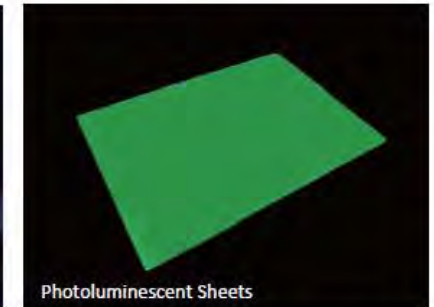


LumiGLOW

Developed from JAPAN



Photoluminescent Pigments



Photoluminescent Sheets



Photoluminescent Tapes



Safety Signs



Aluminum Stair Nosings



Sign

fudo
solutions

Fudo Solutions Co., Ltd. (Head office)
888/208 Srinagarindra Road, Suanluang,
Suanluang, Bangkok 10250, Thailand
Tel. 02-347-6004 / Mobile. 092-259-8592
E-mail: admin@fudo.co.th

Photoluminescent Pigments



Benefits

- Environmentally-Friendly, Non-toxic, Non-radioactive (Strontium Aluminate Based)
- Long lasting afterglow, World Highest Performance
- LED-light-source-compatible (wide range of excitation wavelengths)

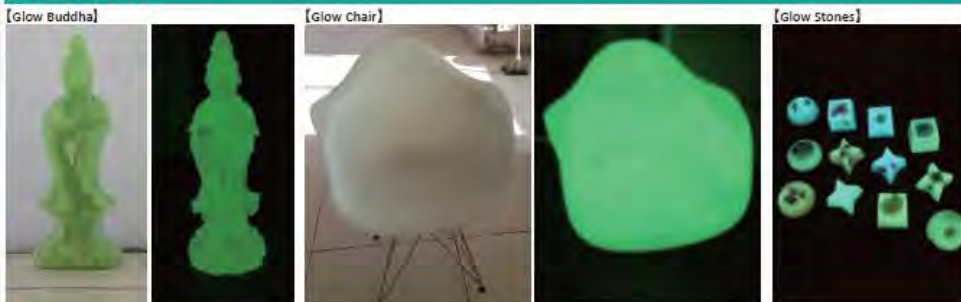
Grades and Characteristics

Test method: Excitation with Xenon light of 1000 lux for 5 minutes

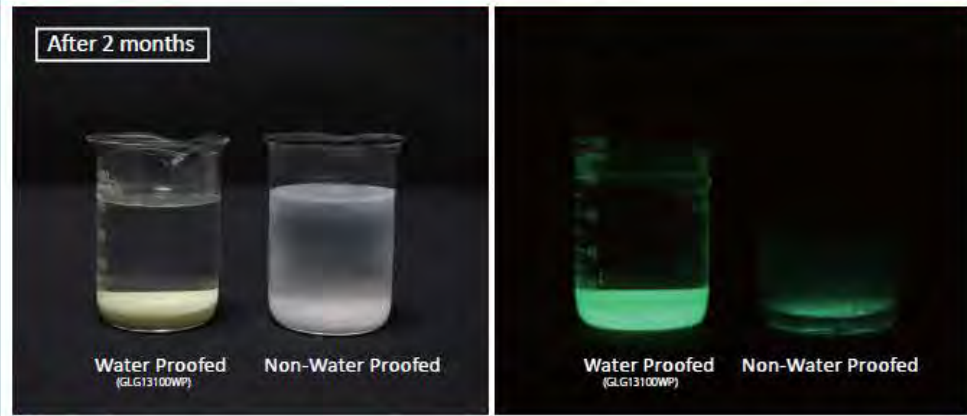
Glowing Color	Pigment Color	Grade	Code	Formula	Particle Size (D50)	Afterglow luminance (mcd/m ²)			
						2 minutes	10 minutes	30 minutes	60 minutes
Green	Yellow-green	★★★★★	GLG04000	SrAl ₂ O ₄ :Eu,Dy	0 - 100 μ	1,611	394	127	60
			GLG11030		30 μ	1,151	282	91	43
			GLG11060		60 μ	2,052	484	150	68
	Pink	★★★	PLG11060	SrAl ₂ O ₄ :Eu,Dy	60 μ	489	111	34	15
Orange	★★	OLG11060	SrAl ₂ O ₄ :Eu,Dy	60 μ	389	93	28	12	
Blue	Blue-green	★★★★	BLG11060	Sr ₂ Al ₁₄ O ₂₅ :Eu,Dy	60 μ	1,200	311	91	37

