

# The worlds' First Roller Barrier !!

CE, E.U. EN1317 (H1, H2)

AASHTO, M.A.S.H (U.S.A) Test Pass (TL3, TL4, Transition)



# DESIGN CREATIVITY SAFETY ENVIRONMENT

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## Company History

- 1986. 10. GSI established
- 1994. 10. 1st factory set up
- 1994. 10. GSI Ltd incorporated
- 2002. 05. Awarded 'Prospective SME'
- 2002. 12. Joined 'Korea Metal Industry Cooperation
- 2005. 04. Certified 'ISO9001(KOTRIC)'
- 2005. 07. Certified 'Venture Company'
- 2006. 02. Qualified 'Design Company'
- 2006. 07. Certified 'INNO-BIZ'
- 2006. 12. 'R&D center' established
- 2007. 05. Awarded 'Excellent SME'
- 2008. 07. Certified ISO1400:2004/KSA1400:2004
- 2009. 05. 2nd factory set up
- 2009. 07. Organized 'Overseas Sales Team'
- 2009. 09. Won 'Superior Public Design Product'
- 2009. 11. Selected as Recommended Product (Sound Barrier, Safety roller)
- 2009. 12. Won 'Gold Prize (Safety Roller)'
- 2010. 03. Selected 'Patent Star Enterprise'
- 2010. 05. Awarded 'Industrial Medal' Cetified as "Eco-Friendly Company"
- 2010. 12. Awarded "Fast Growing SME"
- 2011. 06. Awarded "Export-Oriented Company"
- 2013. 01. Company name changed to "KSI LTD"
- 2012. 12. AASHTO, M.A.S.H (U.S.A) Tested (TL3, TL4, Transition)
- 2015. 07. CE certificate, E.U. EN1317 (H1, H2)



## Intellectual Property Registration

Reg.600 : Domestic / International Patent  
(America, China, India, Europe, etc)

## Award

Good Design : 2, Innovative Product

## Crash Test Pass

CE certificate, E.U. EN1317 (H1, H2)  
AASHTO, M.A.S.H (U.S.A) Tested (TL3, TL4, Transition)  
Safety Roller GS-G401(SB4)  
Safety Roller GS-D505(SB5)  
Guardrail GS-D208(SB4)  
Guardrail GS-D501(SB5)  
Guard Span GS-G402 (SB4)  
Guard Pipe GS-G201 (SB2)  
Median Strip Guardrail GS-G701 (SB4)



# Differences in thoughts cause changes

KSI has been committed to one goal for the last 30years. The company is changing its thoughts in order to make the world beautiful while using safe roads.

KSI manufactures top quality products which are environment-friendly and safe. Just as metals are hardened by being heated in a furnace and beaten, the company is committed to one thing and is doing its best with its artisan spirit and professionalism to make environment-friendly and safe products.

## DESIGN, CREATIVITY, SAFETY, ENVIRONMENT

KSI has exerted continuous efforts to achieve its goals of DESIGN, CREATIVITY, SAFETY and ENVIRONMENT. All the employees of KSI will fulfill customer values without stagnating and display the capabilities of the company by keeping pace with changes in this global era. The employees will enable KSI to be a manufacturer specializing in transportation safety facilities by making excellent, environment-friendly products

CEO. *Chae Jong Seol*



# Safety Roller







**‘Safety Roller’ will provide a solution to serious traffic accident.**

‘Safety Roller’ is a safety fixture that prevents drivers and passengers from fatal accidents by not only absorbing shock energy but also converting shock energy into rotational energy.  
‘Safety Roller’ needs to be installed at sites where vehicles are exposed to frequent accidents.  
‘Safety Roller’ will safely lead a vehicle back to the road or stop the vehicle by absorbing shock energy.  
‘Safety Roller’ will effectively function for drivers to properly control vehicles with its noticeable color and self-luminescence.

