

## Dynamic Wind Uplift Resistance CSA A123.21-2014 – Summary Document

| Document No.:  | 19-06-B0127-PARS010-A RV1 |
|----------------|---------------------------|
| Document Date: | November 11, 2019         |
|                |                           |

Reference Documentation:

CSA A123.21-2014 Report No: 17-06-M0107 Supplementary Report No.: 19-06-B0042-M

| Manufacturer: | IKO Industries Ltd.       | R | IKO System Identification: |
|---------------|---------------------------|---|----------------------------|
|               | 40 Hansen Road South      |   | iko system dentincation.   |
|               | Brampton, Ontario, Canada |   | PARS010                    |
|               | L6W 3H4                   | • | FANJUIU                    |

## SECTION 1.0: Roof System Summary:

| "IKO BUR – MA ISO (UNBRIDGED) HOT MOPPED SYSTEM" – Partially Attached Roofing System |                                                                 |  |
|--------------------------------------------------------------------------------------|-----------------------------------------------------------------|--|
| Roof Membrane:                                                                       | IKO No. 15 Perforated Asphalt Saturated Felt, 4-Ply Organic BUR |  |
| Cover Board:                                                                         | Cover Board: MSL Louiseville Fiberboard                         |  |
| Insulation:                                                                          | IKO IKOTherm                                                    |  |
| Insulation:                                                                          | IKO IKOTherm                                                    |  |
| Vapour Retarder:                                                                     | arder: IKO Armourgard Vapour Retarder                           |  |
| Thermal Barrier:                                                                     | nermal Barrier: None                                            |  |
| Deck: Steel Deck, 22 ga, RD938, 230 MPa (33.4 ksi)                                   |                                                                 |  |

## SECTION 2.0: System Dynamic Wind Uplift Resistance (DUR) Testing Details:

| Test Date        | Dynamic Wind Uplift Resistance (DUR)<br>of tested specimen<br>kPa (psf) | Dynamic Wind Uplift Resistance (DUR)*<br>Rating (with 1.5X safety factor)<br>kPa (psf) |
|------------------|-------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| January 31, 2017 | 4.3 (90)                                                                | 2.9 (60)                                                                               |

Dynamic Wind Uplift Resistance Rating (DUR): 2.9

2.9 kPa (60 psf)

## SECTION 3.0: Tested Product and Substitutable Products:

| Roof Membrane       |                                                                             |                                                        |  |
|---------------------|-----------------------------------------------------------------------------|--------------------------------------------------------|--|
| Tested Product      | IKO No. 15 Perforated Asphalt Saturate<br>Glaze Coat, 203 mm (8.0") Overlap | ed Felt, 4-Ply Organic BUR with                        |  |
| Product Size        | Roll Width: 0.914 m (36"), roll Length 4                                    | Roll Width: 0.914 m (36"), roll Length 43.9 m (144')   |  |
| Attachment Method   | Hot Mopped with CSA A123.4 Type 2 H                                         | Hot Mopped with CSA A123.4 Type 2 Hot Asphalt Adhesive |  |
|                     | Substitutable Product(s)                                                    |                                                        |  |
| Manufacturer        | Pro                                                                         | Product Identification                                 |  |
| IKO Industries Ltd. | Type IV Glass Type 6 glass                                                  |                                                        |  |

|                   | Cover Board                                                                          |
|-------------------|--------------------------------------------------------------------------------------|
| Tested Product    | MSL Louiseville Fiberboard                                                           |
| Product Size      | 12.7 x 1220 x 1220 mm (1/2" x 4' x 4')                                               |
| Attachment Method | Hot Mopped with CSA A123.4 Type 2 Hot Asphalt                                        |
| Fastening Rate    | Full coverage                                                                        |
|                   | Substitutable Product(s)                                                             |
| Manufacturer      | Product Identification                                                               |
| Generic           | Any approved wood fiberboard meeting the requirements of CAN/ULC S-706 and ASTM C208 |

| Insulation (Top Layer) |                                               |                      |                         |
|------------------------|-----------------------------------------------|----------------------|-------------------------|
| Tested Product         | IKO IKOTherm                                  |                      |                         |
| Product Size           | 51 x 1220 x 1220 mm (2" x 4'                  | x 4')                |                         |
| Attachment Method      | Hot Mopped with CSA A123.4 Type 2 Hot Asphalt |                      |                         |
| Fastening Rate         | Full coverage                                 |                      |                         |
|                        | Substitutable Product(s)                      |                      |                         |
| Manufacturer           | Manufacturer Product Identification           |                      |                         |
| IKO Industries Ltd.    | IKOTherm III                                  | IKOTherm 25 psi      | IKOTherm III 25 psi     |
|                        | IKOTherm Tapered                              | IKOTherm III Tapered | IKOTherm 25 psi Tapered |

