3980 North Fraser Way
Burnaby, BC V5J 5K5
(604) 527-8378 ph. | (604) 527-8368 fx.
www.qai.org

THIRD-PARTY
FACTORY INSPECTION PROCEDURE MANUAL

File No. QGEM-001Rev9

EUROSHIELD® BEAUMONT SHAKE, VERMONT SLATE, BEAUMONT SHAKE HP, VERMONT SLATE HP, RANCHLANDS SHAKE and RUNDLE SLATE ROOFING PANELS

Written for:

G.E.M. INCORPORATED
9330-48th Street SE
Calgary, Alberta T2C 2R2
Canada

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1. GENERAL PRODUCT AND LISTING INFORMATION

Product(s):	Euroshield® Beamont Shake, Beaumont Shake HP, Vermont Slate, Vermont Slate HP, Ranchlands Shake, Rundle Slate Roof Covering Products.
Product Description :	Roof Covering products are composed of a proprietary blend of recycled additives and colorants. Individual panels are installed to simulate slate and shake patterns. The products are available in orange, green, blue, black, brown, grey and driftwood colors. Refer to Appendix B for Product Specifications.
Applicable Requirements:	ICC-ES AC07, ICC-ES AC10, ASTM E108 and UL 2218 Certification provided by QAI.
Primary Listee:	G.E.M. INCORPORATED 9330-48th Street SE Calgary, Alberta T2C 2R2 Canada Contact Person: Salah Sukareye Phone: (403) 215-3333 Fax: (403) 287-2012 Email: salah@euroshieldroofing.com
Manufacturing Locations:	G.E.M. INCORPORATED 9330-48th Street SE Calgary, Alberta T2C 2R2 Canada Contact Person: Salah Sukareye Phone: (403) 215-3333 Fax: (403) 287-2012 Email: salah@euroshieldroofing.com
For use with applications to the following Approval Bodies:	QAI, Texas Department of Insurance, Florida Product Approval, Canadian Construction Materials Centre (CCMC).
Third Party Inspection Agency:	QAI Laboratories (AA-635) Contact Person: Matt Lansdowne Phone: (604) 527-8378 Fax: (604) 527-8368 Email: mlansdowne@qai.org

2. Signature Page

2.1. Scope

This manual defines the Third-Party Inspection process and details of the plant Quality Management System to ensure that products manufactured at this facility will meet or exceed the product quality level prescribed by the applicable codes and standards referenced in this manual. The specifications herein ensure consistency and quality of the listed product(s) by setting: manufacturing processes, testing procedures, sampling methodology, testing frequency, equipment maintenance and calibration, qualifications of personnel, labeling and traceability, records keeping practice, and all other pertinent details.

2.2. Signatures of Listee, Manufacturer, Inspection Agency

The Signatories to this document are making a formal declaration of the commitment to quality policies, and to take responsibility for the legitimacy of this document in both manufacturing and third-party inspection according the procedures and specifications included.

Authorized Representative of Listee: G.E.M. Inc.

Salah Sukareye	
NAME PRINTED	DATE
	Plant Manager
NAME SIGNATURE	TITLE

Prepared and Approved by QAI

Matt Lansdowne	September 10, 2025
NAME PRINTED	DATE
	VP of Engineering
NAME SIGNATURE	TITLE

3. Manufacturing Facilities – General Contact Information

See LISTING INFORMATION in Section 1 of this document.

4. Manual Revisions

G.E.M. Inc. will inform QAI immediately of any changes in the operation, manufacturing, and administrative processes. QAI will modify the manual within 30 days if such changes are deemed significant to effect the Quality Control Procedures.

The quality system documentation, including this manual and all attachments, shall be reviewed on an annual basis. Any revisions made to the quality system documentation shall be noted in the RECORD OF REVISIONS section of this manual.

5. Product Identification & Labeling

Listed (certified) products are identified with a stamp bearing the following information:

- Manufacturer's Name
- Product Name
- Date of Manufacture
- QAI logo with 'c' and 'us' identifier
- QAI Listing number (B1092 / CERus-1013)
- CAN/ULC-S107 and ASTM E108 Fire Classification (Class C)
- UL 2218 Impact Classification (Class IV)

See Appendix C for Specific Examples of Finished Product and Skid Labels.

6. Traceability

The manufacturer will ensure that identification and traceability of their product is maintained. The table below states the documentation in use that can be used to trace the product through its various stages of production.

MANUFACTURING PROCESS STAGE	DESCRIPTION
Final Products	A label including date of manufacture and skid number is applied to the finished product skid.
Quality Control Inspection/Testing	Product inspection and test reports are marked with the date of production.
Incoming Materials	Incoming materials receiving records are collected and stored on file. Lot number of raw materials used are recorded on the blending report which allow tracing back to the certificate of analysis providing full traceability to the raw material.

7. Work Flow, Manufacturing Process Description

INCOMING MATERIALS

Incoming raw materials are received by G.E.M. Inc. staff receiving personnel, and are compared against the requirements outlined in Section 12. Conforming materials are moved into inventory. Non-conforming products are immediately segregated from production and flagged non-conforming, and are returned to the vendor.

Compliant crumb rubber and binders are pumped into holding silos onsite.

PRODUCTION

Raw materials are moved from inventory to production on a first in first out basis.

Raw materials outlined in Section 12.1 are blended based on G.E.M. Inc.'s controlled proprietary formulation, outlined in the following documents:

- Euroshield® Formulation letter dated August 18, 2016 maintained onsite at G.E.M. Inc. Calgary. This formulation has been confirmed by QAI as representative of all products manufactured by GEM except Beaumont Shake Loc, and is to be confirmed as used in production during follow up inspections.

- March 11, 2019 daily sampling sheet for Mold # 28 maintained at QAI. This document has been confirmed and signed by QAI Gurjeet Sidhu as representative of normally manufactured Beaumont Shake Loc product (not listed with ICC-ES) and is to be confirmed as used in production during follow up inspections.

GEM staff monitor incoming materials and verify the formulation at each line is consistent with the noted formulation daily through weight checks with a calibrated digital scale.

Detailed proprietary product formulation is outlined in Euroshield® product formulation letter dated August 18, 2016 (except Beaumont Shake Loc product) and March 11, 2019 daily sampling sheet for Mold # 28 (Beaumont Shake Loc product only).

These documents have been confirmed and signed by QAI representatives as representative of normally manufactured products, as applicable. GEM staff control ratios of each component within tolerances stipulated in the formulation letter dated August 18, 2016 (except Beaumont Shake Loc product) as well as daily sampling sheet for Mold # 28 dated March 11, 2019 and FIP manual (Beaumont Shake Loc product only).

