Adopted by IWFA Board of Directors
December 2017

EXHIBIT A
IWFA POLICIES & PROCEDURES

Endorsed Testing Standards and Methods

The International Window Film Association's ("IWFA's") Board of Directors upon recommendation by the IWFA's Technical Committee, endorses the testing standards identified below (the "Endorsed Standards") as credible and reliable testing methods. Both the IWFA Board and the IWFA's Technical Committee have found the standard setting organizations that promulgated these Endorsed Standards to be reputable and that the Endorsed Standards are commonly used and accepted as credible and reliable within the window film industry. The IWFA's European chapter ("EWFA") also recognizes these endorsed testing standards and methods.

These Endorsed Testing Standards and Methods are intended to facilitate members' compliance with the IWFA Advertising Policy (http://www.iwfa.com/professional/MemberServices/Policies/IWFAAdvertisingPolicy.aspx). As discussed further below, any advertising claims regarding a window film product's performance that a member makes based on a test set out in an Endorsed Standard will be deemed credible and not misleading under the IWFA's Advertising Policy, provided the testing was done in a reasonable and legitimate manner. Product Performance claims based on testing methods other than those found in an Endorsed Standard will require substantiation by the member before being deemed credible and not misleading for purposes of the Advertising Policy.

These Endorsed Standards shall not take effect until:

- January 1, 2018 for those advertising claims premised on any testing methodology, including Safety or Security testing methods, and appearing in any digital media;
- July 1, 2018 for all advertising claims premised on a testing method and appearing in any print media.

The obligation set out in the IWFA Advertising Policy (http://www.iwfa.com/professional/MemberServices/Policies/IWFAAdvertisingPolicy.aspx) to substantiate any advertising claim based on testing methods not endorsed by the IWFA Board shall not apply to any advertising claim unless and until the Endorsed Standards for the relevant media and the particular testing methodology have taken effect.

All members, including members of IWFA chapters outside the United States, such as the European Window Film Association ("EWFA"), are subject to all Policies approved and adopted by the IWFA Board of Directors. As such, the IWFA Board has updated and expanded this Appendix A to identify reputable standards promulgated for use in European markets in addition to those promulgated for use in North American markets.

Any advertising and product claim based on legitimate testing conducted in accordance with any Endorsed Standard will be deemed credible and not misleading for purposes of the IWFA Advertising Policy, regardless of whether the advertising or product claim is made in the same

geographic region in which the particular Endorsed Standard was promulgated. For example, advertising or product claims published in North America will be deemed credible and not misleading even if based on valid testing conduct in accordance with a European Endorsed Standard. Nevertheless, products sold in a particular geographic region often must comply with industry standards promulgated in and for that particular region, *e.g.,* to comply with applicable building codes. Accordingly, companies should consider using Endorsed Standards that were promulgated in and for the particular geographic region in which the advertising or product claim will be published.

General Guidelines
Applying the Endorsed Standards Within Framework of IWFA Advertising Policy

These Endorsed Standards, including the testing methods set out in the Endorsed Standards, are incorporated by reference into the IWFA Advertising Policy. For all Endorsed Standards, the most recent version of the standard, as adopted and approved by the relevant standard setting organization responsible for promulgating and modifying the standard shall be considered the applicable and endorsed version of each Endorsed Standard.

Any product or advertising claims supported by legitimate and replicable tests using the testing methods set out in the Endorsed Standards will be deemed to comply with the IWFA's Advertising Policy against misleading advertising. Any product or advertising claims purportedly supported by other testing methods will be deemed to violate such Policy, unless the party making the claim can substantiate by showing the particular testing method to be reputable and performed in a reliable manner. For product or advertising claims to be considered fairly and credibly supported by testing conducted in accordance with the Endorsed Standards and therefore considered compliant with IWFA's Advertising Policy, the party making the particular product or advertising claims must adhere to the following guidelines:

- With regard to any testing with respect to which film is applied to glass, the glass thickness and type must be disclosed in the product or advertising claim.
- Testing results incorporated into the product or advertising claim must be reported in the units specified in the test method or an equivalent unit conversion.
- The testing that supports that particular product or advertising claim must have been conducted on the product that actually is being sold and which is the focus of the particular claim. For example, the tensile strength of a product must be the actual window film, not just the polyester used to produce the window film.
- If a pass/fail criteria is written into the relevant standard, the product must achieve a pass to be used as substantiation of a claim. If the standard lists several levels of acceptance, the level achieved must be reported as well. Statements like "tested to XXXX test method" under circumstances in which the product does not pass the stated test are not acceptable.
- If making a comparison claim about an installed window film compared to a window without the product, testing must be conducted on both the window without film and the installed film and both test reports should be made available to the public from a readily accessible source.

- Any safety claims must be backed up with a recognized standard test method from a recognized standard setting organization and that test method and results must be made available to the public from a readily accessible source.

Substantiation of claims made using glass types rarely found in typical buildings or homes in the geographic area in which a company publishes a particular claim will be considered misleading. Violating IWFA's Advertising Policy could result in suspension or termination of a member's membership and denial of membership application for those that engage in practices inconsistent with the Policy prior to applying for membership.