Crash  
test



# The World's First Roller Barrier !!



CE, E.U. EN1317 (H1, H2)

AASHTO, M.A.S.H (U.S.A) Test Pass (TL3, TL4, Transition)



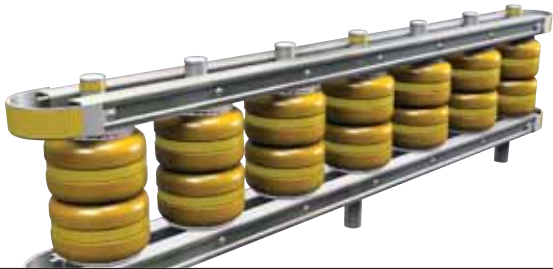
*Anti-Rust Post (PosMAC)*

***Safety Roller !*** *The best choice !  
Save human lives.*



# Safety Roller

## Test Performance Comparison

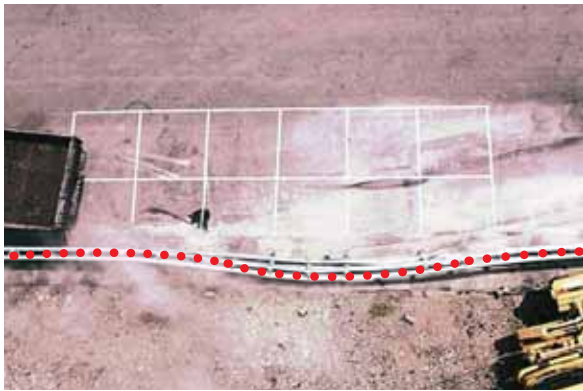


Barrier without Roller (SB4)

Safety Roller (SB4)