- Order more than 25 kg can be customized for desired luminance and grain size. Please contact us for specific requirements.
- Pigments can be added to resins, inks, and paints

Examples of Use



Waterproof Photoluminescent Pigments



Benefits

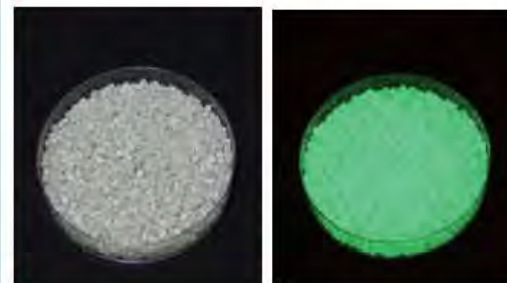
- PATENTED Coating Formulation provide even higher luminance and stable performance in water (Japanese patent obtained)
- Excellent Water Resistant
- The pH level of the Water Proof Pigments in water after 3 month remains "7.0" stable
- Non-toxic, Non-radioactive

Grades and Characteristics

Glowing Color	Pigment Color	Grade	Code	Formula	Particle Size (D50)	Afterglow luminance (mcd/m ²)			
						2 minutes	10 minutes	30 minutes	60 minutes
Green	Yellow-green	★★★★★	GLG11030WP	SrAl ₂ O ₄ :Eu,Dy	30 μ	2,070	513	166	77
			GLG11060WP		60 μ	2,246	552	174	78
			GLG13100WP		100 μ	3,239	803	253	115
			GLG13500WP		500-1000 μ	4,327	1,206	401	192

- Test method: Excitation with Xenon light of 1000 lux for 5 minutes
- Orders of 25 kg or more can be customized for desired luminance and grain size. Please contact us for specific requirements.
- All photoluminescent pigments including Blue Pigment can be supplied as waterproofed.
- Pigments can be added to resins, inks, and paints.

Photoluminescent Masterbatches



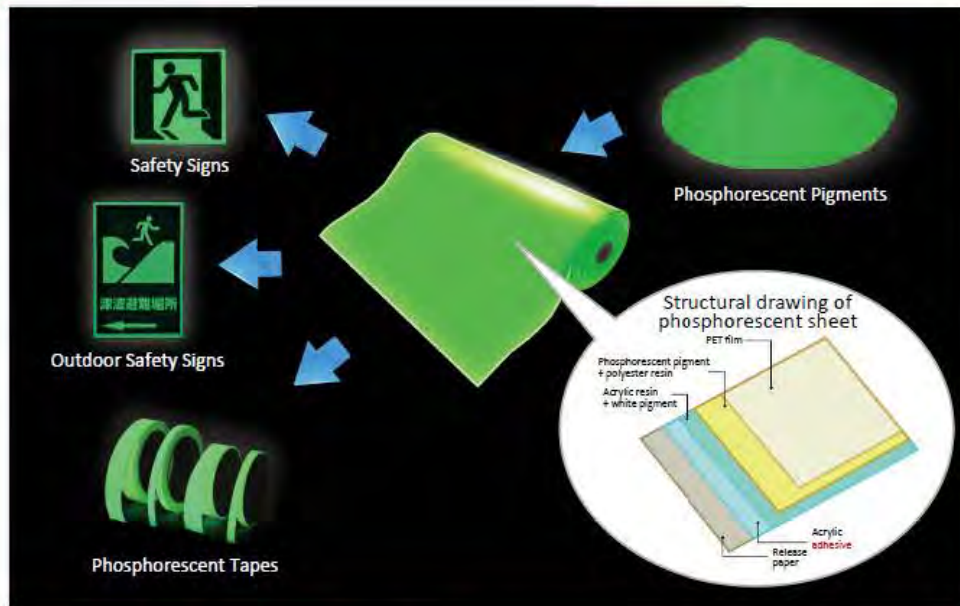
▼ Afterglow luminance (PP 30%) Grade:★★★★★

