ULC Standards Report
for CACEE

June 2015

Standards are grouped by ULC Committee and Standards Specialist or Program Manager with contact information provided for each.

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S700A Committee – Thermal Insulation

CAN/ULC-S701-11, Standard for Thermal Insulation, Polystyrene, Boards and Pipe Covering.

This was published as a Fourth Edition National Standard of Canada in March 2011. The LTTR requirements were harmonized with those of CAN/ULC-S704 and CAN/ULC-S705.1. Republication due by March, 2016. This Standard is referenced in the NBCC.

CAN/ULC-S702-14, Standard for Mineral Fibre Thermal Insulation for Buildings.

This was published as a Third Edition National Standard of Canada in November, 2014. Republication due by November, 2019. This Standard is referenced in the NBCC.

ULC-S702.2-10, Mineral Fibre Thermal Insulation for Buildings, Part 2: Installation.

This was published as a Second Edition ULC Standard in February, 2010. Public Review for the reaffirmation of the Second Edition runs between January 12 and March, 15, 2015. Publication is expected during the Summer of 2015.

CAN/ULC-S703-09, Standard for Cellulose Fibre Insulation (CFI) for Buildings.

This was published as a Second Edition National Standard of Canada in November, 2009. The Committee approved the Reaffirmation of the Second Edition for publication at their meeting of November, 2014. Publication is expected during the Spring of 2015. This Standard is referenced in the NBCC.

CAN/ULC-S704-11, Standard for Thermal Insulation, Polyurethane and Polyisocyanurate Boards, Faced.

This was published as a Third Edition National Standard in March 2011. The LTTR requirements were harmonized with those of CAN/ULC-S701 and CAN/ULC-S705.1. Republication due by March, 2016. This Standard is referenced in the NBCC.

CAN/ULC-S705.1-15, Standard for Thermal Insulation - Medium Density Closed Cell Spray Applied Rigid Polyurethane Foam – Material Specification.

This was published as a Third Edition National Standard in February 2015. The LTTR requirements were harmonized with those of CAN/ULC-S701 and CAN/ULC-S705.1. Republication due by February, 2020. This Standard is referenced in the NBCC.

CAN/ULC-S705.2-05, Standard for Thermal Insulation - Medium Density Closed Cell Spray Applied Rigid Polyurethane Foam – Application.

This Standard is currently published as a Second Edition National Standard. It is expected that development work on the Third edition of this Standard will now resume given, the affirmative SCC response to the Exception Request for CAN/ULC-S705.1-15. This Standard is referenced in the NBCC.

CAN/ULC-S706-09, Standard for Wood Fibre Thermal Insulation for Buildings.

This was published as a Second Edition National Standard of Canada in October, 2009. An Errata was published in September, 2012. A ballot was held during 2014 and it is expected that this will be reviewed and approved by late 2015. This Standard is referenced in the NBCC.

CAN/ULC-S710.1, -S711.1, Standard for Thermal Insulation – Bead-Applied One/Two Component Polyurethane Air Sealant Foam - Material Specification.

These two Standards were published as Second Edition National Standards in December, 2011. Republication due by December, 2016. CAN/ULC-S710.1 and CAN/ULC-S711.1 will be listed in the NBCC for the first time in the 2015 Edition.

CAN/ULC-S710.2, -S711.2, Standard for Thermal Insulation – Bead-Applied One/Two Component Polyurethane Air Sealant Foam - Installation.

These two Standards were published as Second Edition National Standards in December, 2011. As they will not be listed in the NBCC 2015 edition, the Task Group proposed them for withdrawal, and the corresponding ballots will close on June 06, 2015.

CAN/ULC-S712.1-10, Standard for Thermal Insulation - Light Density, Open Cell Spray Applied Semi-Rigid Polyurethane Foam – Material Specification.

This was published as a First Edition National Standard of Canada in November, 2010. An application to SCC for approval of a Deviation Request for Normative Administrative Requirements was approved during February, 2015, and a ballot on the Second Edition closed during April, 2015. It is expected that this will be reviewed and approved by the Committee during their November, 2015 meeting.

CAN/ULC-S712.1-10, Standard for Thermal Insulation - Light Density, Open Cell Spray Applied Semi-Rigid Polyurethane Foam – Material Specification.

This was published as a First Edition National Standard of Canada in November, 2010. An application to SCC for approval of a Deviation Request for Normative Administrative Requirements was approved during February, 2015, and a ballot on the Second Edition closed during April, 2015. It is expected that this will be reviewed and approved by the Committee during their November, 2015 meeting.

