

The only Non-Screwed, Totally in one piece
Road stud in the world
So, perfect and permanent waterproofing!



From Design to Technology
Original Korean LED road stud crafted with a total of 4 patents

SOLARO CO.,LTD.
Solar LED road stud
+82(0)31 217 2120

It is manufactured with four patented technologies and a unique design.

Waterproof structure: Patent No. 10-2250600, Claim 1.

Issued with test certification surpassing the international top-level waterproof rating IP68 by 360 times! By achieving perfect waterproofing, **we have dramatically extended the lifespan of illuminated road studs**



(The buried-type road stud)

Lens structure: Patent No. 10-2250600, Claim 4.

It offers almost infinite visibility on straight roads and visibility of over 300m on curved roads.



The jugged-type road stud

It protrudes gently by 20mm above the road surface, and if a driver encroaches on the center line, **it immediately provides feedback through vibration, alerting them to the situation and promoting safe driving.**

Compare prices to mid- to low-priced road stud
And quality to the best road stud

This is how our road stud stores parts

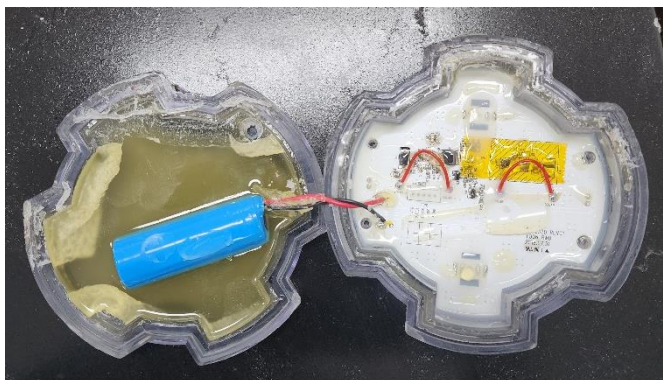


There is no waterproof silicone in this capsule. We suppose that the waterproof silicone reduce the operating life of the road stud in hot temperature.

We put the capsule in the aluminium die-casting with our patented machine. The capsule is located below the top of the die-casting.



The waterproof silicone is used in the popular road stud of Chinese and Korea including Southeast Asian countries



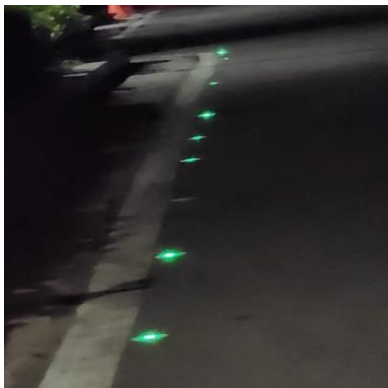
The lifespan of **SOLARO** road stud is more than 5 years

A juttet-type road stud that has been **in operation for 6 years!**



A juttet-type illuminated road stud installed in 2018. Installed at 145 Songtan Park Road, Pyeongtaek City in Korea. The photograph was taken on April 27, 2024. It has **been in operation for more than 6 years without any issues**, demonstrating perfect waterproofing.

A Buried-type road stud that has been **in operation for 5 years!**



It was installed on the internal road of Bi-jeon High School in Pyeongtaek City in September 2019. It has been **in operation for 5 years**.

Four years ago, We took over control of a solar road stud company. After then, we have developed the road stud amazingly, with the perfect and permanent waterproofing and the strongest compressive load. Now the company is SOLARO co., Ltd.



Specification Table for Solaro Road Studs:



	SOLARO7(Buried-type)	SOLARO3(Jutted-type)
External specifications	140Øx55mm	137x137x65mm
Weight	650g	900g
Battery	Ni-MH HR-3UTG Long Life Type	
Number of LEDs	6pcs	
Solar Pannel	Mono-crystalline silicon	
Color	White/Yellow/Red/Blue/Green	
Maximum compressive load	502,603N (51t)	
Waterproof capability	IPx8 - Depth of immersion:1 m - Duration of the test:360h - Pass	
Assurance	2 Years	
Operating Life Expectancy	More than 5 years	
Operating time at full charge	During illumination: 96hours During flashing: 180 hours	
Lighting Mode	Illumination or flashing	
Key materials	Cast Aluminium+PC Cover	

We have received a waterproof test certificate from KCL, verifying that our product has **passed** the test of the duration of 360 hour(15days x24hours)

the way to trust

KCL

TEST REPORT

No. : QT24-00916E

7. Test Results

Test Items	Unit	Test method	Test Results	Remark	Loc.
IP6X (test for protection against solid foreign object)	-	KS C IEC 60529:2013	Pass	-	A
IPX8 (test for protection against water)	-		Pass		

Ⓢ Location(A): 85, Dambang-ro, Namdong-gu, Incheon, Korea

Ⓢ Test Environment: (25 ± 3) °C, (45 ± 15) % R.H.