Elapsed time	2 minutes	10 minutes	30 minutes	60 minutes
Luminance (mcd/m ²)	1,488	350	110	51
Specification of DIN 67510 Class D	1,100	260	85	35

- Test method: Excitation with Xenon light of 1000 lux for 5 minutes
- Available in a range of plastic types: PP, PE (HDPE/LDPE), PVC, EVA, PS, PC, ABS
- Concentrate: 10-40%

Phosphorescent Sheet

Super glow
★★★★★
High glow
★★★★
Standard
★★★



- The Best Performance in the World
- Environmentally - Friendly, Non-Toxic, Non-Radioactive
- Extremely Durable
- Easy Installation, Just stick it on the construction surface

DIN - CLASS E					DIN - CLASS D					DIN - CLASS C				
Super glow Code: SLGS ★★★★★					High glow Code: HGS ★★★★★					Standard glow Code: SGS ★★★				
Elapsed time (min)	2 min	10 min	30 min	60 min	Elapsed time (min)	2 min	10 min	30 min	60 min	Elapsed time (min)	2 min	10 min	30 min	60 min
Luminance (mcd/m²)	2,960	660	210	94	Luminance (mcd/m²)	1,406	292	91	40	Luminance (mcd/m²)	986	226	67	29
DIN-Class E	2,200	520	170	70	DIN-Class D	1,100	260	85	35	DIN-Class C	690	140	45	20
Size	1,200 mm x 30 M				Size	1,200 mm x 30 M				Size	1,200 mm x 30 M			
Thickness	0.56mm				Thickness	0.32mm				Thickness	0.22mm			

DIN67510-4:2008-2 Sub-classification	2 min	10 min	30 min	60 min
A	108	23	7	3
B	210	50	15	7
C	690	140	45	20
D	1,100	260	85	35
E	2,200	520	170	70

*Measurement of the photoluminescence according to DIN 67510-4:2008-2

*Testing Institution: SLGS/HGS—Federal Institute of Metrology METAS Schweizerische Eidgenossenschaft SLS—LTJ Corporation

Phosphorescent Sheet

Phosphorescent Tapes

Super glow
★★★★★
High glow
★★★★



Supre Lumi GLOW

DIN-Class E



Features

- World's highest level luminance and afterglow time

Code

Code	Size
SLG1001	10 mm x 1 M
SLG1005	10 mm x 5 M
SLG1501	25 mm x 1 M
SLG1505	25 mm x 5 M
SLG10P	Round sticker 10 mm in diameter, Qty: 15 pieces

Material: PET; Phosphorescent material; Acrylic adhesive
Thickness: 0.56 mm (±0.1)

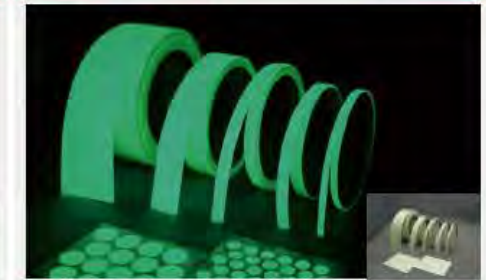
Luminance data

Elapsed time	2 min	10 min	30 min	60 min
Luminance (mcd/m²)	2,960	660	210	94
Class E of DIN67510	2,200	520	170	70