CAN/ULC-S712.2, Standard for Thermal Insulation - Light Density, Open Cell Spray Applied Semi-Rigid Polyurethane Foam – Installation.

An application to SCC for approval of a Deviation Request for Normative Administrative Requirements was approved during February, 2015, and a ballot on the First Edition closed during May, 2015. It is expected that this will be reviewed and approved by the Committee during their November, 2015 meeting.

CAN/ULC-S716.1-12, Standard for Exterior Insulation and Finish Systems (EIFS) – Materials and Systems.

This was published as a Third Edition National Standard of Canada in December, 2012. Republication due by December, 2017. The Standard will be listed in the NBCC for the first time in the 2015 Edition.

CAN/ULC-S716.2-12, Standard for Exterior Insulation and Finish Systems (EIFS) – Installation.

This was published as a Second Edition National Standard of Canada in December, 2012. Republication due by December, 2017. The Standard will be listed in an Appendix to the NBCC for the first time in the 2015 Edition.

CAN/ULC-S716.3-12, Standard for Exterior Insulation and Finish Systems (EIFS) – Design Practices Guide.

This was published as a Second Edition National Standard of Canada in December, 2012. Republication due by December, 2017. The Standard will be listed in an Appendix to the NBCC for the first time in the 2015 Edition.

CAN/ULC-S717.1-12, Standard for Flat Wall Insulating Concrete Form (ICF) Units.

This was published as a First Edition National Standard of Canada in February, 2012. Republication due by February, 2017.

ULC-S718-13, Site Quality Assurance Program for Spray Polyurethane Foam.

This was published as a First Edition ULC Standard in February, 2013. Republication due by February, 2018.

CAN/ULC-S770-15, Standard Test Method for Determination of Long-Term Thermal Resistance of Closed-Cell Thermal Insulating Foams

This was published as a Fourth Edition National Standard in February 2015. Republication due by February, 2020. This Standard is referenced in the NBCC.

CAN/ULC-S773-09, Standard for Thermal Insulation Terminology.

This was published as a Second Edition National Standard of Canada in July, 2009. A ballot on the Third Edition was held during February and March, 2015. The draft was approved for publication by the Committee during their May meeting, and will be published during the summer of 2015.

CAN/ULC-S774-09, Standard Laboratory Guide for the Determination of Volatile Organic Compound Emissions from Polyurethane Foam

The VOC emissions test method described in this Standard is cited by several spray polyurethane foam Standards. The reaffirmation of the Second Edition National Standard of Canada was published in February, 2014. Republication due by February, 2019.

For additional information about these preceding S700A standards and current Committee work, please contact:

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S700B Committee – Air Barrier Materials and Systems

CAN/ULC-S741-08, Standard for Air Barrier Materials - Specification.

This was published as a First Edition National Standard of Canada in December, 2008. An Interpretation Standards Bulletin clarifying the UV Exposure requirements for the conditioning of test specimens was issued in April of 2011. Republication is overdue. This Standard is referenced in the NBCC.

CAN/ULC-S742-11, Standard for Air Barrier Assemblies - Specification.

This was published as a First Edition National Standard of Canada in February, 2011. Republication due by February, 2016. This Standard is referenced in the NECB.

For additional information about these preceding S700B standards and current Committee work, please contact:

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Performance Testing for Building Materials and the Building Envelope

The building envelope is designed to resist varied and severe weather conditions – rain, snow, extreme temperatures, rays from the sun, and high velocity winds from hurricanes and tornados. Architects, contractors and building consultants strive to design and build windows, doors, curtain walls and exterior wall systems to provide air and water resistance, as well as to meet other requirements for fire safety, durability, cost and energy-efficiency.

UL provides performance testing to determine the rate of air leakage, water penetration, structural performance, and impact for the building envelope. Testing can be conducted in the laboratory, in the field and in curtain wall mock-ups. The test data enables architects, designers, contractors and building consultants to evaluate the performance and suitability of building materials and systems for their design and construction needs. Additionally, the data helps provide assurance to manufacturers that their products will meet building design, building code, and product certification requirements.

The UL Mark provides added value, differentiating your products and helping you access your target markets. Architects, contractors and building consultants trust the UL Mark to provide them with the confidence that building materials meet requirements they need.