▶ Test Condition

1) IP6X

- Maximum depression pressure: - 2.0 kPa

- Duration of the test: 8 h

2) IPX8

- Depth of immersion: 1 m

- Duration of the test: 360 h

▶ Sample information



--- End of the report ---

Page 2 of 2

왕식(TOP-12-01-04(1))

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KCL

TEST REPORT

7919-4042-2524-9677



1. NO : CT24-005333E

2. Client

○ Name : SOLARO Co.,Ltd

○ Address : Suite 805, Factory World Bldg, 274, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, Korea

3. Date of Test : 2024.01.11 ~ 2024.02.14

4. Use of Report : Submit to Public Procurement Service

5. Test Sample : SOLARO 7

6. Test Method

(1) Test method requested by client

7. Test Results

1) SOLARO 7

Test Item(s)	Unit	Test Method	Test Results	Remark	Loc.
Maximum compressive load	N	(1)	502-603	-	A

Ⓢ Location

A : 85, Dambang-ro, Namdong-gu, Incheon, Korea

Affirmation	Tested By Name : Heo, Bo Ram	Technical Manager Name : Won, Chul Hyun
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This report is not accredited by KILAS and KS Q ISO/IEC 17025. Our report apply only to the standards or procedures identified and to the sample(s) tested unless otherwise specified. The test results are not indicative of representative of the qualities of the lot from which the sample was taken or of apparently identical or similar products. The results of using only a portion of this report cannot be guaranteed. The authenticity of this test report can be checked on KCL website(www.kcl.re.kr).

2024.02.14

Korea Conformity Laboratories President Jo, Yung Tae

Result Inquiry : 85, Dambang-ro, Namdong-gu, Incheon, Korea (82-32-460-5125)

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TOP-12-01-04(1)



SOLARO. Co product exhibits **the highest compressive load** among road studs worldwide, with a capacity of 502,603N, which is equivalent **to over 51 tons**, ensuring minimal deformation under such heavy loads.

CERTIFICATE PATENT
OF ROAD STUD

CERTIFICATE OF PATENT

Patent Number	10-2250600
Application Number	10-2021-0004052
Filing Date	2021. 01. 12.
Registration	2021. 05. 04.

Title of the Invention

LED Road Stud

Patentee

Solaro Co, Ltd.(135811-*****)
B302, 274 Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16522, Republic of Korea

Inventor

JANG, Soon Sik
76 Bijeon 3-ro, Pyeongtaek-si, Gyeonggi-do, 17855, Republic of Korea

This is to certify that, in accordance with the Patent Act,
a patent for the invention has been registered at the Korean Intellectual
Property Office.

CERTIFICATE OF PATENT

Patent Number	10-2260919
Application Number	10-2021-0014895
Filing Date	2021. 02. 02.
Registration	2021. 05. 31.

Title of the Invention

MANUFACTURE APPARATUS OF LOAD STUD AND SCENERY LIGHTING LAMP

Patentee

Solaro Co, Ltd.(135811-*****)
B302, 274 Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16522, Republic of Korea

Inventor

JANG, Soon Sik
76 Bijeon 3-ro, Pyeongtaek-si, Gyeonggi-do, 17855, Republic of Korea

2023. 03. 29.

COMMISSIONER,
KOREAN INTELLECTUAL PROPERTY OFFICE

이 인 실

Check your current registration with QR code

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2023. 03. 29.

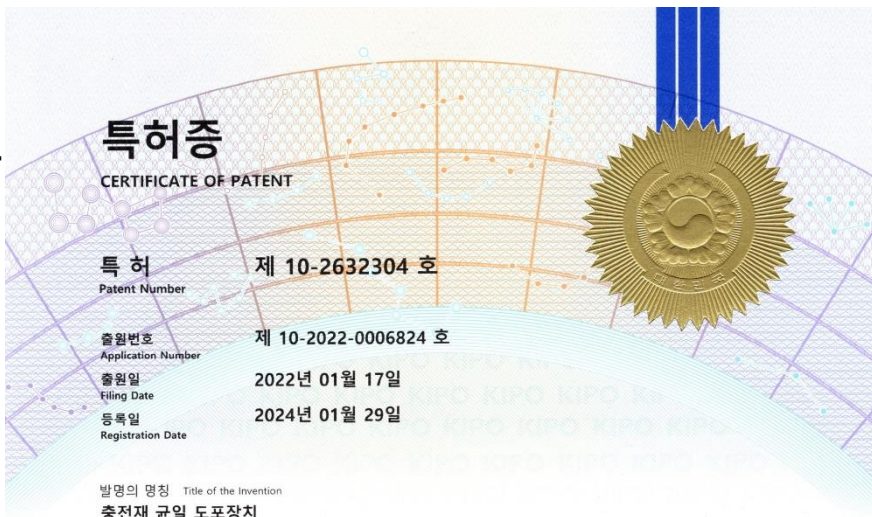
COMMISSIONER,
KOREAN INTELLECTUAL PROPERTY OFFICE

이 인 실

Check your current registration with QR code

CERTIFICATE PATENT
OF MANUFACTURING
EQUIPMENT

CERTIFICATE PATENT OF FILLER UNIFORM COATING DEVICE



특허권자 Patentee
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경기도 평택시 비전3로 76



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창작자 Creator
장순식(610418-*****)
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허원부에 등록되었음을 증명합니다.

