SUMITA
new glass & fiber optics

Reference

Phosphorescent Glass G2000/R2000

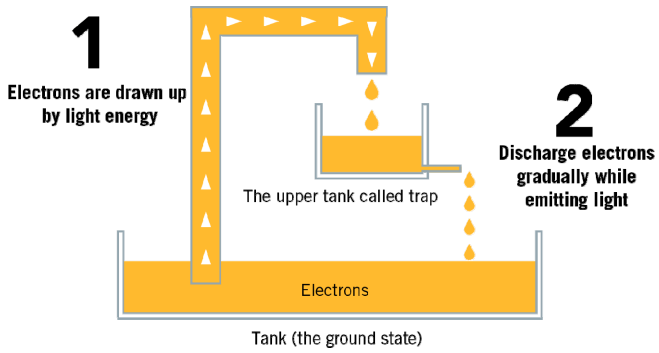
SUMITA's long-lasting phosphorescent glass stores light energy and continues to light in darkness.

◆ Features

- **Stores light energy in a transparent glass**
- **Emits light for long hours**
- **A new type of phosphorescent glass which Terbium (a rare earth metallic element) is contained**

Mechanism of Phosphorescent Glass

It is assumed that inside phosphorescent glass, light energy transfers electrons from the ground state to the upper tank called trap. The electrons are temporarily stored in the trap and gradually discharged to the original tank. During the process, light is emitted for long hours.



Necessary Light for Storing Light

- Sunlight
- Fluorescent light (general lighting, black light, germicidal lamp)
- Light source that contains ultraviolet (UV) rays

Please be sure to irradiate more than a few minutes.

(Note)

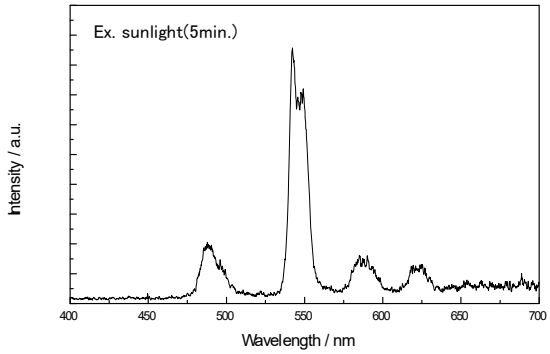
- Higher temperature of phosphorescent glass leads lower amount and shorter time of emission.
- When light is stored, the phosphorescent glass becomes yellowish. Also, it gets lighter in color as it emits light.

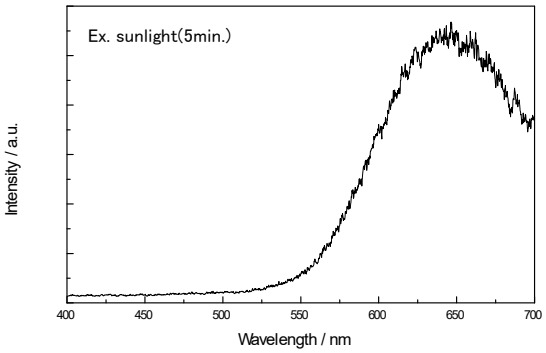
◆ Phosphorescent Glass Technical Data

G2000 (Green Phosphorescent Glass)

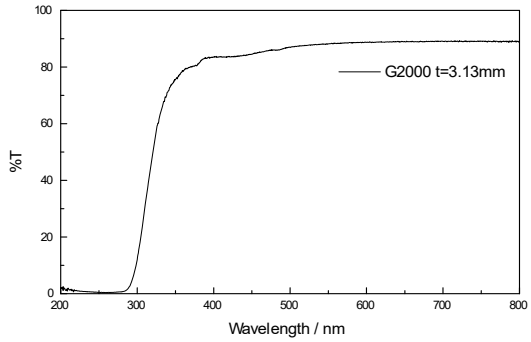
R2000 (Red Phosphorescent Glass)

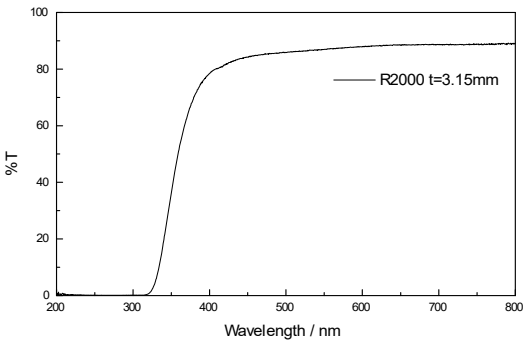
Emission Spectrum



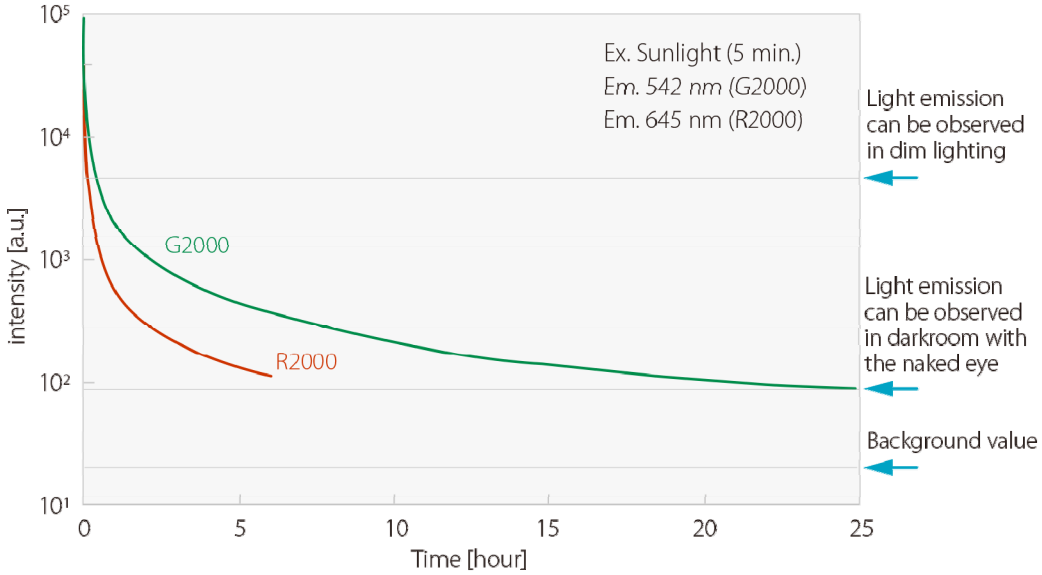


Transmittance Spectrum





Temporal Change in Emission Intensity



	Peak emission wavelength / nm	Refractive index nd	Specific gravity S.g	Tg / ℃	At / ℃	α / x10^{-7}
G2000	542	1.680	4.05	593	650	85
R2000	645	1.692	4.10	551	597	68

* Above data is obtained from sample products. The specifications of the product may be changed without prior notice.

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