



GORE® Diffuse Reflector

PRODUCT

Maximize light efficiency with longer product life

GORE® Diffuse Reflector Product increases luminance by over 30 percent when compared to other materials, and it maximizes the uniformity of the reflected light. Every time light reflects, energy is lost. Therefore, a poor reflector absorbs a substantial amount of energy, decreasing its effectiveness. The reflectance of GORE® Diffuse Reflector Product is greater than 97.4 percent within the visible wavelengths.

Absorbing no measurable light energy, GORE® Diffuse Reflector Product increases the life of your product by maintaining its reflective performance. The material also remains stable when exposed to extreme temperatures, aggressive chemicals, and UV rays, and it does not degrade over time.

Available in a sheet form with a range of reflectance properties, GORE® Diffuse Reflector Product reduces manufacturing costs because it conforms easily to complex surfaces without costly machining. The material can be supplied with pressure-sensitive adhesive for easier installation. While most applications benefit from a thickness of 0.5 mm product, other thicknesses are also available.

THE SCIENCE OF GORE® DIFFUSE REFLECTOR PRODUCT

GORE® Diffuse Reflector Product is engineered with a proprietary membrane of expanded polytetrafluoroethylene (ePTFE), a microporous structure of multiple polymeric nodes interconnected by fibrils. This construction yields a high number of randomly oriented surfaces from which more light is bent and diffused. This structure produces a high degree of diffuse reflectance without absorbing a measurable amount of light energy.

TYPICAL APPLICATIONS

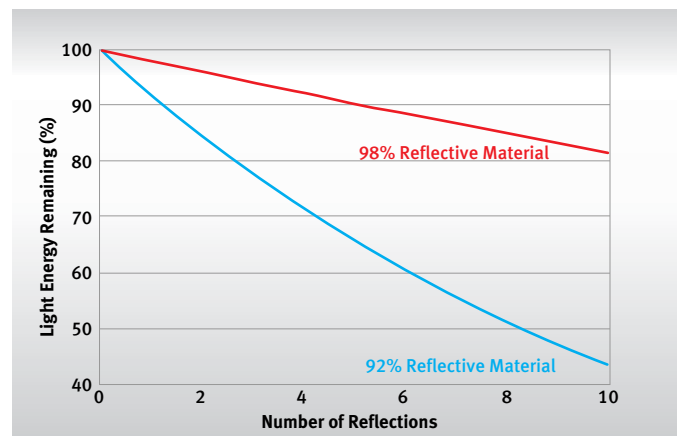
- Display backlighting
- Architectural lighting
- UV air purification
- UV cure chambers



Realize the Benefits of GORE® Diffuse Reflector Product

- Maximum light output, efficiency, and uniformity
- Improved performance with reflectance to near IR, visual light, and UV
- Increased product life with no discoloration
- Lower energy consumption
- Simplified maintenance

IMPACT OF REFLECTIVE SURFACE ON LIGHT ENERGY



Light energy and surface reflectance have a close relationship, with small changes in a surface's level of reflectivity having a substantial impact on the light energy available.



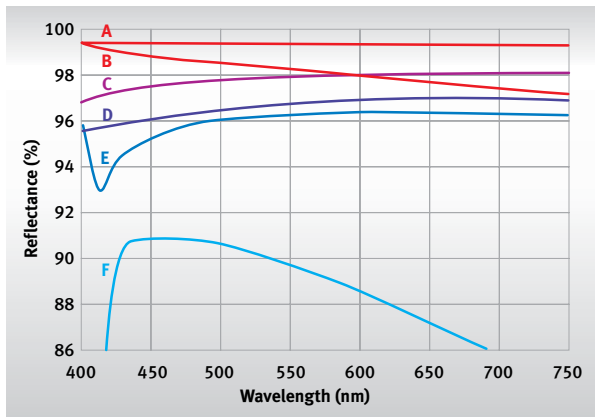
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PROPERTIES OF GORE® DIFFUSE REFLECTOR PRODUCT

Property	Value
Color	White
Typical density	0.6 g/cc
Reflectance	0.5 mm to 3.0 mm thick = > 97.4% to 99.2% reflective
Continuous operating temperature without adhesive	288°C
Continuous operating temperature with silicone adhesive	250°C
Continuous operating temperature with acrylic adhesive	170°C
Thermal conductivity	0.04 W/m ² K
Flammability	Nonflammable UL 94 V-0
Chemical resistance	Chemically inert
Fluorescence	Essentially none
Diffuseness	Highly lambertian
Dimensional shrinkage	< 2% at 60°C
Water resistance	Hydrophobic
Adhesive peel	55 oz/inch
UV stability	No color change or degradation
Dimensional tolerances	Thickness: ± 0.003" (0.076 mm) for 0.5 mm and 1 mm Laser Cut Parts: ± 0.020" Sheet Stock: Length = 30" ± 0.3" Width = 12" ± 0.3"

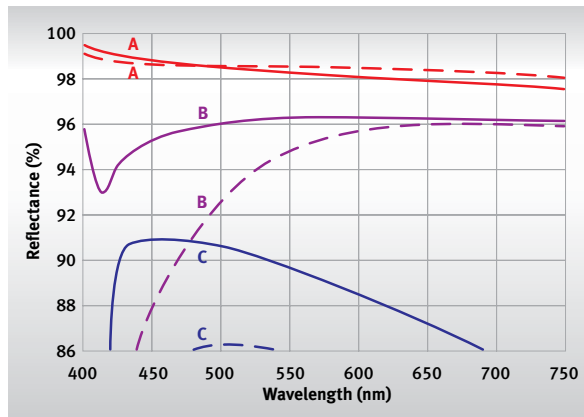
REFLECTANCE OF MATERIALS



- A** 3.0 mm GORE® Diffuse Reflector Product
- B** 0.5 mm GORE® Diffuse Reflector Product
- C** Granular PTFE
- D** Barium Sulfate
- E** Microporous Polyester
- F** Powder Coating

The typical effectiveness of materials varies depending on the material and the wavelength. GORE® Diffused Reflector Product has the highest performance, with its 3.0 mm material maintaining an effectiveness level greater than 99 percent and 0.5 mm material greater than 96 percent.

DEGRADATION FROM HEAT EXPOSURE



- A** — 0.5 mm GORE® Diffuse Reflector Product before exposure
- A** - - 0.5 mm GORE® Diffuse Reflector Product after exposure
- B** — Polyester before exposure
- B** - - Polyester after exposure
- C** — Powder coating before exposure
- C** - - Powder coating after exposure

GORE® Diffuse Reflector Product, polyester, and powder coating were exposed to 125°C for 60 days. GORE® Diffuse Reflector Product maintained a consistently high level of reflectance of more than 97 percent.

W. L. Gore & Associates

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