The rubber, binder and colorant addition is controlled by an automated system, which regulates input speed of the known ingredients to achieve the appropriate weight proportion of raw ingredients. After blending, the mix is moved to injection molding.

The blend is heated, and injection molded to create the product. After molding, the products are water cooled, following which the product is manually moved from the injection mold, where the operator visually inspects the molded piece against the requirements outlined in Section 13 of this Factory Inspection Procedure. Compliant materials are palletized. Non-complying material is immediately segregated from production, and the line stopped. The root of the non-conformance is verified and corrected before the line resumes.

Randomly, samples are taken per blend batch for finished product testing per Section 14 of this Factory Inspection Procedure.

The finished product bundles are stretched wrapped on pallets, where they are moved to outdoor inventory storage to await shipping. Upon successful finished product testing outlined in Section 14.1, a finished product label is applied to the pallet, and the product stored outdoors, to await shipping to the customer.

In the event that there is a Quality Control test result at any stage of the production process that does not meet the required acceptance range specified in this Factory Inspection Procedure, G.E.M. Inc. will initiate the nonconforming product procedure found in Section 15 of this Factory Inspection Procedure.

8. Product or Production Changes

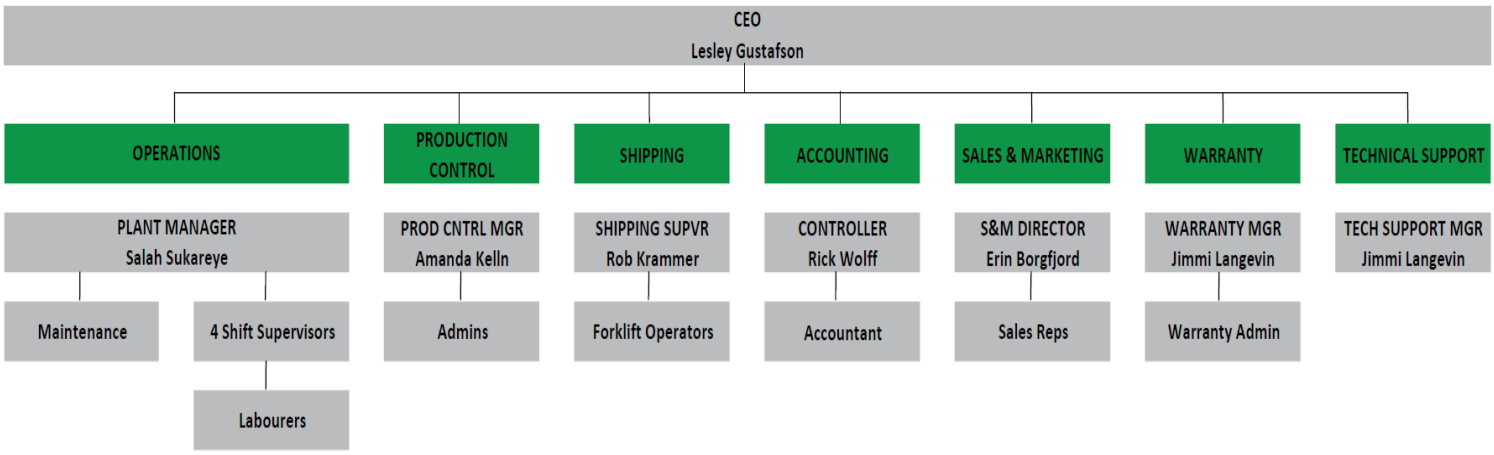
The following procedure will be followed when making changes to the product or production method:

- G.E.M. Inc. will contact QAI to review the proposed changes to the product or production method.
- QAI will evaluate the proposed changes, and perform any testing, engineering analysis, inspection, and quality documentation revisions required. If the changes comply with the listed standard(s), QAI will revise this manual and certification documents accordingly.
- G.E.M. Inc. will contact QAI in writing explaining the changes to be made to the product or production method. Also included will be a revised copy of the quality manual including the changes along with any supporting test data (as required).
- Once confirmation has been received from QAI that the changes area acceptable, the changes to the product or production method may be implemented.

9. Organization and Personnel Information

9.1. Quality Control Personnel Job Descriptions

Quality Control Manager: Salah Sukareye
Quality Control Technician: Said Shah



Responsibilities:

- Conduct Quality Control testing (See Section 13 and 14.1).
- Make periodic sweeps of the production area to remove nonconforming material to the Non-Conforming Hold Area in the plant.
- Audit non-conforming materials to determine corrective action required.
- Release re-worked materials as complying (certified) products.
- Approve and manage Quality Control documentation.
- Maintain calibration records and schedules (See Section 16).

9.2. Qualifications and Training

G.E.M. Inc. maintains an internal training policy reviewed at maximum annually for staff in the quality of Euroshield® products.

10. Product Packaging, Storage and Shipment

Product is held until the production line and batch has successfully passed all Quality Control Tests. The product is then visually checked for damage prior to shipping. Product is stretched wrapped and stored outdoors as weather is not considered to adversely affect finished products, prior to shipping.

Only products which have passed all necessary QC Tests and visual inspections are shipped with a certification label or mark. Product is held until the manufacturing run has successfully passed all QC tests, and is visually checked for damage prior to shipping.

11. Complaints, Corrective Action and Preventative Action

G.E.M. Inc. ensures that corrective actions and/or preventative actions are taken to identify and reduce service, product, or process quality problems. This process is part of the continuous improvement program.

Feedback from customers and production personnel is reviewed. Corrective and preventative actions will be based on the nature and urgency of the quality concern. Appropriate and effective corrective and/or preventative action is taken after a root cause analysis is performed.

In the case of defects or damage to the finished goods caused by the manufacturer during the production process, storing, loading or shipping, the manufacturer will take measures to determine cause of defect and to correct such problems. The defect will be traced back via the date/time stamp and identification label on the product.

All quality complaints from customers are recorded on a Quality Complaint Record describing the reason for the complaint as well as the appropriate action taken. This record will be analyzed on an annual basis to provide information for possible improvements.

11.1. Recall of Nonconforming Products

If G.E.M. Inc. becomes aware that nonconforming products have been distributed and are in application in the field, a recall of all affected products will be issued. They will notify potentially affected customers, the Certification or Inspection Agency (QAI). All necessary means will be taken to withdraw any risk to public safety. If deemed necessary, the Certification Agency / Inspection Agency will issue notice to the public regarding non-compliant products carrying a certification marking.