| Insulation (Bottom Layer) |                                     |                      |                         |
|---------------------------|-------------------------------------|----------------------|-------------------------|
| Tested Product            | IKO IKOTherm                        |                      |                         |
| Product Size              | 51 x 1220 x 2438 mm (2" x 4'        | x 8')                |                         |
| Attachment Method         | Mechanically attached               |                      |                         |
| Fastening Rate            | 1 per 2.67 ft² (0.025 m²)           |                      |                         |
| Substitutable Product(s)  |                                     |                      |                         |
| Manufacturer              | Manufacturer Product Identification |                      |                         |
| IKO Industries Ltd.       | IKOTherm III                        | IKOTherm 25 psi      | IKOTherm III 25 psi     |
|                           | IKOTherm Tapered                    | IKOTherm III Tapered | IKOTherm 25 psi Tapered |



| Vapour Retarder                                                  |                                         |                                                |  |
|------------------------------------------------------------------|-----------------------------------------|------------------------------------------------|--|
| Tested Product                                                   | IKO Armourgard Vapour Retarder          |                                                |  |
| Product Size                                                     | Roll Width: 0.9 m (36"), Roll Length 20 | m (65'), 1.4 mm (0.053"), 50.8 mm (2") Overlap |  |
| Attachment Method                                                | Loose laid or adhered to substrate prim | ed with IKO S.A.M. adhesive                    |  |
| Fastening Rate                                                   | n/a                                     |                                                |  |
|                                                                  | Substitutable Product(s)                |                                                |  |
| Manufacturer                                                     | Product Identification                  |                                                |  |
|                                                                  | MVP                                     | MVP Sand                                       |  |
| IKO Industries Ltd.                                              | Armourbond Flash Sand                   | Armourgard Ice and Water Protector Commercial  |  |
| Any approved generic Kraft Paper or polyethylene vapour retarder |                                         | olyethylene vapour retarder                    |  |

| Thermal Barrier       |                                                                                |                                    |
|-----------------------|--------------------------------------------------------------------------------|------------------------------------|
| Tested Product        | Optional layer                                                                 |                                    |
| Product Thickness     | n/a                                                                            |                                    |
| Attachment Method     | Loose laid, pre-secured or adhered                                             | d                                  |
| Fastening Rate        | n/a                                                                            |                                    |
|                       | Substitutable Product(s)                                                       |                                    |
| Manufacturer          | facturer Product Identification                                                |                                    |
| Georgia-Pacific®      | DensDeck®                                                                      | DensDeck Prime <sup>®</sup>        |
| USG <sup>®</sup> /CGC | Securock <sup>®</sup> Glass-Mat                                                | Securock <sup>®</sup> Gypsum-Fiber |
| Generic               | Any approved Gypsum Board meeting the requirements of ASTM C1177 or ASTM C1278 |                                    |

|                           | Insulation Securement                                                                               |
|---------------------------|-----------------------------------------------------------------------------------------------------|
| Tested Product            | Trufast <sup>®</sup> #14 HD Roofing Fastener with 76 mm (3") round (MP-3000) Metal Insulation Plate |
| Fastening Rate            | 1 per 2.67 ft² (0.025 m²) - Twelve (12) per 12.7 x 1220 x 2440 mm (4' x 8') board                   |
| Substitutional Product(s) |                                                                                                     |
| Manufacturer              | Product Identification                                                                              |
| SFS                       | #14 Dekfast Fastener with 3" (76 mm) round (PLT-R-3) Metal Insulation Plate                         |
| OMG®                      | Heavy Duty #14 Roofing Fastener with 3" (76 mm) Galvalume Plate (SPGA3C)                            |

Note: This is not a comprehensive report but a <u>summary</u> of the performance results produced for the roof assembly documented herein tested in accordance to CSA A123.21-2014. Please refer to the reference documents stated on page 1, or consult the manufacturer, for detailed information pertaining to the test specimen configuration and construction.

Reported by:

Allan Lawrence, Ext. 11212 Supervisor, Building Systems Industrials Division

Authorized by:

Jordan Church, B. Tech., Ext. 11546 Ops. / Tech. Manager, Bldg. Science & Fire Testing Industrials Division

Accreditation: Element is an ISO 17025 accredited test lab under International Accreditation Service "TL-407". In addition, CSA A123.21 can be found under our scope of accreditation listing.

This document and service are covered under Element Materials Technology Canada Inc.'s. Standard Terms and Conditions of Contract which may be found on our company's website <u>www.element.com</u>, or by calling 1-866-263-9268.