Front View



Bird-Eye View



Side View



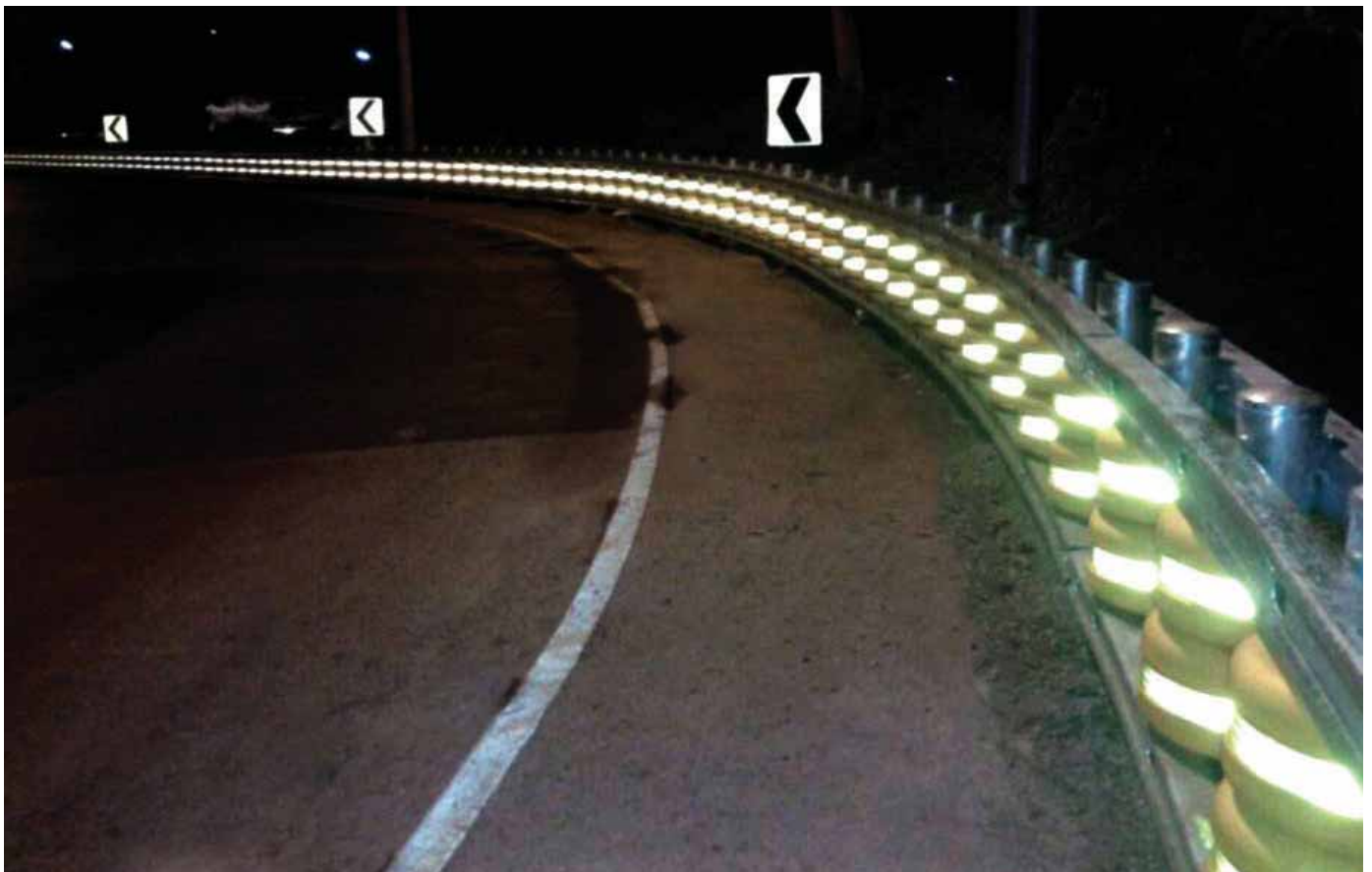
## Wall- Mounted Type

**Wall- Mounted** | Easy to install it on concrete wall. We promise to provide only safe & eco-friendly products.





# Safety Roller





# Safety Roller









# Safety Roller





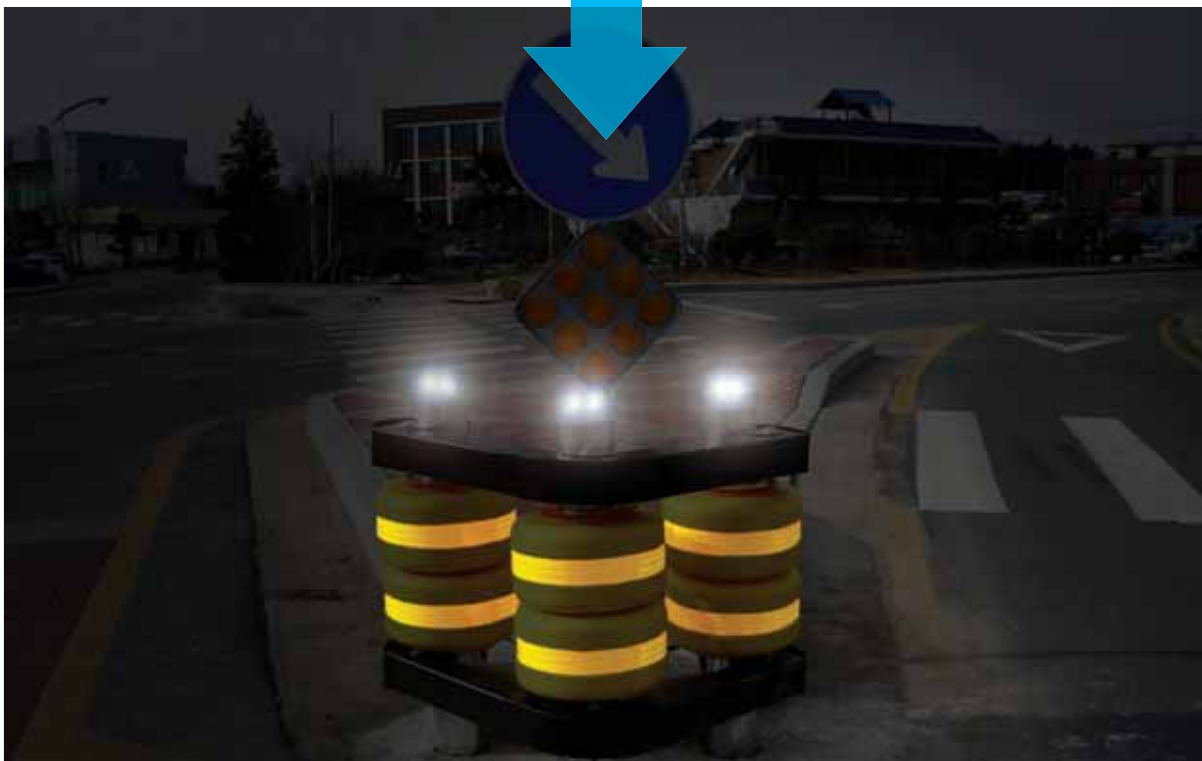


# Safety Roller Cushion

**Features** | Design to effectively absorb shock and lead vehicle to the road direction to prevent large acci-



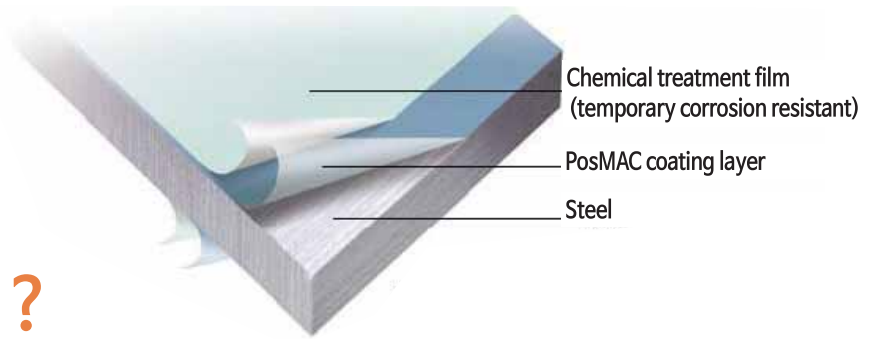
Standard Type



Night View







## What is PosMAC ?





- Innovative High Corrosion-resistant steel plate “PosMAC”  
- TERNARY ALLOY COATED STEEL PLATE (Zn-3%, Mg-2.5%, Al)
- 3 times higher corrosion-resistant properties than conventional hot-dip galvanized product.
- Excellent Anti-corrosive property on the flat surfaces  
/ Anti-corrosive property on cut edges  
/ Strong anti-corrosive property against acid rain
- High corrosion resistance against neutral salt  
(High efficiency of guardrail at sea side)

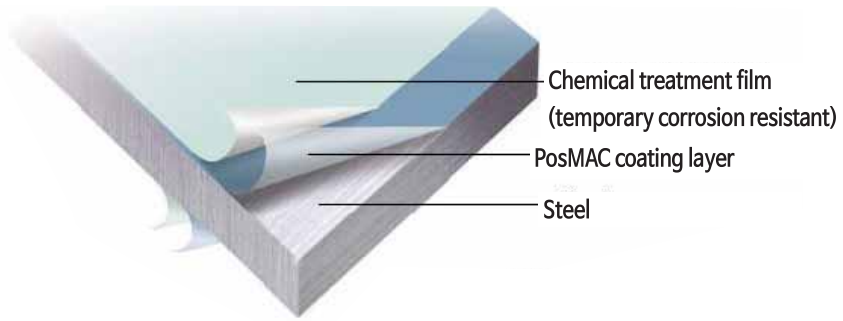
### ■ Corrosion of buried post





## ■ comparison between new & old product

	POSMAC	Galvanizing product
	POSMAC Steel	Hot dip galvanized steel
product		