12. Incoming Materials

12.1. Incoming Materials Specifications

Approved Materials Suppliers and Specifications

MATERIAL	I.D. (SPECIFICATION)	ACCEPTANCE CATEGORY 1,2,3,4	APPROVED SUPPLIERS 1,2,3,4	CRITERIA ACCEPTANCE RANGE
40% Glassified Polypropylene	600GF40-GY900	3	MRC Polymers	Melt Flow Index: 6.0 – 12.0 g/10min Glass Filler Content: 37.0 - 43.0%
Polypropylene Copolymer Pellet	Impact Modified Color: Range gray	3	NPI	Melt Index g/10 min: 25.0 – 35.0 Density (g/cc): 0.900-0.915
Colorant (Black)	IPBK004-Black	3	Ingenia	Matches COA found in Appendix A
Colorant (Grey)	IPSL005A-Grey	3	Ingenia	Matches COA found in Appendix A
Colorant (Brown)	1800325-N	3	Ampacet Canada	Matches COA found in Appendix A
Colorant (Driftwood)	1200791-NE	3	Ampacet Canada	Matches COA found in Appendix A
Crumb Rubber	Crumb Rubber	2	Alberta Environmental Rubber Products	Grade 2 recycled reground rubber. 99% steel and fabric free. Moisture content < 1% 20-60 mm sieve size.

Acceptance Control of Materials are categorized by this classification:

1. It is deemed that this material is unique, proprietary, and can only be supplied by the manufacturer(s) listed.
2. Other suppliers may be acceptable if evidence is provided that the materials are equivalent to the original materials that were tested, by means of: testing, evaluation, materials certificates, etc. QAI will determine to what degree alternate materials are to be analyzed for acceptance, depending on the type of material and the capacity of the material's effect within the end product. The procedures outlined in Section 8 of this document must be followed to gain approval of alternate suppliers.
3. Some commodity materials controlled by industry standards may be supplied by any source without prior approval by QAI, provided that the materials certificates are available showing equivalence.
4. It is regarded that the material is very basic or non-critical within the production of the certified product, and may be supplied by any source without the need for supporting rationale in using multiple suppliers.

NOTE: Crumb rubber is considered an unlisted component in the composition of products. To ensure roof fire classification compliance, each blended batch has testing outlined in Section 14 conducted to ensure Class C consistency.

12.2. Formulation or Assembly Specification

Detailed proprietary product formulation outlined in Euroshield® product formulation letter dated August 18, 2016. This document has been confirmed and signed by QAI representative Matt Lansdowne as representative of normally manufactured product.

Beaumont Shake Loc product, detailed proprietary product formulation is outlined on March 11, 2019 daily sampling sheet for Mold # 28. This document has been confirmed and signed by QAI Gurjeet Sidhu as representative of normally manufactured Beaumont Shake Loc product and is kept on file with QAI.

Follow up inspections confirm the formulation outlined and signed by QAI is followed during production.

13. In-Process Quality Inspection and Testing

The following in process testing and inspection is conducted during the manufacture of Euroshield® products.

PROPERTY MEASURED	TEST METHOD	FREQUENCY OF TESTING	ACCEPTANCE LIMITS
Formulation [1] (except Beaumont Shake Loc)	Volume and calibrated scale	Once per batch	Rubber Content: ± 2.0% Glass Content: ± 0.5% Total Polypropylene Content: ± 1.5% Pigment: 3.0% – 8.0%
Formulation [2] (Beaumont Shake Loc only)	Volume and calibrated scale	Once per batch	Rubber Content: ± 2.0% Glass Content: - 0.2% / + 0.8% Total Polypropylene Content: ± 1.5% Pigment: 3.0% – 8.0%
Color	Visual Inspection Against Control	Every Piece	Match to sample
Quality of Panel	Visual Inspection	Every Piece	No voids, defects, and complete coverage of mold.

1. Formulation targets for all products except Beaumont Shake Loc are outlined in Euroshield® Formulation Letter dated August 18, 2016 signed by Matt Lansdowne of QAI.
2. Formulation targets for Beaumont Shake Loc product are outlined in Mold # 28 daily sampling sheet dated March 11, 2019 signed by Gurjeet Sidhu of QAI

14. Final Product Inspection and Quality Control Tests

14.1. In-house Quality Control Tests

The following finished product testing is conducted during the manufacture of Euroshield® products:

PROPERTY MEASURED	TEST METHOD	FREQUENCY	REQUIREMENTS
Length	Tape Measure	1 piece each batch per line.	See Appendix B for product drawings
Width	Tape Measure	1 piece each batch per line.	See Appendix B for product drawings
Thickness	Caliper or Micrometer	1 piece each batch per line.	See Appendix B for product drawings
Weight	Scale	1 piece each batch per line.	Ranchlands Shake: 3.3 – 3.7 kgs. Rundle Slate: 3.8 – 4.2 kgs. .Beaumont Shake: 2.5 – 2.9 kgs. Beaumont Shake HP: 2.9 – 3.3 Vermont Slate: 2.5 – 2.9 kgs Vermont Slate HP: 2.9 – 3.3 kgs
Color	Visual against control	Every 2 hours	Match Control
Formulation	Scale and Calculation	Once per batch	Procedure specified in Section 7. Formulation controlled as outlined in Formulation letter dated August 18, 2016 (except Beaumont Shake Loc product) and Mold # 28 daily sampling sheet dated March 11, 2019 (Beaumont Shake Loc product only)
Rate of Burning	ASTM D635	Every Batch, any line	Minimum CC2 Class Max 29 mm/min.

See Appendix A for Finished Product Specifications and QC forms.

14.2. Externally Provided Quality Control Tests

PROPERTY MEASURED	TEST METHOD	FREQUENCY OF TESTING	ACCEPTANCE LIMITS
Chemical Composition	Infrared Analysis (IR)	Bi-Annually	90% Correlation to Class C specimens sampled by QAI on February 9, 2016.
Penetration	ICC-ES AC07 Penetration Test	Bi-Annually	Must meet 200 lbs penetration load.
Surface Spread of Flame ASTM E108	ASTM E108 Spread of Flame	Bi-Annually	Test samples must meet Class C with 15/32 Exposure 1 plywood, with 4:12 slope; ASTM D226, Type II underlayment applied with 4" wide overlaps installed over the horizontal joints in the plywood.
Fire Penetration Resistance ASTM E108	ASTM E108 Burning Brand	Bi-Annually	Test samples must meet Class C with 15/32 Exposure 1 plywood, with 4:12 slope; ASTM D226, Type II underlayment applied with 4" wide overlaps installed over the horizontal joints in the plywood.
Intermittent Flame ASTM E108	ASTM E108 Intermittent Flame Spread	Bi-Annually	Test samples must meet Class C with 15/32 Exposure 1 plywood, with 4:12 slope; ASTM D226, Type II underlayment applied with 4" wide overlaps installed over the horizontal joints in the plywood.

