



TECH BULLETIN

FREQUENTLY ASKED QUESTIONS about
Vikuiti™ Clear Card Filter

PURPOSE OF BULLETIN:

To address frequently asked questions when new to Vikuiti™ Clear Card Filter.

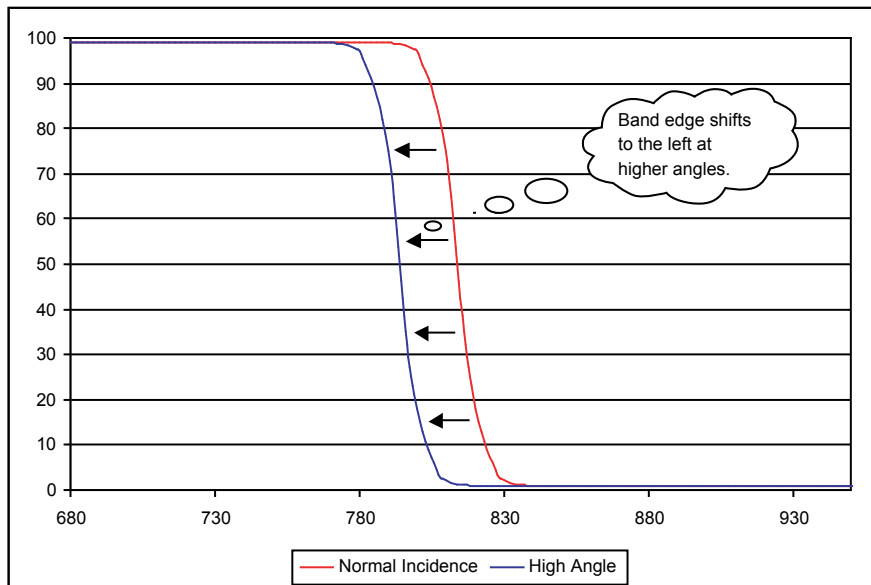
VIKUITI™ CLEAR CARD FILTER FAQ

Q: *Why do I see an orange peel or textured look when laminated into a card form?*

A: Due to the differences in thermal expansion of the materials a slight textured appearance is sometimes observed in finished cards. This is inherent to pressing films of different material properties and is often observed in PET foils.

Q: *Why does the card have a color (cyan or red) when I look at it at high angles?*

A: Interference filters have what is referred to as a band edge; this is shown on the plot below.



When viewed at higher angles the band edge moves toward the left (toward lower wavelengths). This means that when reflected light is viewed from a high angle the card will have a slightly red appearance. When transmitted light is viewed from a high angle it will have a cyan color to it (from the absence of some red light).

Q: *Can I place the Vikuiti clear card filter in the surface of my card construction?*

A: Although the Vikuiti clear card filter will perform anywhere it is placed in the card construction it is recommended that it be placed in the center or on both sides to balance the construction. A balanced construction will minimize the warping effects caused by material property differences of the layers in the construction.

Q: *When I personalize the card the embossed characters have an iridescent look to them, why does this happen?*

A: The act of embossing causes localized stretching or thinning of the Vikuiti clear card filter. This thinning causes the band edge to shift toward the left (similar to viewing at high angles), which causes the iridescent look of the characters.

Q: *Why does my card fluoresce when exposed to a black light?*

A: One of the materials used in the Vikuiti clear card filter is known to fluoresce when exposed to ultraviolet light.

Q: *Can I cut or punch a section of the filter out to embed electronics?*

A: The Vikuiti clear card filter can be cut or punched with methods similar to those typically used to cut or punch PVC.

Q: *What are the licensing requirements for the Clear Card Filter?*

A: Each manufacturer may require a license to the Clear Card Filter technology from American Express Travel Related Services Company, Inc. The licensing details and current term sheet can be requested from the following contact:

Emmett J. Murtha
Fairfield Resources International, Inc.
1055 Washington Boulevard
Stamford, CT 06901
Tel: 203-326-4951
Fax: 203-326-4931
Murtha@frlicense.com

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3M will make commercially reasonable efforts to give notice of the Buyer Patents identified on Exhibit B to any 3M customer buying IR Filters that has indicated to 3M that it will use those IR Filters for financial transaction card(s). 3M hereby notifies you of the following patents: US Patent No. 60/153,112; US Patent No. 60/160,519; US Patent No. 60/167,405; US Patent No. 60/171,689; US Patent No. US 2002/0130186; US Patent No. US 2002/0145049; US Patent No. US 2003/0141373; US Patent No. D436,620; US Patent No. D438,562; US Patent No. D438,563; US Patent No. D442,222; US Patent No. D442,627; US Patent No. D442,628; US Patent No. D442,629; US Patent No. D443,298; US Patent No. D447,515; US Patent No. D449,336; US Patent No. 6,581,839; PCT Patent No. WO 01/18745.



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