

## **HoloLam Plus® Overview**

CFC's HoloLam Plus (U.S. Patent No. 7,544,266 B2) is a full-face holographic pattern laminate for transaction cards (both secure and non-secure). This full face laminate allows CFC to register holographic imagery and artwork within the laminate, giving you the ability to design cards that not only have a unique appearance, but allow you to build in a variety of security features. This distinctive product is available in many different standard holographic diffraction patterns as well as custom designs.

HoloLam Plus offers a wide variety of features and combined effects that allows you to produce durable, longer lasting cards that are:

- Distinctive with stylish imagery to secure brand awareness
- Difficult for counterfeiters to reproduce

### **Markets Served**

CFC's HoloLam Plus is currently used on:

- Transaction cards (i.e., Visa, MasterCard, American Express, Discover, etc.)
- Non-Secure cards (i.e., retailer cards, casino cards, gift cards, etc.)
- Contact and contactless cards (special construction available for contactless/RFID cards)

<b>Feature</b>	<b>Benefit</b>
True holographic appearance	Avoids use of silk screened inks to achieve a quasi metallic appearance.
True metallic look	Full face laminated cards really look Gold, Silver or Platinum.
Process friendly with full sheet economics	Printing, laminating, punching using typical full sheet card manufacturing processes. Sheets are print receptive and can be printed using conventional offset, digital, silkscreen or UV cured ink. Optional topcoat to facilitate handling and print adhesion.
Quality cards for a variety of applications	Secure ISO/IEC 7810 compliant cards can be produced. Balanced card construction is designed to meet bowing and delamination specifications when manufactured properly.
Add holographic effects of depth, color and motion	Unique appearance from patterns sets your transaction card out from the pack. Custom holographic images increase card security.
Standard metallic and diffraction holographic foil patterns	Produce cards quickly without origination and tooling costs. New I-SCAN® technology eliminates shim lines.
Economically mass produce high security ID and license cards	Customized security holographic images can incorporate the latest holographic security – laminated into the card – full sheet (no hot stamping or single card issuance security overlay needed).
Durable, longer lasting cards	Polyester composite cards are stronger and more durable. Holograms are laminated into the card and are more scratch resistant than hot stamp holograms.
Personalization	Cards can be embossed on standard personalization equipment.
Construction	Wide variety of core stocks possible in split or mono core construction, and a variety of colors and thicknesses

### **Special Notes**

To prevent curl or bowing in finished cards, it is optimal that matching polyester films are applied to both sides of the card in order to obtain a balanced package. Even if only one side of the card design requires a metallized or diffraction surface, the opposite side should have a matching clear polyester sheet. Both front and back laminated sheets must be purchased in sets from CFC.



# CARD PRODUCTS

## HoloLam Plus® (U.S. Patent No. 7,544,266 B2) Overview

### Product Description

HoloLam Plus offers a wide variety of features and combined effects in laminated sheet form producing unique holographic, metalized, printed secure and non-secure transaction cards. This includes registered and/or non-registered images. HoloLam Plus is surface treated to readily accept printing and endures the lamination process to any standard card configuration.

### Product Construction:

	-- 2 mil (50 micron) cap sheet
	-- 13 mil (330 micron) HoloLam Plus sheet
	-- 13 mil (330 micron) HoloLam Plus sheet
	-- 2 mil (50 micron) cap sheet

\* HoloLam Plus layers are nominal dimensions.

### Physical Properties

Sheet Thickness	White PVC Core - 13 mil (330 µm) ±5% / Color PVC Core - 13 mil (330 µm) ±7% (± 5% available)
Sheet Size	24-1/4" (616mm) X 29" (737mm) – standard untrimmed sheet size
Appearance	No visible bubbles or wrinkles between core stock and HoloLam Plus after final lamination
Visible Blemishes	Minimal, as per CFC product specification sheet
Shim Lines	None within sheet edges unless otherwise specified

### Recommended Processing/Laminating Procedures:

Printing	Can be printed using standard or UV cured inks
Laminating Ranges	Temperature: 260 - 320°F / 127 - 160°C Heat cycle: 20 min. + 10% 200 PSI + 10% Cold cycle: 20 min. + 10% 300 PSI + 10%

\* Cycle time and conditions vary with cap sheet and laminating presses.

### Standard HoloLam Plus:

Product Number	Description/Pattern	Product Number	Description/Pattern
HLPC003	Clear printable	HLPC315	Gold rainbow
HLPC115	Silver rainbow	HLPC320	Bright gold (metallized)
HLPC120	Bright silver (metallized)		

### Made To Order HoloLam Plus Patterns:

Product Number	Description/Pattern	Product Number	Description/Pattern	Product Number	Description/Pattern
HLPC600	Aurora	HLPC604	Wave	HLPC608	Brushed
HLPC601	Laserdust	HLPC605	Cepheus	HLPC609	3D Rainbow
HLPC602	Bubbles	HLPC606	Shards	HLPC612	Apollo
HLPC603	Lotz of Dotz!	HLPC607	Champagne		

### Made To Order HoloLam Plus TopCoats:

Product Number	Description/Pattern	Product Number	Description/Pattern
HLPC930	Silver Rainbow with Top Coat	HLPC950	Clear with Top Coat
HLPC940	Silver with Top Coat		

\* Additional standard or custom (new origination) HoloLam Plus patterns available on request.

NOTE: Instructions given herein are approximate and adjustment may be required in adapting materials for use in any specific application. The data presented is a result of careful and extensive research. However, since the actual conditions under which the materials may be used are beyond our control, no warranty of any kind, expressed or implied, concerning the use of the products is made. Date: 08/25/10.