During inspection, QAI inspector is to sample rotation of Ranchland Shake, Rundle Slate, Beaumont Shake or Vermont Slate for ongoing testing noted above. Samples selected are to be 150 ft2 of coverage for testing noted above. Sampling report is to be submitted with the above noted samples.

Products selected are to be shipped to the following address:

QAI Laboratories
8385 White Oak Avenue
Rancho Cucamonga, CA
91730 USA
Phone: 909-483-0250
Attention: Follow Up Testing GEM / Euroshield per CERus-1013

Products failing to meet the requirements of Section 14.2 require nonconforming product procedure to be initiated, and G.E.M. Inc. QAI to determine root cause and remedy.

14.3. Quality Control of Unlisted Components

Crumb rubber component of Euroshield® products is an unlisted component. This component is verified for consistent flammability through ASTM D635 testing, conducted by G.E.M. Inc. on finished product per batch.

The rate of burning shall be less than or equal to 29 mm per minute. In the event that there is a significant change in the results and the rate of burning is greater than 29 mm per minute, G.E.M. Inc. will initiate the nonconforming product procedure found in Section 15 of this Factory Inspection Procedure.

14.4. Finished Product Specification

For finished product specifications sheets and any additional drawings please refer to Appendix B.

15. Nonconforming Material

Nonconforming materials are described as products or materials that have failed an inspection or quality control test. All materials used or products made in-between the last passing and the failing inspections or tests must be segregated and inspected for compliance, and either re-worked so they are in compliance, disposed of, or downgraded for use in non-certified products. **All finished products must pass the QC requirements to bear the certification label or mark.**

Nonconforming materials are segregated and marked with Hold Tags. All products found to be non-conforming to the specifications defined in Sections 11 and 14.1 of this document will be segregated and clearly marked as non-conforming. The following procedure is in place to investigate the cause of non-conformances, fix the problem, and to re-evaluate materials before they are released as certified products:

It is the responsibility of the Quality Control Manager to make periodic sweeps of the production area to remove nonconforming material to the Non-Conforming Hold Area in the plant. The QC Manager will also monitor all stages of production in an effort to limit non-conformances.

Audits of all material in the Non-Conforming Hold Area will be done by members of the Quality Control team to determine the corrective action required (rework, scrap or dispose of the product/raw material). All non-conforming material will be marked with Hold Tags. The Quality Manager is responsible for releasing re-worked materials as complying (certified) products.

If any of the QC tests in Section 11 through 14.1 fail, then all product made between the failed test and the last successful test is put on hold. The product is then discarded, reworked or regraded. The problem is fully investigated before manufacturing of products continue.

16. Measuring and Test Equipment, Calibrations

Calibration records and schedules shall be maintained by a qualified Quality Control representative and kept at the manufacturing facility. All calibrations must be performed by vendors accredited to ISO/IEC 17025 or otherwise acceptable to the Inspection Agency (QAI), or by internally documented procedures that are approved by the Inspection Agency and are traceable to National Measurement standards such as NIST in the United States, or an equivalent International standard.

All measuring equipment used in the manufacturing and testing processes is calibrated and traceable to national standards, by means of an accredited outside calibration provider, or documented in-house Procedures approved by QAI Laboratories.

Calibration records are controlled and maintained by the Quality Control Manager, and the most up-to date calibration records will be kept on file at the manufacturing facility.

TYPE OF EQUIPMENT	CALIBRATION		
	FREQUENCY	EXTERNAL PROVIDER	INTERNAL PROCEDURE
Tape Measure	Annual	N/A	Visually Examine, Replace if Required.
Caliper	Annual	NIST Traceable Agency	N/A
Scale	Annual	NIST Traceable Agency	N/A
ASTM D635 Apparatus	Annual	N/A	Verification of Flame and Stand to ASTM Method.

17. QC Forms, Document Approval, Records

17.1.1. Example reports and records are included in Appendix A.

17.1.2. G.E.M. Inc. has an internal approval process in place to ensure that the information is complete, accurate, and free of conflicting information. All records are reviewed and signed off by the appropriate QC personnel.

17.1.3. All records relating to production including forms, worksheets, logs, specifications, and reports will be kept for a minimum of two years. New or proposed revisions to forms, worksheets, specifications, etc. are established by G.E.M. Inc. and are sent to QAI for review and insertion into the quality manual where applicable. Once revised by QAI, G.E.M. Inc. is to submit the revised manual to QAI for review and approval.

18. Manufacturing Declarations

G.E.M. Inc. agrees to comply with all the requirements stated in this manual QAI Evaluation Report.

18.1.1. The QAI name, logo, or QAI code evaluation report number will only be used on products that are in compliance with the published evaluation report and the approved quality control documentation.

18.1.2. G.E.M. Inc. will promptly investigate and respond to QAI when apprised by QAI of complaints concerning product performance.

18.1.3. G.E.M. Inc. agrees to permit QAI representatives to examine, at distribution points and the manufacturing plant, any product labeled as being in conformance with the evaluation report.

18.1.4. G.E.M. Inc. agrees to notify QAI in writing if there is a significant change in the product, manufacturing procedures or quality system documentation from what was recognized upon issuance of the evaluation report. A significant change is one that may reduce the performance of the product as it pertains to applicable test standards or acceptance criteria.

18.1.5. G.E.M. Inc. agrees to notify QAI in writing if there is a change in the agency conducting ongoing inspections.

APPENDIX A

G.E.M. Inc. Quality Control - Incoming Material Certificates of Analysis

MRC Polymers

Engineered AND Sustainable Resins
ISO9001:2008 Registered / A2LA Accredited

A2LA ACCREDITED
Testing Cert. No:1175.01

MRC Polymers Inc.
3307 S.Lawndale Ave.
Chicago, IL 60623

Phone : (773)890-9000
Fax : (773)890-9007

CERTIFICATE OF COMPLIANCE

Attention	: N/A	Part Number	: N/A
Customer	: Chempoly Distribution Inc	Date Shipped	: 9/25/2015
Product Name	: 600GF40-GY900	Purchase Order No.	: 110964
Customer Spec. No.	: N/A	MRC Spec. No.	: 600GF40-GY900
Product Description	: 40% Glassfilled PP Gray	Prepared by	: Ericka Campos

Property	ASTM Method	Units	Requirements	Results
			Lot Number :	15-EB0559-01
MELT FLOW RATE 230 C / 2.16 kg	1133	g/10min.	6 to 12	8.9
FILLER CONTENT Method A	3451	%	37 to 43	37.6

Good to use
Salah SS

RECEIVED
Sep 30.15.