Feature	<ul style="list-style-type: none"> <li>● High corrosion-resistant alloy coating steel sheet</li> <li>● magnesium(Mg) + Aluminum(Al) + Zinc(Zn)</li> <li>● Guidelines of Ministry of Land / Complete revision and announcement of Korea Expressway Corporation's specifications</li> <li>● Excellent corrosion resistance on planar portion / prevention of corrosion on cutting part</li> <li>● Strong with acid rain</li> <li>● Very strong anti-corrosion with salt</li> <li>● Strong to corrosion from road calcium chloride</li> </ul>	<ul style="list-style-type: none"> <li>● Plating on steel sheet (molten zinc)</li> <li>● The life time of the guardrail is about 10 years and getting rust on reclamation post from field (deterioration)</li> <li>● Early discoloration of bleaching and color after installation in the field</li> <li>● Large difference with hot dip galvanized appearance quality</li> <li>● weak with salt and easily come out rust after installation 2 years</li> <li>● Easy corrosion from road calcium chloride</li> </ul>
comparison result of corrosion resistance	PosMAC (275g/m <sup>2</sup> )	Hot dip galvanized steel (550g/m <sup>2</sup> )
		
<p>- POSMAC is 3 times higher corrosion-resistant properties than conventional hot-dip galvanized product</p> <p>※ test method : CCT salty water spray test (galvanized product occurred red rust from 90 cycle) (Salty water spray 2Hr -&gt; Dry 4Hr - Humidity 2Hr) Check the sample after 1 cycle</p>		



## Road Barrier

Tested “SB2, SB4”

