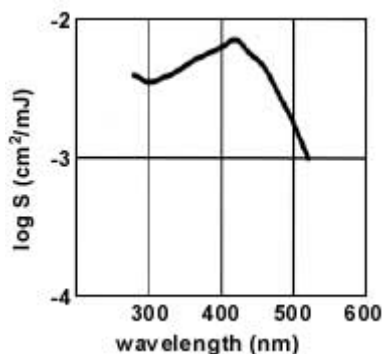


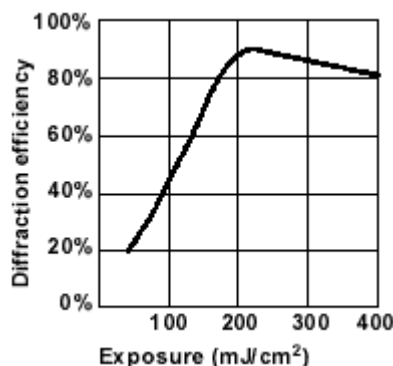
# PFG-04 Dichromated Gelatin Holographic Plates

The PFG-04 dichromated Gelatin holographic plates designed for phase reflection hologram recording with blue or green laser. They have a grainless emulsion with resolving power greater than 5000 lines/mm, spectral sensitivity range up to 514 nm (457 nm, 488 nm, 514 nm), and emulsion thickness 16-17  $\mu\text{m}$ . The sensitivity reaches  $100\text{mJ}/\text{cm}^2$  in the blue spectrum range and  $250\text{mJ}/\text{cm}^2$  in the green. Due to its grainless structure, this emulsion has high resolving power and a diffraction efficiency of  $>75\%$ ,

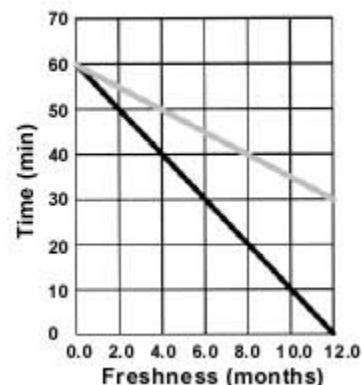
**Spectral sensitivity curve for PFG-04**



**Diffraction efficiency curve for PFG-04**



**Hardening time versus Storage Time**



The black curve refers to a storage temperature of 18 Degrees Celsius and grey curve to a storage temperature of 4 Degrees Celsius.

## PROCESSING

There are various methods for processing PFG-04. Below is one technique. For additional details, see Hans Bjelkhagan's book *SILVER HALIDE MATERIALS FOR HOLOGRAPHY AND THEIR PROCESSING* (Springer-Verlag, Second Ed. 1996). This book is available from Integraf.

- 1). Thermal Hardening after exposure ( $100^{\circ}\text{C}$ ) - Depending on the layer freshness.
- 2). Cooling to Room temperature.
- 3). Bathing in running filtered water - 3mins.
- 4). Bathing in 50% Isopropyl Alcohol solution for 2 - 3 mins.
- 5). Bathing in 75% Isopropyl Alcohol solution for 2 - 3 mins.
- 6). Bathing in 100% Isopropyl Alcohol solution for 2 - 3 mins.
- 7). Drying in a desiccator. ( $100^{\circ}\text{C}$ ) for 60 mins.
- 8). Emulsion layer preservation using optical anhydrous adhesive and protective glass.

The processing solution temperatures must not exceed  $20^{\circ}\text{C}$  for fresh layers. If your hologram appears "milky", decrease the processing solution temperature or prolong the thermal hardening period.

The material shelf life is about 12 months (average observed period) when stored with refrigeration and protection against humidity.

## Integraf LLC

Holography Supplies & Resources  
218 Main Street #674  
Kirkland, WA 98033 USA

Ph: (425) 821-0772  
Fx: (425) 821-0773  
Email: [info@integraf.com](mailto:info@integraf.com)  
Website: <http://www.integraf.com>