



June 1, 2011

Michael Budd
Global Envelope Marketing Manager
Multi-Plastics Inc.

Subject: EWF 40LS Envelope Window Film Testing

Twenty-seven envelopes were submitted for testing of the window film used in their manufacture. The window material met all USPS recommendations for this material.

Sample ID

The window material was identified as "EWF 40LS" by Multi-Plastics, Inc. The envelopes were white, wove 9 1/2" x 4 1/4" flap seal business envelopes. Intelligent mail barcoded inserts printed with black text were enclosed in the envelopes.

Methodology

The submitted materials were inspected for print reflectance of the included inserts (both with and without the window film in place,) correlated haze of the window material, and gloss of the window material.

Reflectance was measured according to ASTM test method D5626 "USPS Postal Service Optical Measurements for Small Areas" modified for use with the Envelope Reflectance Meter - 3. Correlated Haze was measured according to ASTM test method D "Haze and Luminous Transmittance of Transparent Plastics", while gloss was measured according to ASTM test method D 523 "Standard Test Method for Specular Gloss." Gloss was measured at 45 degrees in addition to the angles indicated in the test method to reproduce the illumination angle used in USPS sorting machinery.

Results

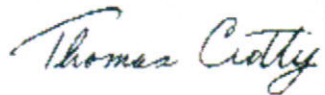
Test	Result	USPS Limits
Correlated Haze	1	Less than 70
Print Reflectance Difference (with window film)	69	30 minimum
Print Reflectance Difference (w/o window film)	79	30 minimum
Gloss at 20°/60°/45°	212 / 187 / 133	No established criteria

Note: The indicated limit for correlated haze is a recommended value. The indicated limit for print reflectance difference is a requirement.

Print reflectance difference is primarily a function of the reflectance values of the printing and background substrate. The values reported above are provided as a general reference for possible impact of the window film on the reflectance values of the underlying printing.

USPS does not currently have established limits for specular gloss. The values reported above are for information only.

If you have any questions or require additional testing, please contact John Taylor at 703-280-7302.

A handwritten signature in cursive script that reads "Thomas Crotty".

Thomas Crotty
Laboratory Manager
Test, Evaluation and Quality