### KSI-GP254-SB2-1

Size W4000 x H880

Material PosMAC+Steel / Color Type



### KSI-GP454-SB4-2

Size W2000 x H880

Material PosMAC+Steel / Color Type





## KSI-GP254-SB2

Size W4000 x H880

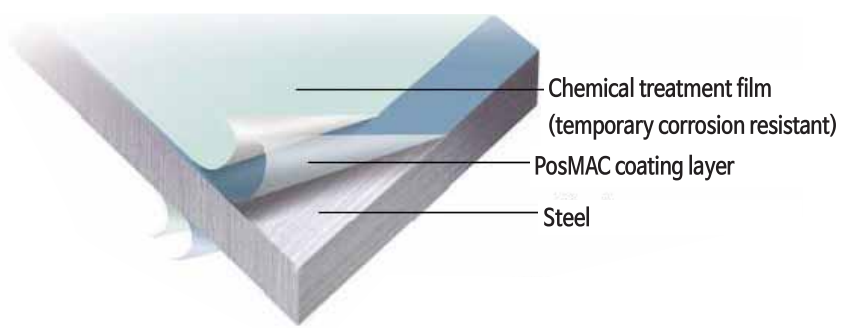
Material PosMAC+Steel



## KSI-GP454-SB4

Size W2000 x H880

Material PosMAC+Steel



# Road Barrier

Tested “SB2, SB4”







### KSI-GP-3W

Size W4000 x H860

Material PosMAC+Steel

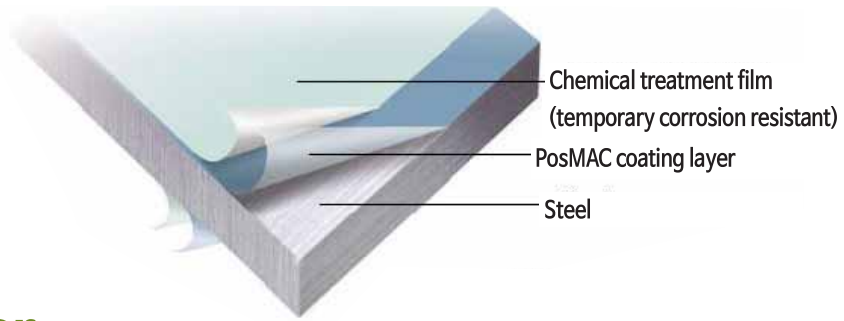


### KSI-GP-2W

Size W4000 x H725

Material PosMAC+Steel / Anchor Bolt Type





# Road Barrier

Tested “SB4, SB5”



**KSI-GP495-SB4**

Size W2000 x H860  
Material PosMAC+Steel



**KSI-G701**

Size W2000 x H850  
Material Steel





## KSI-G535-SB5

Size W2000 x H1000

Material Steel



## KSI-G435-SB4

Size W4000 x H725

Material Steel



# Parapet

Tested “SB4, SB5”