MRC Polymers, Inc. hereby certifies that the material indicated above meets the requirements of MRC standard specification or the customer specification if shown. Physical properties reported above are based on mean test data. Applicable testing data and reports of physical, mechanical and thermal properties are on file. Other testing requirements which may be listed in the above customer specification and which are not defined in MRC polymers specifications are not tested for each lot of product. Use of A2LA logo does not imply product certification by A2LA. This Certification can only be reproduced with MRC's lab authorization.

Comments, Notes and Exceptions:

** Not part of the scope of accreditation by A2LA*

Ericka Campos 9/25/2015
Quality Manager / DATE

NPI
NORTHWEST POLYMERS

Polypropylene

Certificate of Analysis

Load #: 3050

Description: Polypropylene Copolymer pellet, impact modified

Lot: KTP63CB

Color: Range Gray

Melt: 12.5

Density: .912

INPECTED BY: _____

Specifications are a summary of NPI simple lab testing.

291 Commercial Parkway, Molalla, OR 97038 Phone: 503-829-3550 Fax: 503-829-3575

Ampacet
managing the elements of success™

Ampacet Corporation * Kitchener Plant

101 Sasaga Drive Kitchener Ontario N2C 2G8
Tel. 519-748-5576 / Fax. 519-748-9767

CERTIFICATE OF ANALYSIS

Date 08 Sep 2016

G.E.M. Inc.
d/b/a Euroshield
Calgary, AB T2C 2R2
CA

Contact: **QUALITY MANAGER**
Customer No: **130701**

Product Number 1800325-N BROWN PE MB
Customer product
Job Number 1127742
Production Date 15 Jun 2016
Customer PO 150010-6
Order Number 883544 SO

Data from our quality control tests relating to this product is follow:

Description	Result UOM	Method	Average	Result Min	Result Max
% ASH 3 MIN	%	N-QQT-EN0014	44.96	44.17	45.58
PELLETS / GRAM	GM	N-QQT-EN0002	42	40	44
BULK DENSITY (lb/ft3)	#CF	N-QQT-EN0005	57	57	57
% MOISTURE	%	N-QQT-EN0042	.040	.020	.070
CMC DELTA E	SHD	N-QQT-EN0044	.42	.29	.52
DISP OF INJ MOLD		N-QQT-EN0007	1.0	1.0	1.0

Please email COA to john@euroshieldroofing.com and Salah salah@euroshieldroofing.com; akelln@euroshieldroofing.com

Steve Haynes
Technical Release

Ampacet
managing the elements of success™

Ampacet Corporation * Kitchener Plant

101 Sasaga Drive Kitchener Ontario N2C 2G8
Tel. 519-748-5576 / Fax. 519-748-9767

CERTIFICATE OF ANALYSIS

Date 10 Aug 2016

G.E.M. Inc.
d/b/a Euroshield
Calgary, AB T2C 2R2
CA

Contact: **QUALITY MANAGER**
Customer No: **130701**

Product Number 1200791-NE SILVER PE MB
Customer product
Job Number 1135119
Production Date 10 Aug 2016
Customer PO 12585
Order Number 889871 SO

Data from our quality control tests relating to this product is follow:

Description	Result UOM	Method	Average	Result Min	Result Max
PELLETS / GRAM	GM	N-QQT-EN0002	47	46	47
BULK DENSITY (lb/ft3)	#CF	N-QQT-EN0005	46	46	46
% MOISTURE	%	N-QQT-EN0042	.025	.020	.031
CMC DELTA E	SHD	N-QQT-EN0044	.44	.29	.56
DISP OF INJ MOLD		N-QQT-EN0007	1.0	1.0	1.0

Please email COA to john@euroshieldroofing.com and Salah salah@euroshieldroofing.com; akelln@euroshieldroofing.com

Steve Haynes
Technical Release

AERP
Alberta Environmental Rubber Products
1-800-761-8473

SIEVE ANALYSIS REPORT

Date: _____ Customer: _____

Time: _____ Shift: _____

Where Taken: _____ Tag #: _____

Screens in Deck: _____ PO #: _____

Comments: _____

Bulk Density Test: _____

Test done in accordance with ASTM 5603

Only Grade 2 tires used in production. Material is 99% steel and fabric free. Moisture content < 1%

Mesh Size	WT	% Retained		WT	% Retained
4			20		
6			30		
7			40		
8			60		
10			80		
12			Tray bottom		
14					
16			Metal		
18					
			Total Sample Weight:		

INGENIA

Certificate of Analysis

2222 APPELT DRIVE
HOUSTON, TX 77015
TEL: 281-862-0785
FAX: 281-862-0787

Sold-to party: 10303
Company
G.E.M. Inc.
8330 48th Street S.E.
T2C 2R2
Calgary
AB CA

Ship-to party: 10303
Company
G.E.M. Inc.
8330 48th Street S.E.
T2C 2R2
Calgary
AB, CA

Purchase Order Item/Date :00012653 / 09/15/2016
Delivery Item / Date :80046384 900002 / 09/16/2016
Order Item / Date :33001821 000010 / 09/15/2016
Product :BK001A BLACK
Date of Manufacturing :07/28/2016

Batch :0010038687
Quantity :1,360.000 KG

Characteristic		Unit	Value	Lower Limit	Upper Limit
Moisture (wt %)	-	%	0.01	-	0.10
Carbon Black (wt %)	-	%	50.8	47.0	53.0
MI (190C/10.0kg)	-	g/10mi	17.5	-	-
Pellet Count (pel/g)	-	pel./g	37	30	70
Bulk Dens. (g/100cc)	-	g/100c	72.5	69.0	76.0

Approved By
HANSIKA RATHOD
QUALITY ASSURANCE MANAGER

Date:09/19/2016

INGENIA

Certificate of Analysis

565 GREENWICH STREET
BRANTFORD, ON N3T 5M2
TEL: 519-758-8941
FAX:519-758-8024

Sold-to party: 10303
Company
G.E.M. Inc.
8330 48th Street S.E.
T2C 2R2
Calgary
AB CA

Ship-to party: 10303
Company
G.E.M. Inc.
8330 48th Street S.E.
T2C 2R2
Calgary
AB, CA

Purchase Order Item/Date :00012653 / 09/15/2016
Delivery Item / Date :80046384 900003 / 09/16/2016
Order Item / Date :33001821 000020 / 09/15/2016
Product :SL005A SILVER
Date of Manufacturing :07/28/2016

Batch :0010038667
Quantity :630.000 KG

Characteristic		Unit	Value	Lower Limit	Upper Limit
Delta E	-		0.57	-	1.00
Moisture	-	%	0.018	-	0.100
Pellet Count	-	pel./g	40	34	46

Approved By
SUZANNE FORTIN
QUALITY ASSURANCE MANAGER

Date:09/19/2016

ACCURATE/WESTERN SCALE CO. LTD.