Measurement of the photoluminescence according to DIN 67510 Part4:2008-2

High Lumi GLOW

DIN-Class D



Features

- Highest level luminance and afterglow time

Code

Code	Size
HG0501	5 mm x 1 M
HG1001	10 mm x 1 M
HG1005	10 mm x 5 M
HG2505	25 mm x 5 M
HG5010	50 mm x 10 M
HG10P	Round sticker 10 mm in diameter, Qty: 36 pieces
HG18P	Round sticker 18 mm in diameter, Qty: 16 pieces

Material: PET; Phosphorescent material; Acrylic adhesive
Thickness: 0.32 mm (±0.1)

Luminance data

Elapsed time	2 min	10 min	30 min	60 min
Luminance (mcd/m²)	1,406	292	91	40
Class D of DIN67510	1,100	260	85	35

Measurement of the photoluminescence according to DIN 67510 Part4:2008-2

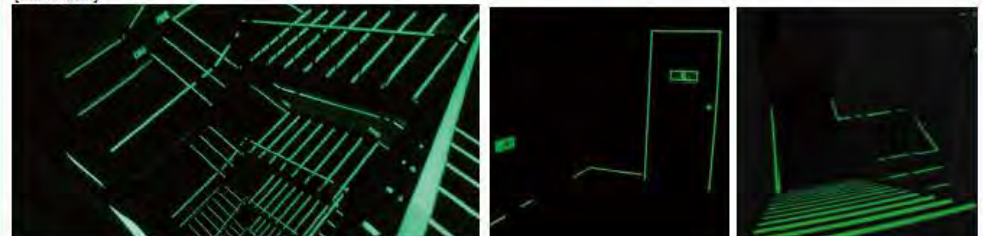
*Do not stick on any rough or jagged surfaces.

Installation examples

[Under daylight]



[In the dark]



Phosphorescent Tape

Safety Signs

International Standards

- DIN67 510 Part1:2009**
Phosphorescent pigments and products - Measurement and identification by the manufacturer.
- DIN67 510 Part4:2008**
Phosphorescent pigments and products - Luminance requirements for photoluminescent materials.
- JIS Z 9107**
Safety colors and Safety signs - Classification, Performance and durability of Safety signs.
- BS ISO 16069:2004**
Graphical symbols. Safety signs. Safety way guidance systems (SWG5).
- BS ISO 3864-4:2011**
Graphical symbols - Safety colours and safety signs - Part4:Colorimetric and photometric properties of safety sign materials.
- BS ISO 3864-1:2011**
Graphical symbols - Safety colours and safety signs - Part1:Design principles for safety signs and safety markings.
- BS ISO 3864-3:2012**
Graphical symbols - Safety colours and safety signs - Part3:Design principles for graphical symbols for use in safety signs.
- BS EN ISO 7010:2012**
Graphical symbols - Safety colours and safety signs - Registered safety signs.
- BS ISO 9186-1:2014**
Graphical symbols - Test methods - Methods for testing comprehensibility.

Standards and Regulations we MEET:

- International Standard Organization (ISO)
- Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)
- Deutsche Industrie Normen (DIN)
- Japanese Industrial Standards (JIS)
- ASTM International (ASTM)



World Highest Performance! Easy Installation! Cost less! The reason for going our products are eliminating your electric and maintenance costs, and reducing the CO₂ produced. You can rely on it!

DIN - CLASS E					DIN - CLASS D					DIN - CLASS C				
Super glow Code: SLG (Thickness: 0.56mm)					High glow Code: HG (Thickness: 0.32mm)					Standard glow Code: SG (Thickness: 0.22mm)				
Elapsed time (min)	2 min	10 min	30 min	60 min	Elapsed time (min)	2 min	10 min	30 min	60 min	Elapsed time (min)	2 min	10 min	30 min	60 min
Luminance (mcd/m ²)	2,960	660	210	94	Luminance (mcd/m ²)	1,406	292	91	40	Luminance (mcd/m ²)	986	226	67	29
DIN-Class E	2,200	520	170	70	DIN-Class D	1,100	260	85	35	DIN-Class C	690	140	45	20

*Testing Institution: SHL/HL - Federal Institute of Metrology METAS Schweizerische Eidgenossenschaft; SL - LTI Corporation
*Do not stick on any rough or jagged surfaces.