## KSI-D402-SB4-C

Size W2000 x H750  
Material Aluminum+Steel Post



## KSI-D402-SB4-1

Size W2000 x H950  
Material Aluminum+Steel Post







**KSI-D402-SB4 (Parapet)**

Size W2000 x H750

Material Aluminum+Steel Post



**KSI-D502 (Parapet)**

Size W2000 x H900

Material Steel

# Bollard



## Resilience Test



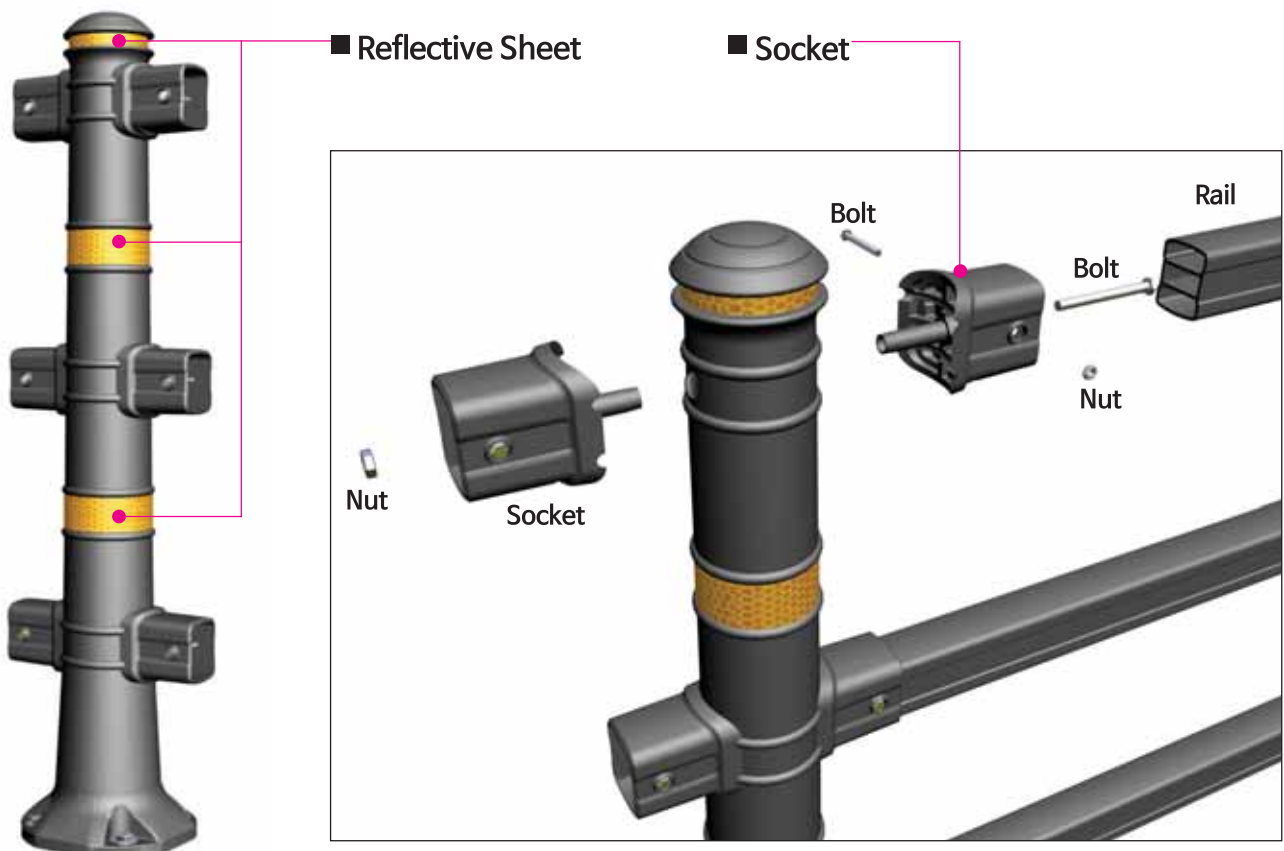


# Flexi Median Block



## Flexi Median Block

- Material : (Post) Polyurethane  
(Rail) PC-ABS
- Resilience, Flexible

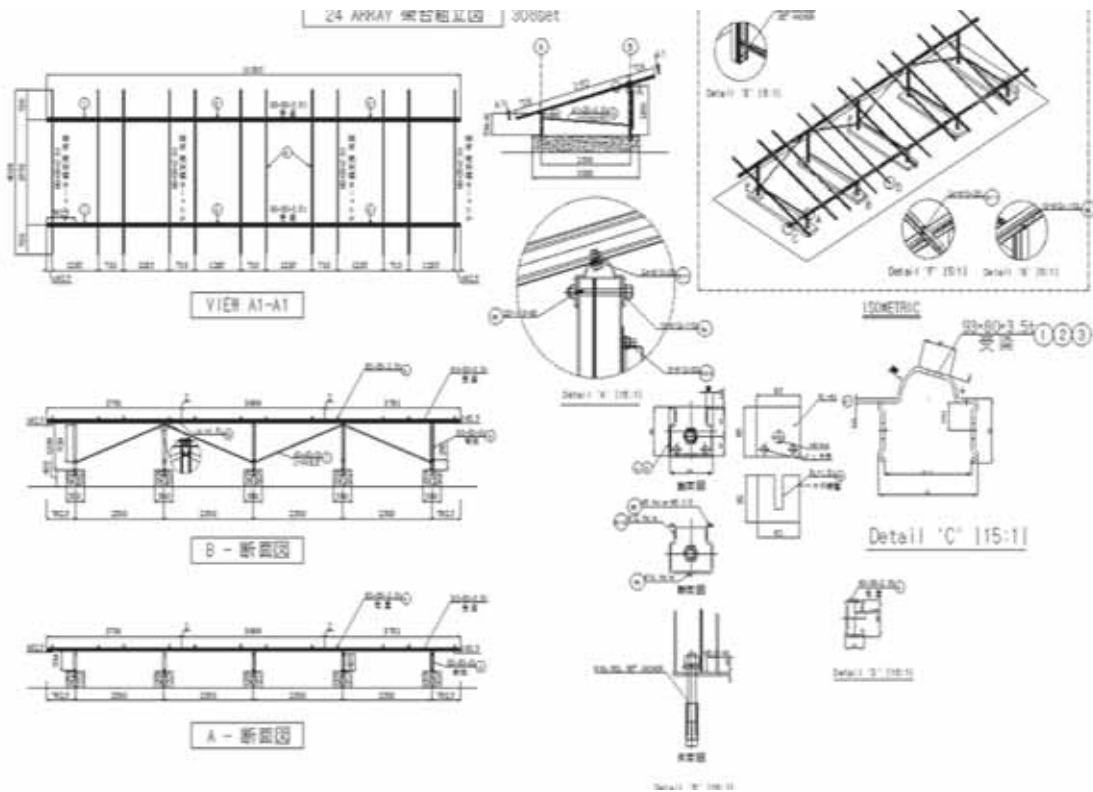


# Support for solar power generation systems

## Introduction of product

The structure manufactured by the company can be quickly installed and has excellent quality.

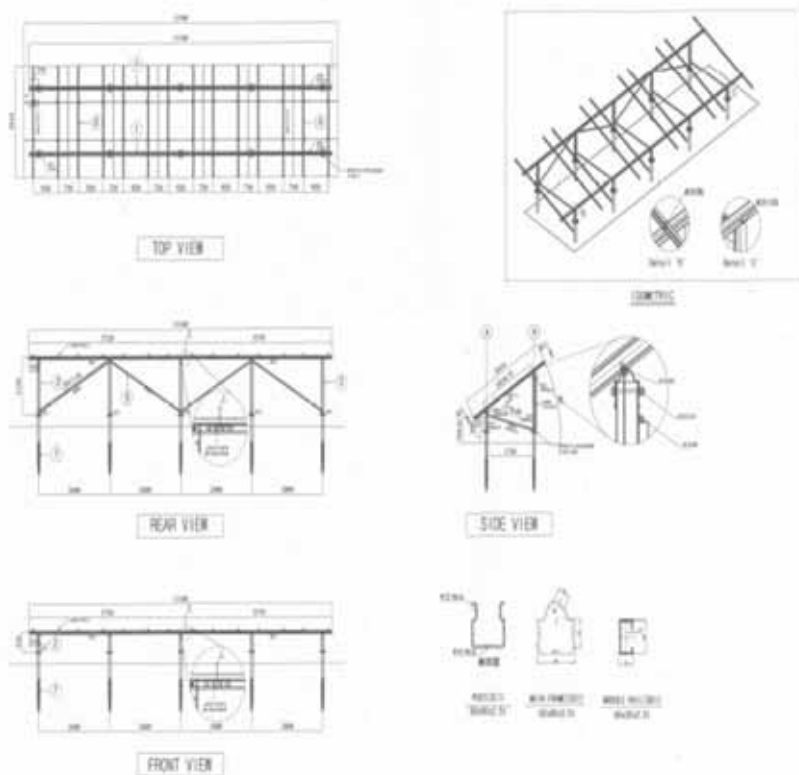
## Ground mount system



※ Basic wind speed and snow load should be reviewed for each site due to safety issues.  