4560 - 14 STREET N.E.
CALGARY, ALBERTA T2E 6T7
PHONE: (403) 250-3232 FAX: (403) 250-3457
EMAIL: accwest@telusplanet.net

WORK ORDER 17427

NAME: GEM Inc.
BILLING ADDRESS: 9330-48 st SE
Calgary, AB
T2C 2R2.

LOCATION OF JOB

PURCHASE ORDER	DATE	PERSON	PHONE NO.
	22-16	Glenn	875-4054

Visual Hazard Assessment Done: ____ YES ____ NO ____ N/A
Any New Hazards: ____ YES ____ NO If yes explain ____ N/A

MAKE	MODEL	SERIAL	CAP

PARTS, MATERIALS AND EXPENSES	AMOUNT
Certification Fee	50.00

MAN / VEHICLE	DATE	HOURS / MILEAGE	RATE	
DE	22-16	1	100.00	100.00

SUB TOTAL	150.00
G.S.T.	7.50
TOTAL	157.50

DESCRIPTION OF WORK DONE

Do subsequent inspection on price computing platform scale

pd Debit

WORK AUTHORIZED BY	DATE COMPLETED

The customer grants to Accurate/Western Scale Co. Ltd. a security interest in the equipment for the amount of any unpaid balance of the purchase price and interest thereon at the rate of 10% per annum until the purchase price is paid in full.

Measurement Canada / Mesures Canada
An Agency of Industry Canada / Un organisme d'Industrie Canada

DEVICE EXAMINATION CERTIFICATE

PROTECTED A

Certificate number: 10189615
Examination date: 2016-03-02

7021210 - Global Environmental Manufacturing (G.E.M.) Inc (G. E.M. Inc)
9330 - 48 St SE, Calgary, Alberta, T2C 2R2
Glenn - Maintenance Manager
403-215-3333
glenn@euroshieldroofing.com

Examined devices

Device	Device type	Serial number	Secondary serial number	Capacity	Interval	Product type	As found	Result	Next examination due date
1	Computing Scales - Non-Automatic	610596		15.0 kg	0.005 kg	Chemical Products	Compliant	Verified	

Certificate issued by: ACCURATE/WESTERN SCALE COMPANY LTD., (A0017), A00170003
4560-14th Street NE, Calgary, Alberta, T2E 6T7
403-250-3232, Fax: 403-250-3457

IC3562E (2011/10), Page 1 of 1

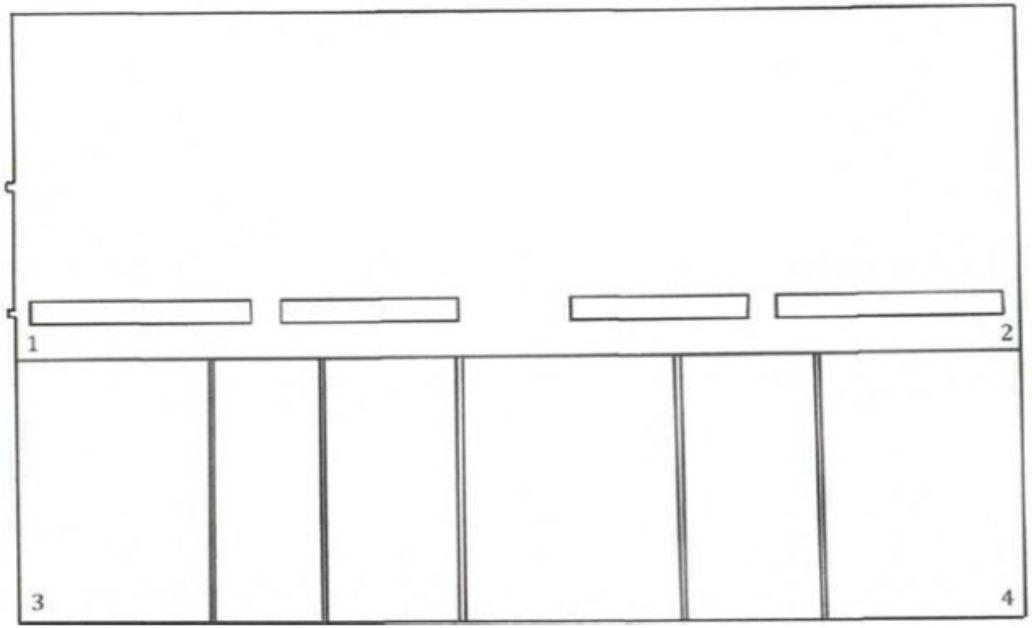
Date issued: 2016-03-04
Work order / reference number: 17427

Canada

APPENDIX B

Ranchlands Shake, Rundle Slate, Beaumont Shake
Vermont Slate, Beaumont Shake HP and Vermont Slate HP - Finished Product QC Forms and Specifications

RANCHLANDS SHAKE MOLD # _____ SHIFT _____ DATE _____ OPERATOR _____



PANEL LENGTH _____ PANEL WIDTH _____ (at center of panel)
acceptable length range is 90.7 cm-92.7 cm; acceptable width range is 56 cm-59 cm (average of all molds)

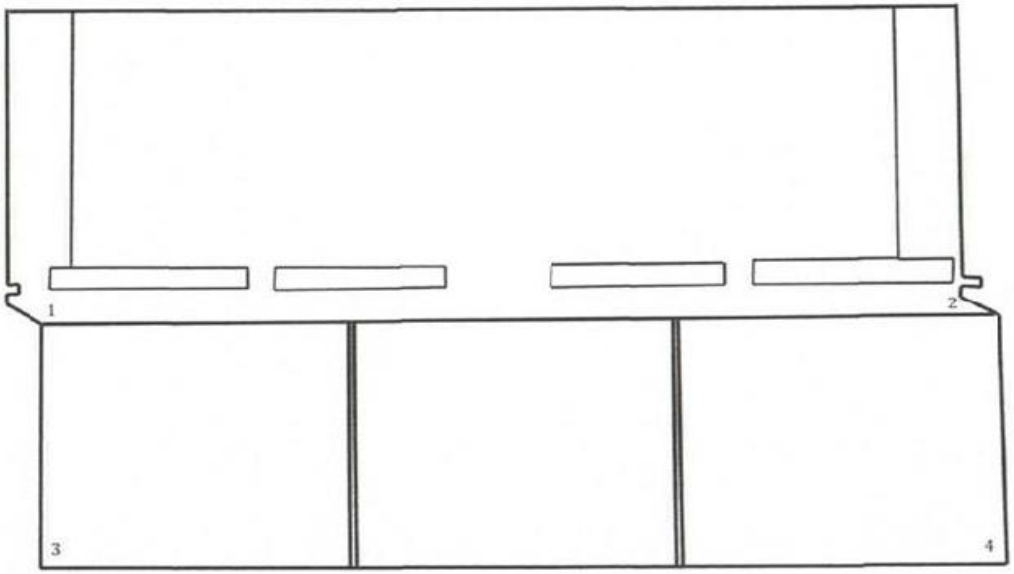
THICKNESS AT LOCATION #1 _____ #2 _____ #3 _____ #4 _____
acceptable range: 9.8-10.8mm 9.7-10.7mm 16.5-20.5mm 17.6-21.6mm (average of all molds)