Endorsed Industry Testing Standards

The IWFA endorses the use of the following test methods conducted in accordance with the guidelines set out below, although other regional test methods may be applicable and acceptable in various countries or regions:

Architectural Guidelines

- Glass in Building. Determination of luminous and solar characteristics of glazing -- ANSI/NFRC 200 – 2014 or EN 410 –
  - Specified glass is 3 mm clear, solar transmission>82 and visible light transmission>89, center of glass SHGC .86 plus or minus .02. Report on 3 mm or 6 mm (EN 410 reported on 4 mm).
  - Additional glass type and thickness performance values to be simulated using Optics 6 (or latest version) Software from LBNL or appropriate EN 410 certified calculation program. Glass thickness and type to be referenced with all published values.
  - Performance results measured using Window Software from LBNL.
  - This standard is used to measure or calculate the following COG* performance values.
    - VLT – Visible light transmission.
    - VLR – Visible light reflectance (interior and exterior).
    - SHGC – Solar Heat Gain Coefficient.
    - TSER – Total Solar Energy Rejected = 1 – SHGC or g-value. The value is expressed as a percent.
    - UV Blockage, Protection or rejection = 100 – UV transmission (TUV value from LBNL Window software or EN 410 calculation. UV range is 300-380 nm if using the ANSI/NFRC standard or 280-380 nm if using the EN standard. The value is expressed as a percent.
    - Solar Energy Absorbed.
    - Solar Energy Reflected.
    - Solar Energy Transmitted.

    - Note: when reporting performance calculations made pursuant to EN 410, results should be described using the characteristic names specified in that standard (for example, g-value instead of SHGC).
  - This standard may also be used to calculate
    - LSG – Light-to-solar heat gain ratio where LSG = VLT/SHGC or g-value.
    - Glare reduction calculated from percent difference in VLT for same glass type with and without film.
    - Summer Heat Gain Reduction (calculated from percent reduction in glass SHGC, or g-value, with and without film).
    - Glass in building. Determination of thermal transmittance (U value) – Calculation Method -- ANSI/NFRC 100 – 2014 or EN 673.
  - Same as ANSI/NFRC 200 or EN 410 for glass type and thickness.
  - This standard is used to measure or calculate the following recommended COG* performance value.
    - U Value (winter) if using the ANSI/NFRC standard or 'U value' if using EN standard (because the EN standard does not distinguish between winter and summer values)
  - This standard may also be used to measure or calculate
    - Emissivity or EN 12898
    - Winter Heat Loss Reduction.
- COG – Center of Glass. NFRC rated products are labeled using whole window ratings based on a default frame.
- Product performance claims based on the following European standards will be deemed credible as well:
    - EN 15752-1 Glass in building - Adhesive backed polymeric film - Part 1: Definitions and requirements
    - EN 15755-1 Glass in building - Adhesive backed polymeric filmed glass - Part 1: Definitions and requirements

<u>Automotive Guidelines</u>

- ANSI/NFRC 200 – 2014 E1A0
  - Specified glass is 3 mm clear, solar transmission > 82 and visible light transmission >89, center of glass SHGC .86 plus or minus .02. Direct measurement using 6 mm glass is allowed (SHGC .82 plus or minus .02).
  - Glass thickness and type to be referenced with all published values. Preferred Glass thickness for reporting is 6 mm clear.
  - Performance results measured using Window Software from LBNL.
  - This standard is used to measure or calculate the following COG*performance values.
    - VLT – Visible Light Transmission.
    - VLR – Visible Light Reflectance (exterior).

    - TSER – Total Solar Energy Rejected (1 – SHGC), expressed as a percent.
    - UV Blockage or Protection – (100 – UV transmission), expressed as a percentage, UV transmission taken from LBNL WINDOW TUV value, measured between 300 – 380 nm.
- This standard may also be used to measure or calculate the following COG* performance values.
    - VLR – Visible Light Reflectance (interior).
    - Glare reduction (must be relative to same glass type and thickness as measured) calculated from percent difference in VLT for glass type with and without film.
    - Solar Energy Absorbed.
    - Solar Energy Reflected.
    - Solar Energy Transmitted.
    - SHGC – Solar Heat Gain Coefficient.

Safety and Security General Guidelines

Because safety and security films often deal with life and personal safety issues it is particularly important that claims be substantiated using testing methods from recognized and reputable standard-setting organizations. Safety standards often have several levels of acceptance. To comply with IWFA Advertising Policy, safety claims must be substantiated by identifying the level of standard achieved, not the level tested.

The IWFA Board of Directors, upon recommendation from the IWFA Technical Committee, endorse the following test standards, from recognized and reputable national or international standard-setting organizations, as Endorsed Standards in the particular areas and categories references below. As such, safety clams that relate to the particular subject matter referenced below and which are based on testing performed in accordance with the specified standard will be presumed to comply with the IWFA Advertising Policy, provided such testing is performed in a reasonable and replicable manner and consistent with the guidelines set out in this Exhibit A to the IWFA Policies and Procedures.