UL testing and certification services include:

- Impact and cycling (hurricane and tornado) testing to meet the requirements of the Florida Building Code, Miami Dade, Texas Department of Insurance and locations where windstorm requirements are regulated
- Air and water resistance testing of exterior wall systems and components to meet the requirements of architects and specifiers, as well as building code regulations
- Air and water field testing of windows, curtain walls and storefronts for performance of air infiltration resistance and water penetration resistance at building sites to assess compliance with industry standards and specifications
- Air, water and structural mock-up testing to evaluate air and water resistance and structural integrity of curtain walls in order to to validate design, workmanship and material selection

Applicable standards include:

- AAMA/WDMA/CSA101/IS.2/A440
- ASTM E2357
- ASTM E283
- ASTM E331
- ASTM E547
- ASTM E330
- ASTM E1886
- ASTM E1996
- FEMA 320
- FEMA 361
- ICC 500
- AAMA 910
- AAMA 508
- AAMA 502
- AAMA 503
- ASTM E783
- ASTM E1105
- AAMA 511
- AAMA 501
- AAMA 501.1
- AAMA 501.2
- AAMA 501.4

Please visit our website at www.ul.com/windows to learn more. Regarding your building envelope performance testing needs contact us at E: FireSafetyQuote@ul.com / T: 877 UL HELPS (877-854-3577).

BUILDING MATERIALS

Air and Water Field Testing

UL now offers testing on installed windows and curtain walls to help ensure quality, performance and compliance with industry specifications.

Building owners, contractors, consultants and architects require testing of installed windows, curtain walls, and storefronts to evaluate the performance of the installed products to architect and industry specifications.

UL provides on-site air barrier testing and on-site field testing of windows, curtain walls and storefronts for air leakage resistance, water penetration resistance, structural and acoustical performance. Field testing can be conducted to evaluate the following:

- Air infiltration
- Air barriers
- Water penetration
- Structural
- Acoustical
- Thermal cycling
- Condensation
- Anchor pull-out

Benefits

UL's trained field testing experts provide a professional service that is fast and accurate to provide building owners, contractors, consultants and architects with information needed to assess compliance, risk mitigation, and remediation solutions.

- For new construction or new fenestration installation, field testing helps to ensure that products perform properly after they have been installed in a building. Field testing provides quality assurance and helps building owners, contractors, consultants and architects assure they are meeting contract obligations
- For existing construction with problematic conditions, field testing can provide forensic evidence to identify the source of problems and provide information necessary to help mitigate and remediate those problems
  - UL's field testing experts are available at any location across the U.S. and Canada and usually can be dispatched within 24 hours to your location
  - Fully equipped vans ready for any type of testing on location, assuring delivery of quick results. Data is compiled on laptop computers for quick report turnaround
  - UL experts provide consultation to help ensure customers understand the results of the test(s), allowing the building owner to achieve successful remediation solutions, if necessary

Applicable Standards

- AAMA 501.1
- AAMA 501.2
- AAMA 502
- AAMA 503
- ASTM E783
- ASTM E 1105
- AAMA 511
- ASTM E2128

For more information please visit ul.com/windows or email Brenda.Breighner@ul.com

Exterior Wall Systems and Components

UL's testing and certification for exterior wall systems and components provides architects and building contractors the evidence needed to demonstrate compliance to code requirements for a wide range of properties. Such properties include fire propagation resistance in accordance with NFPA 285, water penetration resistance in accordance with ASTM E331, and air leakage resistance in accordance with ASTM E2357.

The International Building Code (IBC) requires that all exterior wall systems installed higher than 40 ft. above grade in Type I, II, III, & IV buildings and containing combustible components must comply with NFPA 285 "Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load Bearing Wall Assemblies Containing Combustible Components". NFPA 5000 Building Construction and Safety Code also permits exterior nonbearing walls containing combustible components when tested in accordance NFPA 285. NFPA 285 requires testing of exterior wall systems using the Intermediate-Scale Multi-Story Apparatus (ISMA).

Architects, contractors and building consultants are striving to design and build exterior wall systems to meet a myriad of requirements including fire safety, air and water resistance, durability and cost and energy-efficiency. By selecting UL Certified exterior wall systems that have been evaluated to NFPA 285 requirements as well as ASTM E331 and ASTM E2357, architects, contractors and consultants gain the flexibility and confidence they need.

How can UL Help?

If your building or the building you insure consists of products such as air barriers, water resistive barriers, exterior laminates, composite panels, and foamed plastics, UL can provide the testing you need to meet the requirements of NFPA 285, and to provide evidence that your products meet Code requirements. Additionally, testing to ASTM E331 and ASTM E2357 provides the added confidence that products and systems will provide resistance to air and water leakage.