Select the Grade code listed below when you order:

Grade	Code
Super glow	SLG
High glow	HG
Standard	SG

Exit Signs

 Code: 101A / 101B / 101C Size: 101A: 120mm×340mm 101B: 150mm×400mm 101C: 200mm×450mm	 Code: 102A / 102B / 102C Size: 102A: 120mm×340mm 102B: 150mm×400mm 102C: 200mm×450mm	 Code: 103A / 103B / 103C Size: 103A: 120mm×340mm 103B: 150mm×400mm 103C: 200mm×450mm
 Code: 104A / 104B / 104C Size: 104A: 120mm×340mm 104B: 150mm×400mm 104C: 200mm×450mm	 Code: 105A / 105B / 105C Size: 105A: 120mm×340mm 105B: 150mm×400mm 105C: 200mm×450mm	 Code: 106A / 106B / 106C Size: 106A: 120mm×340mm 106B: 150mm×400mm 106C: 200mm×450mm
 Code: 107A / 107B / 107C Size: 107A: 120mm×340mm 107B: 150mm×400mm 107C: 200mm×450mm	 Code: 108A / 108B / 108C Size: 108A: 120mm×340mm 108B: 150mm×400mm 108C: 200mm×450mm	

Large Exit Signs

 Code: 201D / 201G Size: 201D: 300mm×300mm 201G: 150mm×150mm	 Code: 202D / 202G Size: 202D: 300mm×300mm 202G: 150mm×150mm	 Code: 203D / 203G Size: 203D: 300mm×300mm 203G: 150mm×150mm
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(Examples)

Exit	+		+		=	
	+		+	Exit	=	

International Way Guidance Signs

 Code: 301A / 301B / 301C / 301D Size: 301A: 150mm×300mm 301B: 150mm×300mm 301C: 200mm×400mm 301D: 250mm×500mm	 Code: 302A / 302B / 302C / 302D Size: 302A: 150mm×300mm 302B: 150mm×300mm 302C: 200mm×400mm 302D: 250mm×500mm	 Code: 303A / 303B / 303C / 303D Size: 303A: 150mm×300mm 303B: 150mm×300mm 303C: 200mm×400mm 303D: 250mm×500mm
 Code: 304A / 304B / 304C / 304D Size: 304A: 150mm×300mm 304B: 150mm×300mm 304C: 200mm×400mm 304D: 250mm×500mm	 Code: 305A / 305B / 305C / 305D Size: 305A: 150mm×300mm 305B: 150mm×300mm 305C: 200mm×400mm 305D: 250mm×500mm	 Code: 306A / 306B / 306C / 306D Size: 306A: 150mm×300mm 306B: 150mm×300mm 306C: 200mm×400mm 306D: 250mm×500mm
 Code: 307A / 307B / 307C / 307D Size: 307A: 150mm×300mm 307B: 150mm×300mm 307C: 200mm×400mm 307D: 250mm×500mm	 Code: 308A / 308B / 308C / 308D Size: 308A: 150mm×300mm 308B: 150mm×300mm 308C: 200mm×400mm 308D: 250mm×500mm	