Safety & Security Standards and Guidelines

Other test standards from individual countries may apply in specific countries or regions. The IWFA endorse the use of the following test methods conducted in accordance with the guidelines set out below:

- Physical properties[1]
    - EN 15752, Section 6

[1]Physical properties may not be indicative of films performance under various natural or human caused events. Performance tests may be necessary or desirable to prevent false or misleading performance claims.

- Total thickness of product without liner.

– Polyester Structural Thickness
  - Report total thickness of polyester layers used in the product.
– ASTM D882
  - Tensile Strength – Report both MD and TD separately and report must list the direction for each.
  - Break Strength – Report both MD and TD separately and report must list the direction for each.
  - Elongation at Break - Report both MD and TD separately and report must list the direction for each.
– ASTM D1004 – Tear Strength
  - Peak load –Report MD and TD separately.
  - Elongation.
– ASTM D1044-D, 100 cycles, 500 g, vacuum on, wheel type – CS10F.
  - Abrasion resistance expressed as change in haze.
– ASTM E84 Flammability
  - Flame Spread Index.
  - Smoke developed Index.
– ASTM D1929
  - Flame Ignition.
– European fire and spread of flame:
  - EN45545-1 Railway applications. Fire protection on railway vehicles. General
  - EN 13501-1 Fire classification of construction products and building elements. Classification using test data from reaction to fire tests
– ASTM D3330
  - Peel strength at 180 degrees, report in lbs/in. Dry or wet lamination to glass, cure time and conditions as specified by the manufacturer. Test 1" strip cut from larger sample.

    Peel strength accuracy is diminished as film thickness increases. Acceptable to report peel strength on 2 or 4 mil product only as long as thickness is disclosed.

Infrared Rejection Values

Often Infrared (IR) rejection values are reported in a way that may mislead consumers. In response to such non-standard publication of solar IR rejection specifications, the IWFA has defined Infrared Energy Rejection ("IRER") as the value to be used to clearly state IR rejection potential of a product to consumers.

Infrared Energy Rejection ("IRER") is technically defined as a measurement of the percent of solar infrared energy rejection over the wavelength range from 780-2500 nanometers.

Infrared Energy Rejection (IRER) is a measurement of infrared rejection over the IR range of 780-2500 nanometers. IRER takes into account that a portion of absorbed IR energy will be

reradiated into a car, home or building. IRER is similar to Total Solar Energy Rejection (TSER), but only involves the solar infrared range. Again, the IWFA defined IRER in response to non-standard publication of solar IR rejection specifications in the window film industry.

Calculating IRER values in the manner articulated below (the "IRER Endorsed Testing Method") will be deemed to comply with IWFA's Advertising Policy. Product or advertising claims based on other methods for calculating IRER values will be deemed to violate these Policies, unless the party making the claim can adequately substantiate both the methodology and the actual calculated values.

Given that IR rejection claims have a significant propensity to mislead consumers, the IWFA Technical Committee developed a reasonable, credible, and non-misleading way to calculate IRER values by using values derived from testing methods set out in other widely accepted and reputable industry testing methods.

The IWFA Board endorses the following test method for calculating IRER values:

- Infrared Energy Rejection: (1- SHGC780-2500 nm) expressed as a percent
- Calculated using NFRC 200 spectral data for 780-2500 nm only and LBNL Window program.
- Other IR rejection values used in the industry may use either an average IR rejection or may be measured in a very narrow wavelength range. While these values may be accurately calculated they are often misleading to the uneducated consumer.
- For the purposes of education, these values may be printed in association with the IRER value.

Fitness for Use testing

Certain product or advertising claims about window film's fitness for use in various circumstances, such as with respect to possible protection against various natural disasters or trauma applied in or around the vicinity of the applied film, can mislead consumers. As with the standards identified above, the IWFA Board will consider statements made consistent with the tests and guidelines set out below to comply with the IWFA Advertising Policy. Other claims about window film's fitness for the uses and conditions addressed below and which are either inconsistent or conflict with the testing standards or guidelines set out below will be presumed to violate the IWFA Advertising Policy, unless the party making the claim can substantiate the claim by showing that it is supported by a testing method developed by a reputable standard-setting or similar organization and the testing that supports the particular claim was performed in a reasonable, reliable, and replicable manner.

The IWFA Board, upon recommendation from the IWFA Technical Committee, endorses the following industry standard testing methods for the particular circumstance or condition and the following guidelines regarding claims relating to window film's fitness for the following uses:

unless the party making the claim can substantiate by showing the particular testing method to be reputable and performed in a reliable manner

- Impact resistance: ANSI Z97 and EN 12600.
- Blast: ISO 16934, shock tube test. ISO 16933 open arena. ASTM F1642 (describes how the test is conducted) and F2912 (provides the performance criteria for acceptance); GSA TS01-2003.
- Earthquake – JIS A 5759
- Forced Entry: EN 356.
- Ballistic: attached Statements on Protection from and against Ballistics from the International Window Film Association.
- Windstorm: attached Statements on Storm or Hurricane Protection from the International Window Film Association.
- Spontaneous Failure: No current test method.