The design structure is subject to change based on the condition of the site.

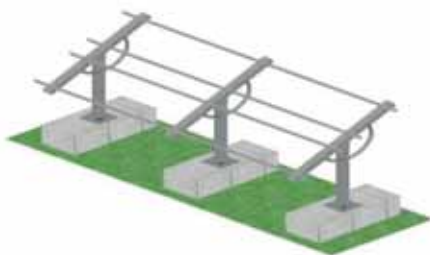


## Ground mount of screw system



### Manual Tracker system

- Standing : In Field
- Foundation: Concrete with pads
- Slop angle : 10°, 20°, 35°
- Type : Fixable manually, depends on seasons
- PV module (Module size) : 2\*5/2\*8/2\*10  
(Depend on design)
- Material : PosMAC
- Wind load : 30~45m/sec
- Snow load : 500~700N/m<sup>2</sup>



### Roof-Top type system

- Standing : Roof on factory
- Foundation : Fixed by screws
- Slop : Depends on Roof angle
- Type : Fixed
- PV module (Module size) : Depend on design
- Material : PosMAC
- Wind load : 30~50m/sec
- Snow load : 500~800N/m<sup>2</sup>



※ Basic wind speed and snow load should be reviewed for each site due to safety issues.  
The design structure is subject to change based on the condition of the site.