Emergency Exit Door Signs / Stairway Floor Number Signs

 Code: 401E / 401F / 401G Size: 401E: 70mm×70mm 401F: 100mm×100mm 401G: 150mm×150mm	 Code: 402E / 402F / 402G Size: 402E: 70mm×70mm 402F: 100mm×100mm 402G: 150mm×150mm	 Code: 403E / 403F / 403G Size: 403E: 70mm×70mm 403F: 100mm×100mm 403G: 150mm×150mm	 Code: 404E / 404F / 404G Size: 404E: 70mm×70mm 404F: 100mm×100mm 404G: 150mm×150mm	 Code: 405E / 405F / 405G Size: 405E: 70mm×70mm 405F: 100mm×100mm 405G: 150mm×150mm	 Code: 406E / 406F / 406G Size: 406E: 70mm×70mm 406F: 100mm×100mm 406G: 150mm×150mm							
 Code: 407N Size: 407N: 100mm×150mm	 Code: 408N Size: 408N: 100mm×150mm	 Code: 500	 Code: 501	 Code: 502	 Code: 503	 Code: 504	 Code: 505	 Code: 506	 Code: 507	 Code: 508	 Code: 509	 Code: 510

Fire Alarm Location Signs / Emergency Shutdown Sign

 Code: 601E / 601F / 601G Size: 601E: 70mm×70mm 601F: 100mm×100mm 601G: 150mm×150mm	 Code: 602E / 602F / 602G Size: 602E: 70mm×70mm 602F: 100mm×100mm 602G: 150mm×150mm	 Code: 603E / 603F / 603G Size: 603E: 70mm×70mm 603F: 100mm×100mm 603G: 150mm×150mm	 Code: 604E / 604F / 604G Size: 604E: 70mm×70mm 604F: 100mm×100mm 604G: 150mm×150mm	 Code: 605E / 605F / 605G Size: 605E: 70mm×70mm 605F: 100mm×100mm 605G: 150mm×150mm	 Code: 606E / 606F / 606G Size: 606E: 70mm×70mm 606F: 100mm×100mm 606G: 150mm×150mm
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Aluminum Phosphorescent Stair-Nosings

Super glow
★★★★★



Benefits

- Amazingly bright!
- Extremely durable
- For indoor and outdoor applications
- Strong protective layer in Phosphorescent areas
- Easy installation with construction adhesive, screw or glues

Aluminum Phosphorescent Step Nosings

Code: SGAS3603 Weight: 250 g/m 	Code: SGAS5922 Weight: 510 g/m 	Code: SGAS5320 Weight: 380 g/m
Code: SGAS3413 Weight: 286 g/m 	Code: SGAS3520 Weight: 332 g/m 	Code: SGAS3030 Weight: 413 g/m

Material: Aluminum extruded shapes; Phosphorescent portion: Phosphorescent material + polyester resin
Length: 1400mm/PC maximum Installation: Construction adhesive, screw or glues. MOQ: 50M

Luminance Data

Elapsed time	2 minutes	10 minutes	30 minutes	60 minutes
Luminance (mcd/m ²)	5,179	1,071	280	105
Specification of DIN 67510 Class E	2,200	520	170	70

Installation Example

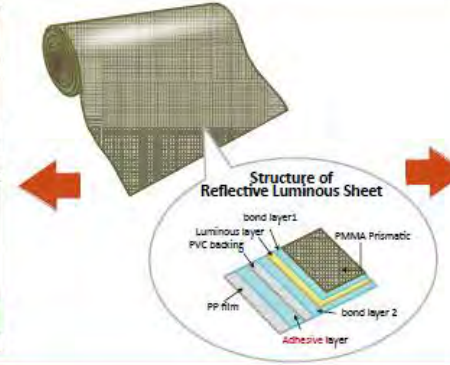
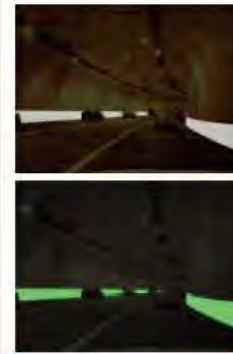
[Under daylight]

[In the dark]



