

Figura® F532

Product Description

Figura® F532 is a photopolymer film designed to record volume phase transmission and reflection holograms.

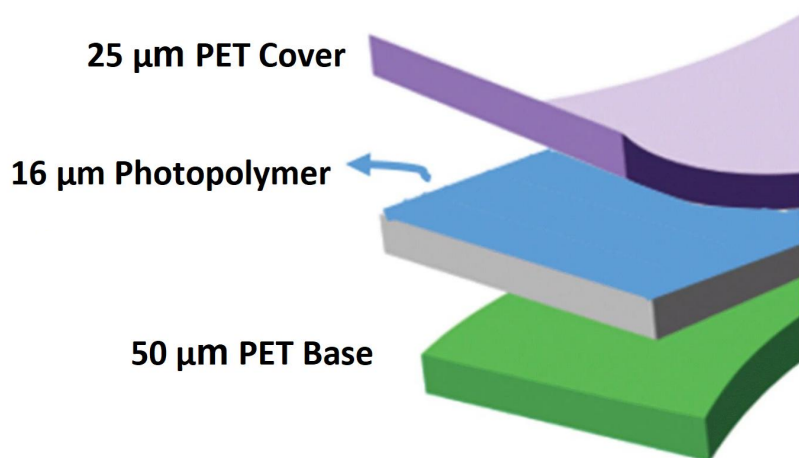
Figura® F532 is designed for use with any laser which emits blue to green light: Blue DPSS (450 nm), green DPSS (532 nm) or argon (514 nm).

The emulsion is coated on a 0.050 mm polyester base and has a laminated 0.025 or 0.050 mm polyester cover to protect the emulsion from environment and can be removed from the photopolymer for usage.

Handling

The Figura® F532 consists of a three layer stack of the substrate, photopolymer and the protective cover layer. For best results the emulsion cover must be removed from the photopolymer base before lamination to the glass.

Layer Structure



Storage

Store the Figura® F532 in a cool dry area, preferably at 20°C at approximately 50% relative humidity.

Figura® F532

Safelight Recommendation Exposure Use dark **RED** light from a 15 watt bulb, per example.

Figura® F532 has an exposure latitude of 100-200 mJ/cm², and users should find the optimum exposure based on the laser being used, and whether a transmission or reflection hologram is being made. It is necessary carry out a range test of exposures to find the best exposure for the exposing and processing heat system in use.

Method of use Under a dark room or using the safe-light first remove the protective cover film from cut pieces of Figura® F532.

Laminate with the side of the tacky photopolymer (which act as an adhesive) to the clean glass substrate with a soft roller and expose accordingly holographically with a green or blue laser.

After laser holographic exposure, and waiting time of at least 1 min, with the photopolymer layer still attached to the glass substrate, bleach with UV or visible white light with a dosage of 10 J/cm² with an intensity of 500 mW/cm² or more. The hologram is visible now for inspection.

Optional: remove the photopolymer film from the glass plate (the emulsion must be still attached to the PET base) and heat develop the emulsion in an oven at 115°C for 10 min. Depending on the oven type and configuration this time may vary. Apply an increasing time variation until a brighter image is obtained.

Optical properties	Property	Value	Unit of measurement
	Optical Transmittance	See the spectrum plot below	%
	Haze	<2	%
	Refraction index of photopolymer	1.50	-
	Diffraction efficiency	> 90	%
	Δn^1	> 0,06	(After heating)
	Thickness	17	μm (This batch)

Figura® F532

Transmission spectrum of recorded and unrecorded photopolymer film

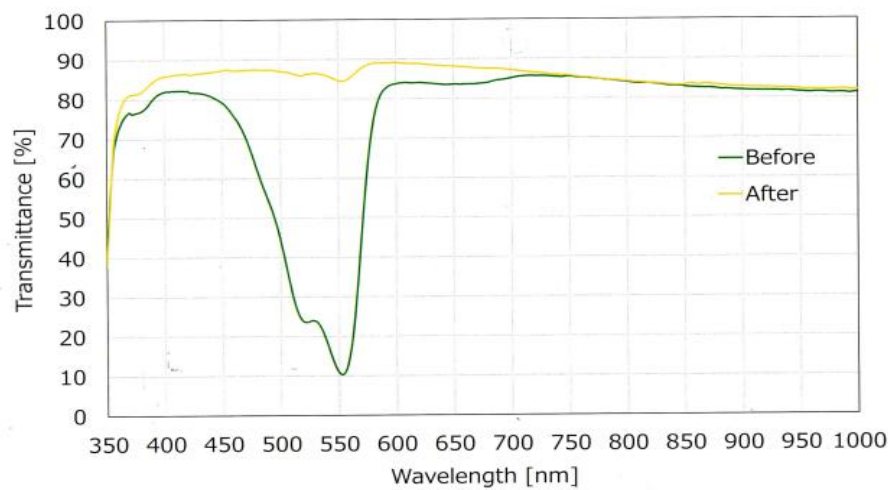


Fig 1. Transmission spectrum of Figura® F532 film before (green line) and after (yellow line) bleaching.