## Examples of installing the support for solar power generation systems







SOLAR LED STREET LIGHT



KSI-L706-50  
Spec : 5m

KSI-LB101  
Spec : 5m



KSI-L707-50  
Spec : 5m

STREET LIGHT Pole Design



STS Pole Design

KSI-L402-9H



KSI-L643-6H



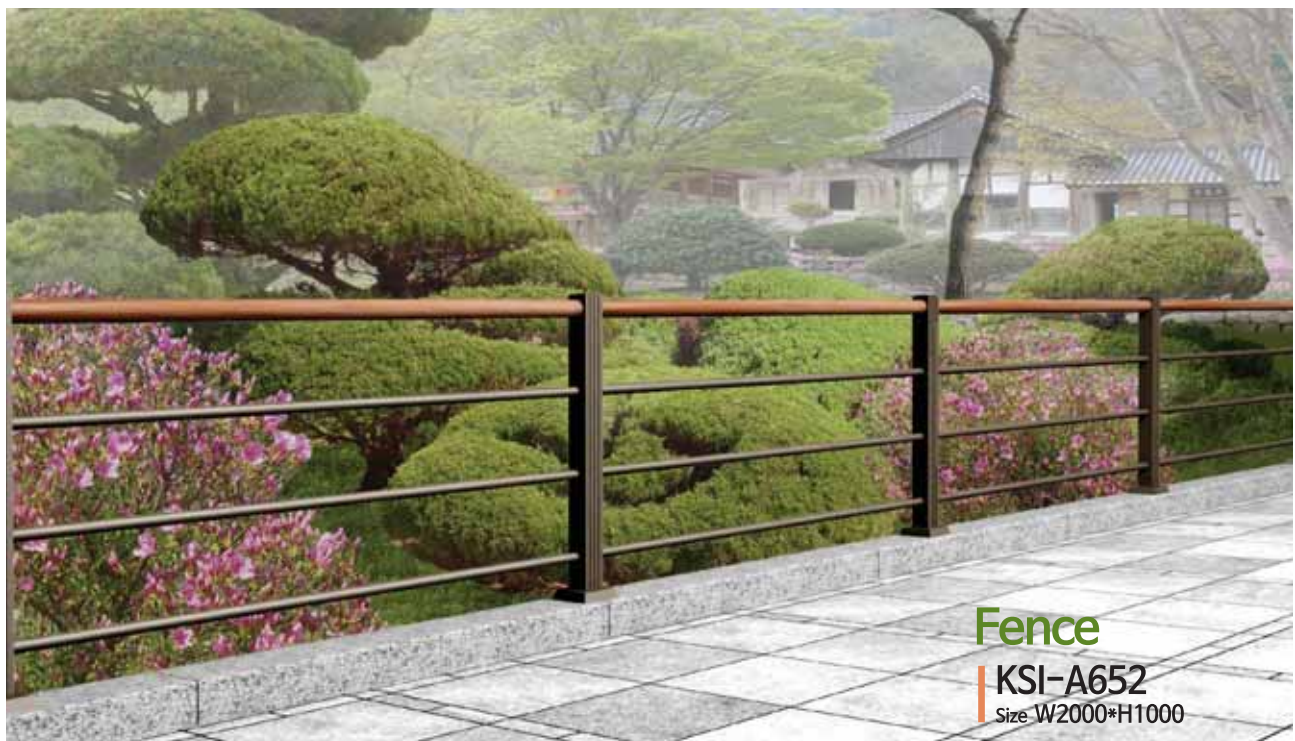
KSI-L054-9H



## Cushion Float E.V.A



## Others Sound Barrier, Fence, Bollard





## Reinforced Mesh Fence

KSI-MH 1500

Size W2000 x H900 (1500, 2000, 2400)



Reinforcement pipe



## Solar Bus Shelter





KSI Ltd. reserves the right to change equipment circuitry, mechanism, dimension, feature, specification, external design and functions without any prior notice for promoting the quality of products.

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