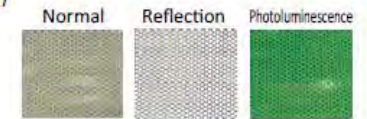
Reflective Luminous Sheet

Reflection
★★★★★
Photoluminescence
★★★★★



Benefits

- Conform to ASTM D4956 Type IV, EN12899-1 RA2 (Retro-Reflectivity)
- Afterglow Time: Conform to DIN67510 Class C, JIS Z9107 JC. (Photoluminescent After-glow)
- Easy Installation, Just stick it.
- High Durability : 7 years
- Printable (Screen Printing and UV inkjet printing)



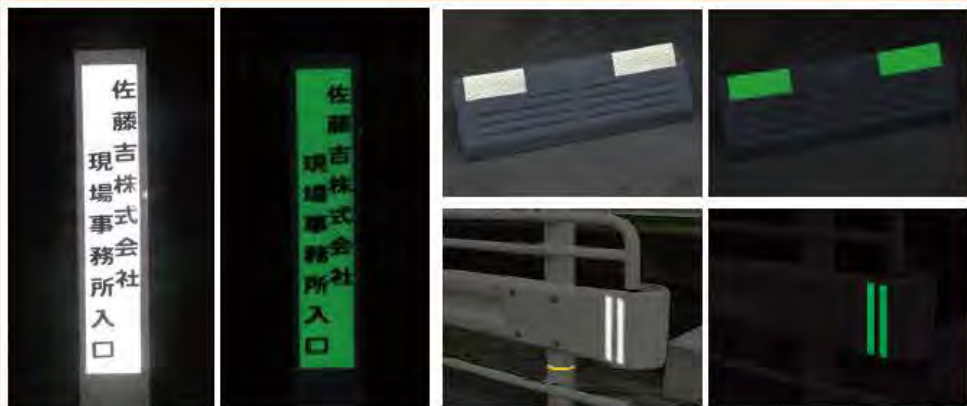
*Do not stick on any rough or jagged surfaces.

Reflective Luminous Film

Observation Angle	Reflection		Photoluminescence	
	Entrance Angle	(Until: cd/lx/m ²)	Elapsed Time	Luminance (mcd/m ²)
0.33°	5°	White Color	2 minutes	1,272
0.33°	30°		10 minutes	283
0.5°	5°		30 minutes	81
0.5°	30°		60 minutes	36

Size : 1,220 mm x 10 M / Thickness : 600µm±5µm *Measurement of the photoluminescence according to DIN 67510 Part4

Installation Example



Construction Examples

■ Railroads, U.S.A (New York, Chicago and Boston)



■ High Speed Railroad, Taiwan



■ Dubai Metro, Dubai



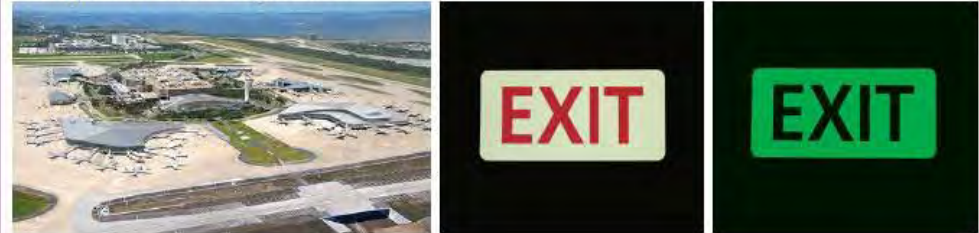
■ JR Tokai, Japan



■ Orlando International Airport, U.S.A



■ Tampa International Airport, U.S.A



■ Soekarno-Hatta International Airport, Indonesia



■ Kansai International Airport, Japan



Construction Examples

■ Fire Department, Osaka Japan



■ Seven-Eleven Japan



■ Tokyo Metro



■ Convention Center, Tokyo



■ Shopping Mall



■ Ministry of Justice Government Japan

■ CTC seismic isolation platform

■ National Institute for Fusion Science



■ Medical Centers



■ Tsunami Evacuation Tower



■ Tsunami Evacuation Sign

