



TECH BULLETIN

INTERLAYER ADHESION of
Vikuiti™ Clear Card Filter

PURPOSE OF BULLETIN:

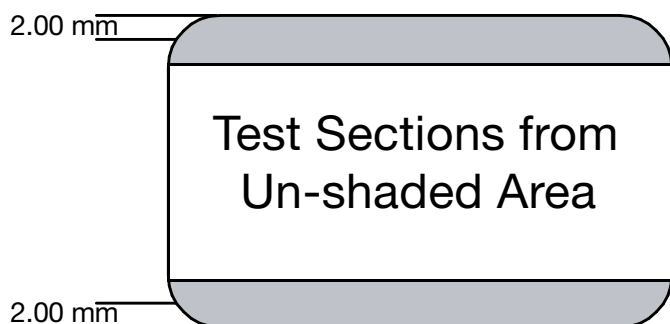
The purpose of this test is to measure the adhesion between card layers for cards made using the Vikuiti™ Clear Card Filter to determine card robustness with respect to embossing personalization data.

TEST APPARATUS:

- A sharp cutting utensil.
- A clamping mechanism or adhesive filament tape for supporting card layer removal from card body.
- Instron® Tester equipped with chart or data recorder and gripping device.

PROCEDURE:

- Pre-condition the sample card in an environment at a temperature of $23^{\circ}\text{C}\pm 3^{\circ}\text{C}$ ($73^{\circ}\text{F}\pm 5^{\circ}\text{F}$) and a relative humidity of 40 -60% before testing and conduct the test in this environment.
- Calibrate the peel test apparatus following the manufacturer's instructions.
- Score through top layers of card or cut the card in $10\text{ mm}\pm 0,1\text{ mm}$ ($0.39\text{ in}\pm 0.04\text{ in}$) sections of width in un-shaded area in diagram below.



- From the card sample, cut the layer back from the core approximately 10 mm (0.4 in) and test using procedure outlined in ISO/IEC 7810-2003(E).

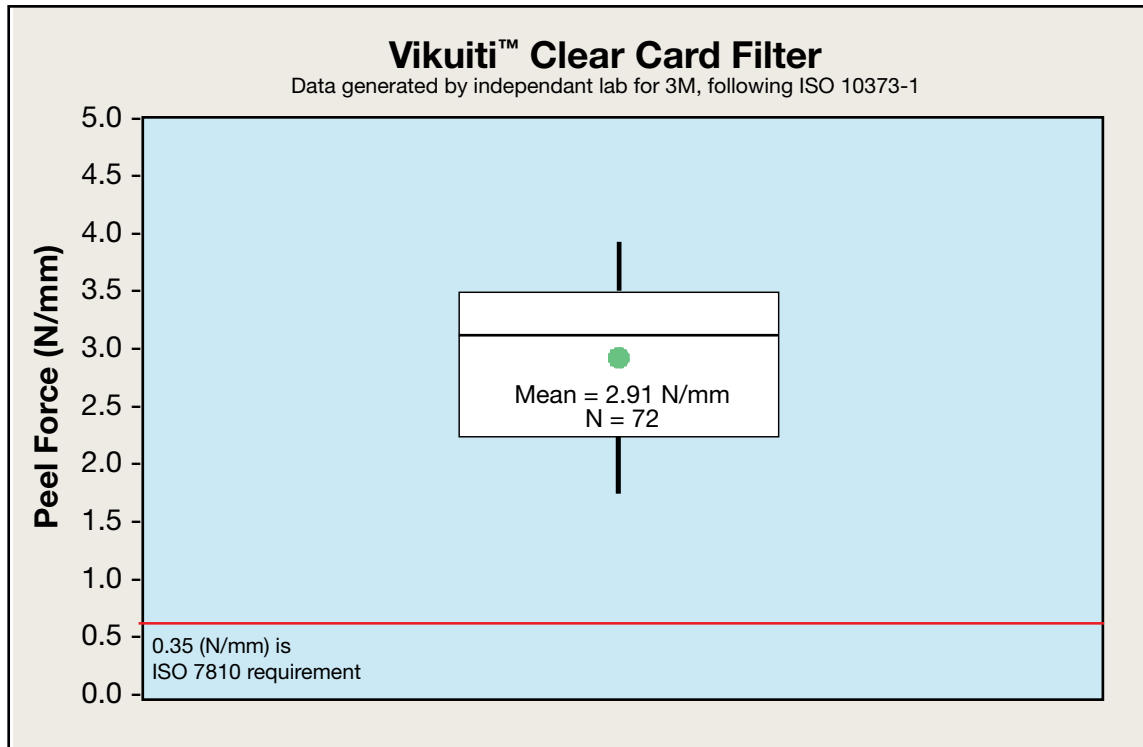
NOTE: Drawing not to scale and dimensions are in millimeters.

VIKUITI™ CLEAR CARD FILTER TYPICAL PERFORMANCE:

- Cards made using the Vikuiti clear card filter typically demonstrate a peel strength greater than 2.25 N/mm (12.85 lbs/in).
- Statistical performance metrics:

Samples Tested	% of Attempts Passing ISO	% Removed From Backing Plate	Overall Average (N/mm)	Min (N/mm)
72 (18 cards, 4 samples per card)	100%	54%	2.91	1.72

Data generated by independent lab for 3M, following ISO 10373-1



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