The UL Mark can provide you with added value, differentiating your products and assisting with acceptance in the markets you serve. Architects, contractors and building consultants trust the UL Mark to provide them with confidence in products and can now rely on the UL Mark on exterior wall systems.

Visit our website at www.ul.com/exterior-walls. For more information on this service, please call 877.854.3577 or email FireSafetyQuote@ul.com

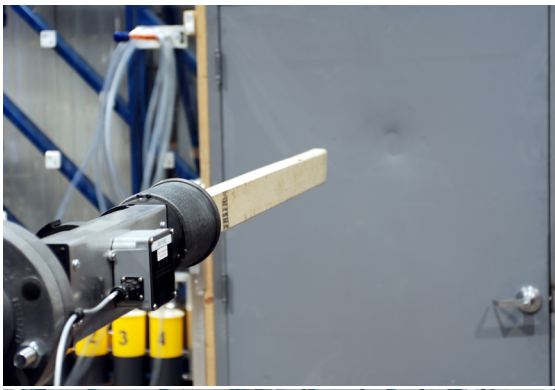
BUILDING MATERIALS

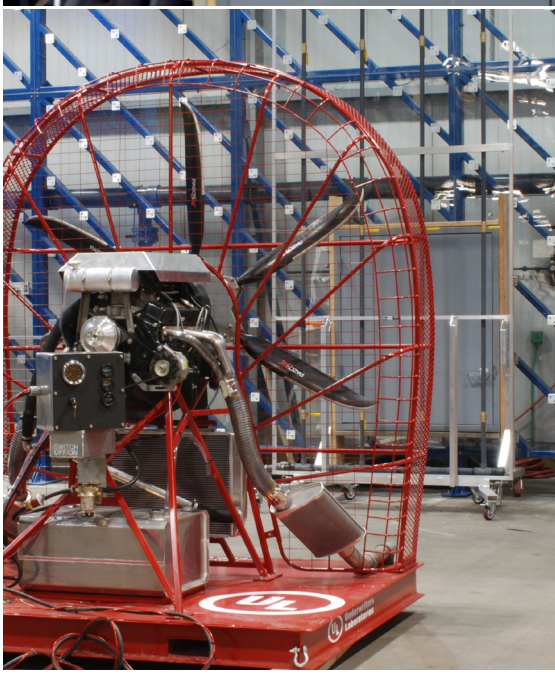
Impact and Cycling Testing Services (Hurricane and Tornado Testing)

UL now offers impact and cycling testing on windows, curtain walls, doors and other building enclosure products.

The risk of damage and threat to life caused by hurricane and tornado pressure and winds have prompted several states to adopt regulations requiring that the design of fenestration products provide protection and withstand damage caused by high winds, pressure, and wind borne debris.

UL's fenestration testing services help manufacturers determine the ability of their products to resist hurricane and tornado-like high wind, pressure and debris exposures, and help provide assurance that their products meet building design, building code and certification requirements. Additionally, test results allow architects, designers, consultants, code authorities, building owners and consumers to compare windows and doors in order to identify specific products that will meet their needs from design and protection standpoint.





Products are tested for air and water leakage, structural performance, and impact and pressure resistance in our accredited laboratories using equipment that is specially designed to simulate the required conditions. Impact and Cycling Testing to assess compliance with building codes, building designs and certification requirements is applicable to many products, including:

- Windows
- Curtain Walls
- Doors
- Storefronts
- Glazing materials
- Skylights
- Louvers
- Shutters
- Safe Rooms

Impact testing is performed to assess the ability of a product to resist creating openings where wind and water could enter, creating even further damage to the interior of a building. Immediately following impact exposure, the fenestration product is subjected to cyclical high air pressure to test product performance under varying pressure differentials. Products may additionally be subjected to water spray to simulate wind driven rain at speeds up to 110 mph.

