

Product Evaluation Report

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Product Manufacturer

Kommerling USA, Inc.
3402 Stanwood Blvd.
Huntsville, AL 35811

Product Name, Model, Series and/or Description

Single HADK 76 MD Tilt-Turn Window, Vinyl Non-Impact
Double HADKZ 76 MD Tilt-Turn Window w/False Mull Post, Vinyl Non-Impact
Double HADKZ 76 MD Tilt-Turn Window w/Fixed Mull Post, Vinyl Non-Impact

Code: Current Edition of the Florida Building Code including the 8th Edition (2023) Florida Building Code

- Series Single HADK 76 MD Tilt-Turn Window, Vinyl Non-Impact
- Series Double HADKZ 76 MD Tilt-Turn Window W/False Mull Post, Vinyl Non-Impact
- Series Double HADKZ 76 MD Tilt-Turn Window W/Fixed Mull Post, Vinyl Non-Impact

Compliance Methods:

- Product Approval Rule 61G20-3.005(1)(a) – Certification Mark or Listing

Product Testing and Certification: National Certified Testing Laboratories, 8350 Parkline Blvd., Orlando, FL 32809

- Single HADK 76 MD Tilt-Turn Window, Vinyl Non-Impact
 - NCTL-210-4176-01, dated 05/12/20 to AAMA/WDMA/CSA 101/I.S. 1/A440-2011
 - Certification – Keystone Certification, Inc.
 - No. 1129 -120, Single HADK 76 MD Vinyl Window (Clips), Class AW-PG65 1016 x 1981 (40x78) - Type C, WTP=15.0
 - No. 1129 -121, Single HADK 76 MD Vinyl Window (Through Frame), Class AW-PG65 1016x1981 (40x78) - Type C, WTP=15.0
- Double HADKZ 76 MD Tilt-Turn Window w/False Mull Post, Vinyl Non-Impact
 - NCTL-210-4176-02, dated 05/12/20 to AAMA/WDMA/CSA 101/I.S. 1/A440-2008/2011
 - Certification – Keystone Certification, Inc.
 - No. 1129 -123, Double HADKZ 76 MD Vinyl Window (Clips) XX, Class AW-PG50 1829x1829 (72x72) - Type C, DP = +/-55
 - No. 1129 -124, Double HADKZ 76 MD Vinyl Window (Clips) XX, Class CW-PG55 1829x1829 (72x72) - Type C, WTP=10.5
 - No. 1129 -125, Double HADKZ 76 MD Vinyl Window (Through Frame) XX, Class AW-PG50 1829x1829 (72x72) - Type C, DP = +/-55
 - No. 1129 -126, Double HADKZ 76 MD Vinyl Window (Through Frame) XX, Class CW-PG55 1829x1829 (72x72) - Type C, WTP=10.5
- Double HADKZ 76 MD Tilt-Turn Window w/Fixed Mull Post, Vinyl Non-Impact
 - NCTL-210-4176-03, dated 05/12/20 to AAMA/WDMA/CSA 101/I.S. 1/A440-2008/2011
 - Certification – Keystone Certification, Inc.
 - No. 1129 -129, Double HADKZ 76 MD Vinyl Window with Fixed Mull Post (Clips) XX, Class AW-PG50 2032x1981 (80x78) - Type C, DP = +/-60
 - No. 1129 -130, Double HADKZ 76 MD Vinyl Window with Fixed Mull Post (Clips) XX, Class CW-PG60 2032x1981 (80x78) - Type C, WTP=10.5
 - No. 1129 -131, Double HADKZ 76 MD Vinyl Window with Fixed Mull Post (Through Frame) XX, Class AW-PG50 2032x1981 (80x78) - Type C, DP = +/-60
 - No. 1129 -132, Double HADKZ 76 MD Vinyl Window with Fixed Mull Post (Through Frame) XX, Class CW-PG60 2032x1981 (80x78) - Type C, WTP=10.5

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Product Installation Instructions:

- Kommerling USA, Inc. Series 76 MD Title/Turn Vinyl Window Non-Impact Anchorage Details, Installation Instructions Drawing No. NL-0137, dated 3/2/20, signed and sealed by Robert J. Amoruso, P.E.

Product Test Standards:

- AAMA/WDMA/CSA 101/I.S. 1/A440-2011
- AAMA/WDMA/CSA 101/I.S. 1/A440-2008

Engineering Analysis: The following engineering and/or rational analysis/calculations have been performed.

- Anchorage has been verified by calculation prepared by Robert J. Amoruso, P.E. in accordance with the current edition of the Florida Building Code.
- Comparative Analysis for smaller window sizes as allowed by current edition of Florida Building Code. Smallest downsized units verified by testing as follows.
 - Single HADK 76 MD Tilt-Turn Window, Vinyl Non-Impact
 - Keystone Cert. No. 1129-122, Single HADK 76 MD Vinyl Window (Clips) Class AW-PG100 610x610* (24x24*) - Type C
 - Double HADKZ 76 MD Tilt-Turn Window w/False Mull Post, Vinyl Non-Impact
 - Keystone Cert. No. 1129-127, Double HADKZ 76 MD Vinyl Window (Clips) XX, Class AW-PG50 914x914* (36x36*) - Type C, DP = +/-100
 - Keystone Cert. No. 1129-128, Double HADKZ 76 MD Vinyl Window (Clips) XX, Class CW-PG70 914x914* (36x36*) - Type C, DP = +/-100
 - Double HADKZ 76 MD Tilt-Turn Window w/Fixed Mull Post, Vinyl Non-Impact
 - Keystone Cert. No. 1129-133, Double HADKZ 76 MD Vinyl Window with Fixed Mull Post (Clips) XX, Class AW-PG50 1219x914* (48x36*) - Type C, DP = +/-100
 - Keystone Cert. No. 1129-134, Double HADKZ 76 MD Vinyl Window with Fixed Mull Post (Clips) XX, Class CW-PG70 1219x914* (48x36*) - Type C, DP = +/-100
- Window glazing verified using ASTM E1300-12AE1.

Limitations & Conditions of Use:

- This product has not been evaluated for use inside the HVHZ (High Velocity Hurricane Zone).
- This product is not Impact Resistance. An impact protective device meeting the requirements of the Florida Building Code shall be required in Wind Borne Debris Regions.
- Refer to Product Installation Instructions noted above for:
 - Maximum allowable wind loads at related maximum allowable size(s).
 - Overall dimensions and material/grade of main product components, accessories, etc.
 - Illustrated diagrams of the attachment of the product to the structure.
 - Anchor type(s), size(s), substrate(s), embedment, edge distance, and spacing/locations.
- Site wind pressures shall be determined by a licensed professional engineer in accordance with the current edition of the Florida Building Code (and/or ASCE 7 as referenced in the current edition of the Florida Building Code) for components and cladding based on allowable stress design.
- Site conditions not covered in this product evaluation document are subject to additional engineering analysis by a licensed professional engineer or registered architect as required by the authority having jurisdiction.
- Adequacy of the existing structural substrates as a main wind force resisting system capable of withstanding and transferring applied product loads to the foundation is the responsibility of the licensed professional engineer or registered architect acting as the design professional of record for the project of installation.

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Certificate of Independence per Product Approval Rule 61G20-3.009

Robert J. Amoruso, P.E. does not have, nor will acquire, any financial interest in the company manufacturing or distributing product(s) covered by this Product Evaluation Report.

Robert J. Amoruso, P.E. does not have, nor will acquire any financial interest in any other entity involved in the approval process or testing of the product(s) covered by this Product Evaluation Report.

Evaluated by:
Robert J. Amoruso, P.E.
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