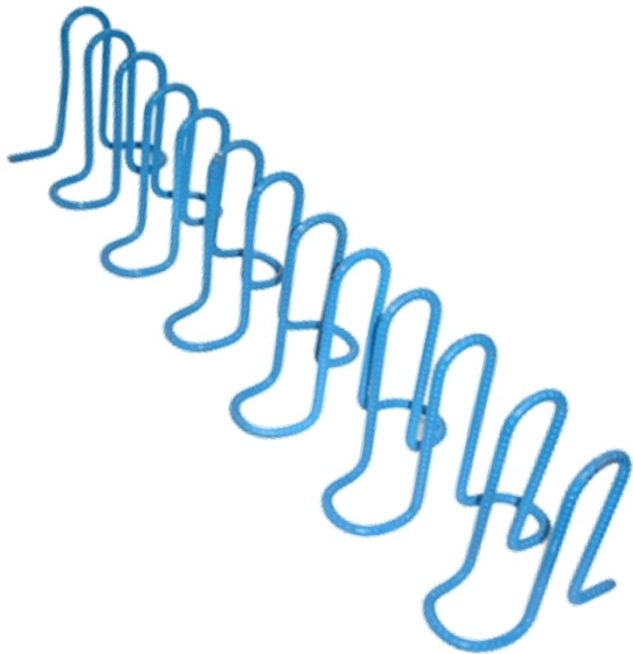


- No welding, no heat state molding processing, so there is no thermal deformation or tempering
- After installing the upper and lower portions, it can be easily inserted, reducing installation labor costs
- Double-density arrangement of vertical bars at standard installation length

- Efficient triangular truss shape for structural performance, resolving settlement issues caused by welding
- Improved constructability through installation after lower bar installation
- Ease of transportation and installation due to simple shape and lightweight

■ TrussStud Detail

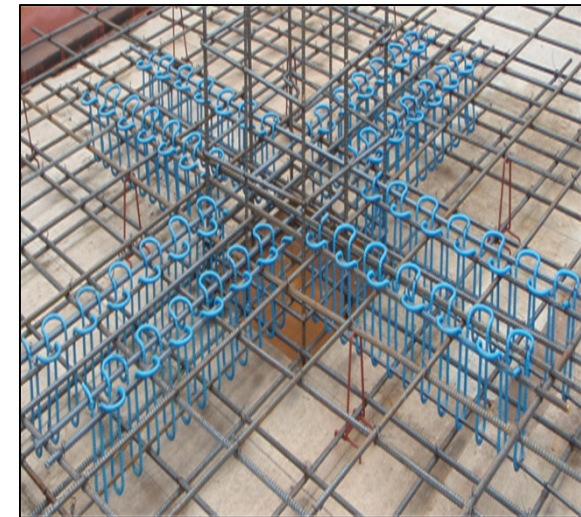
This product is designed to be both constructible and economical, as it improves on the previous method of manually installing shear reinforcement materials by pre-fabricating them in units.



[TrussStud]



[older Products]



[TrussStud]

division	range	count	unit	time taken	note
older Products	1 Area	180 EA	2	60 minute	-
TrussStud	1 Area	8 EA	1	15 minute	save cost

■ TrussStud Installation

The construction method and order of the truss stud shear reinforcement are different from the existing conventional stirrup method in that the construction is carried out after installing both the upper and lower reinforcement bars, making the work easy and ensuring excellent work safety.

Install TrussStud



Install Solid TrussStud





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