WEIGHT OF PANEL _____ kg (acceptable range is 3.8-4.2 kg)

TIME _____ QA/QC Initials _____

Rate of Burn Test
Burn Distance _____ mm ≤40 mm/min = pass
Burn Time _____
Rate of Burn Result _____

RUNDLE SLATE MOLD # _____ SHIFT _____ DATE _____ OPERATOR _____



PANEL LENGTH _____ PANEL WIDTH _____ (at center of panel)
acceptable length range is 91 cm-93 cm; acceptable width range is 55.7 cm-58.7 cm (average of all molds)

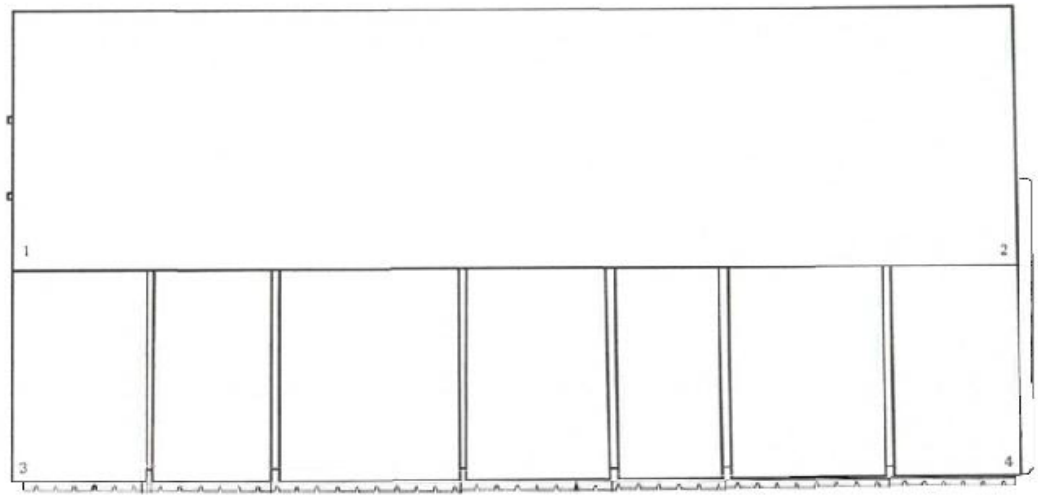
THICKNESS AT LOCATION #1 _____ #2 _____ #3 _____ #4 _____
acceptable range: 9.6-10.6mm 9.7-10.7mm 16-24mm 17.6-21.6mm (average of all molds)

WEIGHT OF PANEL _____ kg (acceptable range is 3.8-4.2 kg)

TIME _____ QA/QC Initials _____

Rate of Burn Test
Burn Distance _____ mm ≤40 mm/min = pass
Burn Time _____
Rate of Burn Result _____

BEAUMONT SHAKE MOLD # _____ SHIFT _____ DATE _____ OPERATOR _____



PANEL LENGTH _____ PANEL WIDTH _____ (at center of panel)
acceptable length range is 102 cm-104 cm; acceptable width range is 52 cm-55 cm (average of all molds)

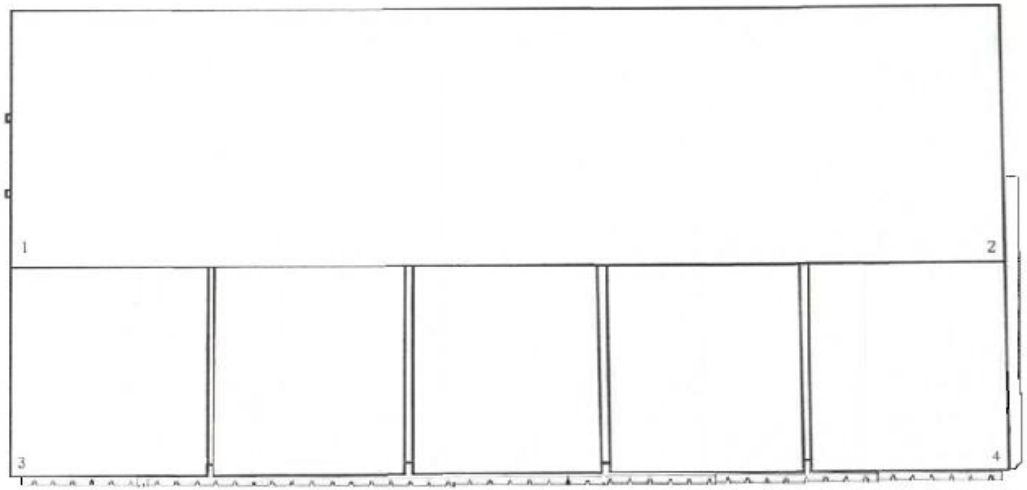
THICKNESS AT LOCATION #1 _____ #2 _____ #3 _____ #4 _____
acceptable range: 8.2-9.2mm 8.3-9.3mm 12.2-16.2mm 12.3-15.3mm (average of all molds)

WEIGHT OF PANEL _____ kg (acceptable range is 2.5-2.9 kg)

TIME _____ QA/QC Initials _____

Rate of Burn Test
Burn Distance _____ mm ≤40 mm/min = pass
Burn Time _____
Rate of Burn Result _____

VERMONT SLATE MOLD # _____ SHIFT _____ DATE _____ OPERATOR _____



PANEL LENGTH _____ PANEL WIDTH _____ (at center of panel)
acceptable length range is 102 cm-104 cm; acceptable width range is 52 cm-55 cm (average of all molds)