For more information please visit ul.com/windows or email Brenda.Breighner@ul.com

Benefits

- UL is an accredited full service provider offering both testing and certification services that help provide assurance that windstorm rated fenestration products meet the varied state and market requirements, and have been designed to protect the exterior envelope of structures from high speed windborne debris.
- Designers and code authorities often have difficulty determining if fenestration products have been tested in accordance with appropriate windstorm related test criteria. UL's Windstorm Certifications, accepted by Florida, Miami Dade and other authorities, signify that products have been tested to specific impact and cycling test requirements.
- UL Certified windstorm rated building assemblies clearly identify the test criteria used during an investigation, and components and products used within the assemblies are subject to an ongoing factory audit as part of UL's Follow-Up Service (FUS) program.
  - UL's expert lab staff provides trusted service that is fast and accurate, in order to provide the information, data and certifications you need quickly.
  - UL fenestration testing labs can accommodate large product samples, enabling large mockups and the ability to test several products at once.
  - Data is analyzed and reported throughout the testing process for precise analysis and quick report turnaround.
  - UL's experts provide consultation on the test results to ensure customer understanding and to allow for immediate remediation actions, if necessary.
  - UL services are accredited to AAMA and ASTM standards.

Applicable Standards

- ASTM E330
- ANSI/ASTM E1886
- ASTM E1996
- AAMA/WDMA/CSA 101/I.S.2/A440
- AAMA 506
- Federal Emergency Management Agency (FEMA) Publication 320
- ICC 500
- TAS 202
- TAS 203

For more information please visit ul.com/windows or email Brenda.Breighner@ul.com

UL'S WINDSTORM SERVICES - TESTING, CERTIFICATION AND VALIDATION

In order to protect from hurricane and tornado force winds, the building envelope must be designed to meet rigorous building code requirements. UL's windstorm testing, certification and validation solutions provide a comprehensive path for manufacturers to demonstrate product compliance with code requirements that are in place to protect from high velocity winds and windborne debris resulting from hurricanes and tornados.

State and local building codes such as Florida, Texas, Miami-Dade County and others require that building envelope construction products including exterior doors, windows, louvers, shutters, panel walls and roofing products, provide protection from high velocity winds and windborne debris. To demonstrate compliance to these regulations, products must be: tested to specific test standards; often must be manufactured under a quality assurance program; and may need to be validated by a 3rd party as compliant prior to gaining approval by local jurisdictions.

How Can UL Help?

UL's testing, certification and validation services provide all the necessary steps to demonstrate compliance:

- Testing - UL conducts testing to all of the rigorous test standards including small and large missile impacts. Large missile impact testing is conducted with a compressed air cannon at speeds up to 55 mph to simulate hurricane airborne debris conditions and 100 mph to simulate tornado force debris impacts against various building products.
- Certification - UL Certified windstorm rated building assemblies help provide assurance of ongoing compliance and identify the test standards and performance ratings to which the assemblies were evaluated. Additionally, UL's ongoing factory (quality control) inspection program provides assessment of a manufacturer's continued quality assurance for windstorm rated products as often as required by local codes and regulations.
- Validation - UL is a Florida state recognized Validator and can provide confirmation that the documents and information submitted to the state for approval meet the requirements of the state approval process when UL has been used for testing and Certification.

Applicable Standards:

- AAMA/WDMA/CSA101/IS.2/ A440
- ASTM E1886
- ASTM E1996
- ASTM E283
- ASTM E331
- ASTM E330
- TAS 201
- TAS 202
- TAS 203
- ICC 500
- FEMA 320
- FEMA 361
- AMCA 540
- AMCA 550

For more information please visit ul.com/productspec,
email firesafetyquote@ul.com or call 1.877.UL.HELPS

The UL Mark provides added value, enabling differentiation of products and assisting with acceptance in the markets you serve. Architects, contractors, building consultants and code authorities trust the UL Mark to provide them with confidence in products. UL Certified windstorm rated building assemblies can be found at UL PRODUCT SPEC™, and can be searched under the term "Windstorm".

UL Solutions to Address the Florida Building Commission:

The Florida Building Commission (FBC) approves building products through a three step process:

1. Demonstration of compliance with the Florida Building Code
   - A certification mark from an approved agency, such as UL
   - A test report from an approved laboratory and approval from a Florida-licensed P.E.
   - An evaluation report from an approved evaluation entity or Florida-licensed P.E. or R.A.
2. Establishment of a quality assurance program for each product:
   UL can also act as a quality assurance provider for manufacturers and for products submitted to the FBC through any of the methods listed above. We can create a customized quality assurance program specifically designed to meet the needs of each manufacturer's products and control processes.
3. Submittal by the manufacturer to the FBC for product approval when testing is completed and quality assurance evidence provided:
   Information regarding the submittal process can be found at the Florida Building Commission website. Validation of the product submittal is required by a state-recognized entity to confirm that the documents and information provided to the state meet the requirements of the approval process.

For more information please visit ul.com/productspec,
email firesafetyquote@ul.com or call 1.877.UL.HELPS