With the Patent Act, a patent for the Korean Intellectual Property Office.

월 29일



QR코드로 현재기준
등록사항을 확인하세요

당

INNER,
TELLECTUAL PROPERTY OFFICE



위의 디자인은 「디자인보호법」에 따라 디자인등록원부에 등록되었음을 증명합니다.

This is to certify that, in accordance with the Design Protection Act, the design has been registered at the Korean Intellectual Property Office.

CIRTFIFICATE OF DESIGN REGISTRATION



2024년 01월 09일

특허청장
COMMISSIONER,
KOREAN INTELLECTUAL PROPERTY OFFICE

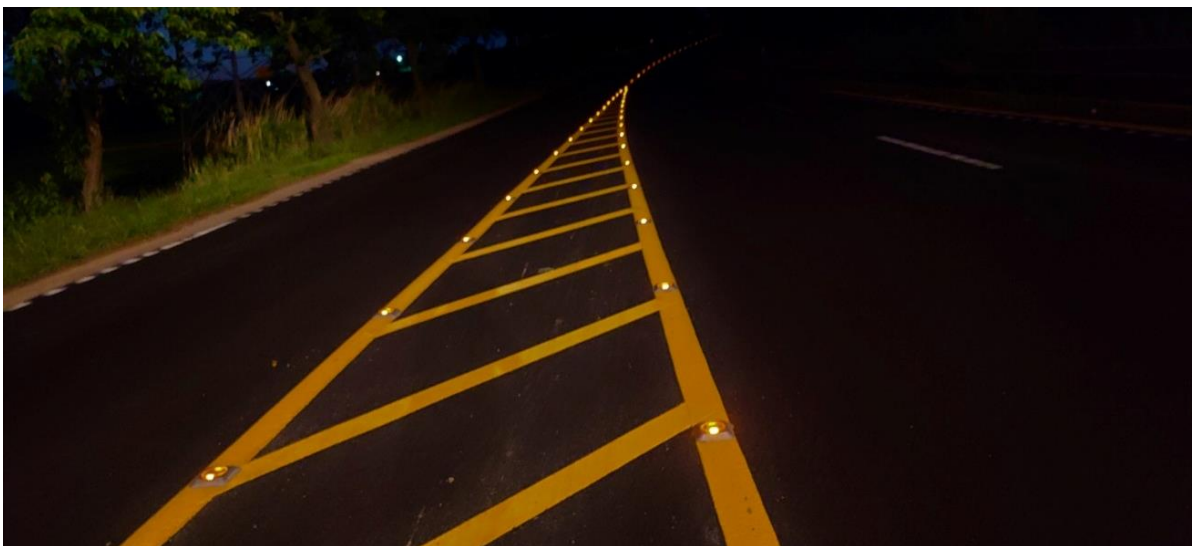


QR코드로 현재기준
등록사항을 확인하세요



SOLARO Co. road stud make the world safe and beautiful!





Light up the dark road, especially on a rainy day



Safety is Beauty

Product Overview.

Solaro LED road studs are designed using advanced technology to enhance visibility and durability. These studs are essential for guiding traffic and increasing road safety.

Available Models:

- Buried-type (SOLARO7): Integrates seamlessly with the road surface, providing a clear, unobtrusive path illumination.
- Jutted-type (SOLARO3): Protrudes slightly (20mm) above the road surface to offer tactile feedback through vibration when driven over, aiding in lane discipline and safety.

Key Features:

- High-Quality LEDs: Ensures bright, long-lasting illumination.
- Robust Materials: Built to withstand various weather conditions, ensuring reliability and a longer lifespan.
- Patented Technologies:
 - Waterproof Structure (Patent No. 10-2250600, Claim 1)
 - Lens Structure (Patent No. 10-2250600, Claim 4)
- Offers over 300 meters of visibility on road, enhancing driver awareness and safety.
- Safety Enhancements:
 - Jutted-Type Feedback: Activates a vibrational alert if a vehicle strays onto the center-line, promoting corrective driving actions.
- Certifications:
 - Waterproof Rating: Surpasses the international top-level waterproof rating (IP68) by 360 times, ensuring exceptional performance and durability in wet conditions.
- Advantages:
 - By employing superior waterproofing technology, Solaro LED road studs dramatically extend the operational life and performance of road studs under all environmental conditions.

SOLARO CORPORATION CO.,LTD.

Solar LED road stud

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