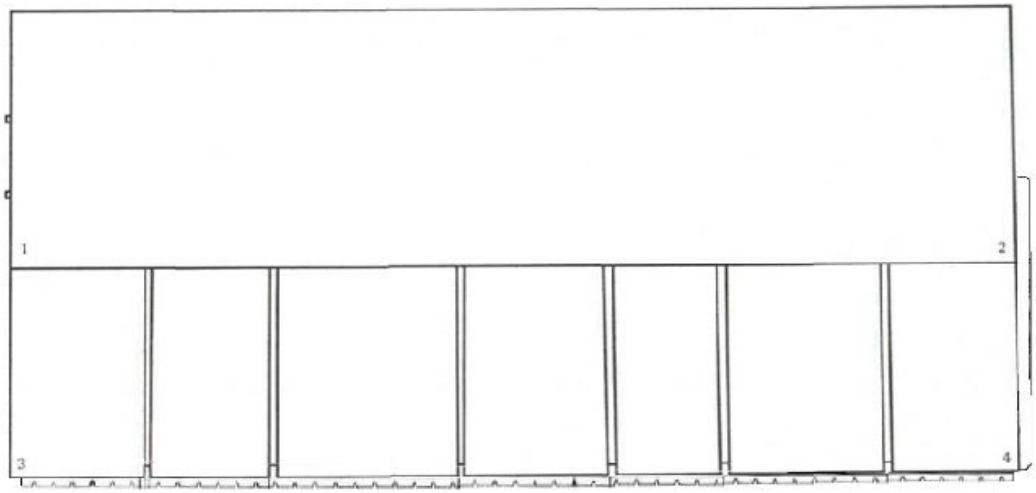
THICKNESS AT LOCATION #1 _____ #2 _____ #3 _____ #4 _____
acceptable range: 6.8-7.8mm 6.5-7.5mm 7.5-11.5mm 9.8-13.8mm (average of all molds)

WEIGHT OF PANEL _____ kg (acceptable range is 2.5-2.9 kg)

TIME _____ QA/QC Initials _____

Rate of Burn Test
Burn Distance _____ mm ≤40 mm/min = pass
Burn Time _____
Rate of Burn Result _____

BEAUMONT SHAKE HP MOLD # _____ SHIFT _____ DATE _____ OPERATOR _____



PANEL LENGTH _____ PANEL WIDTH _____ (at center of panel)
acceptable length range is 103 cm-105 cm; acceptable width range is 52 cm-55 cm (average of all molds)

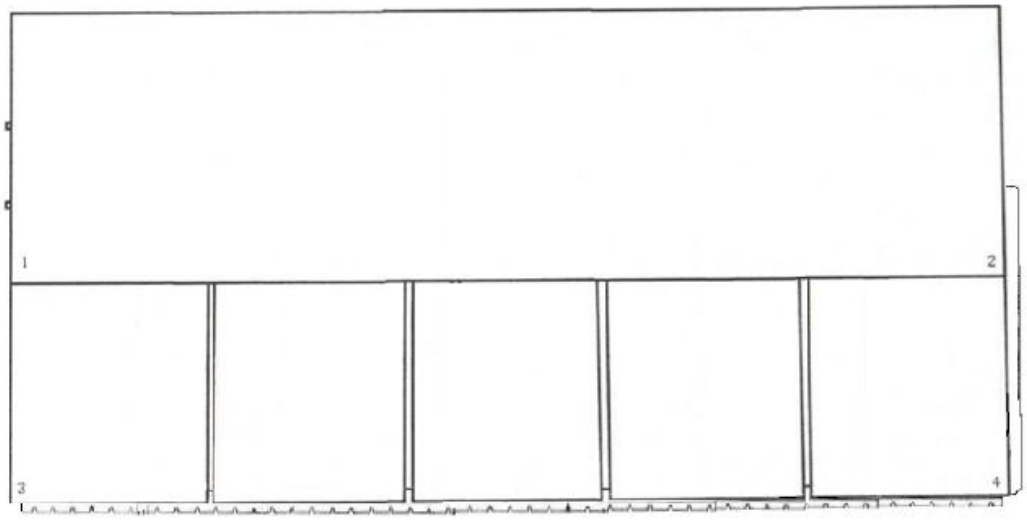
THICKNESS AT LOCATION #1 _____ #2 _____ #3 _____ #4 _____
acceptable range: 7.4-8.4mm 7.3-8.3mm 7.7-11.7mm 5.8-9.8mm (average of all molds)

WEIGHT OF PANEL _____ kg (acceptable range is 2.8-3.2 kg)

TIME _____ QA/QC Initials _____

Rate of Burn Test
Burn Distance _____ mm ≤40 mm/min = pass
Burn Time _____
Rate of Burn Result _____

VERMONT SLATE HP MOLD # _____ SHIFT _____ DATE _____ OPERATOR _____



PANEL LENGTH _____ PANEL WIDTH _____ (at center of panel)
acceptable length range is 102 cm-104 cm; acceptable width range is 52 cm-55 cm (average of all molds)

THICKNESS AT LOCATION #1 _____ #2 _____ #3 _____ #4 _____
acceptable range: 7.4-8.4mm 7.2-8.2mm 5.0-9.0mm 6.2-10.2mm (average of all molds)

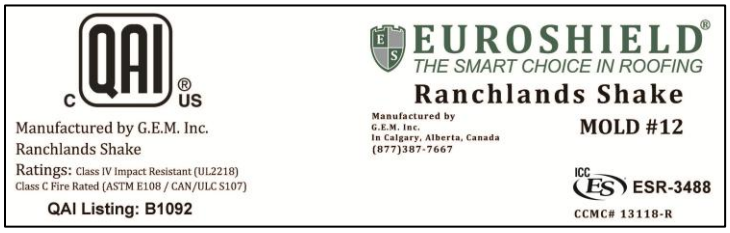
WEIGHT OF PANEL _____ kg (acceptable range is 2.8-3.2 kg)

TIME _____ QA/QC Initials _____

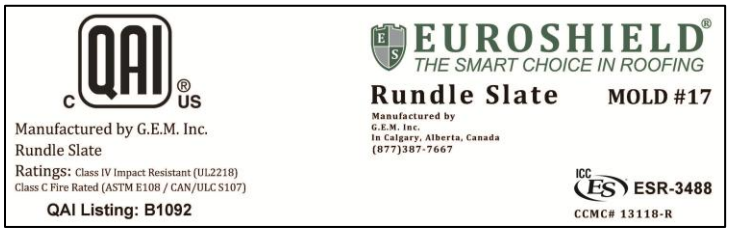
Rate of Burn Test
Burn Distance _____ mm ≤40 mm/min = pass
Burn Time _____
Rate of Burn Result _____

APPENDIX C

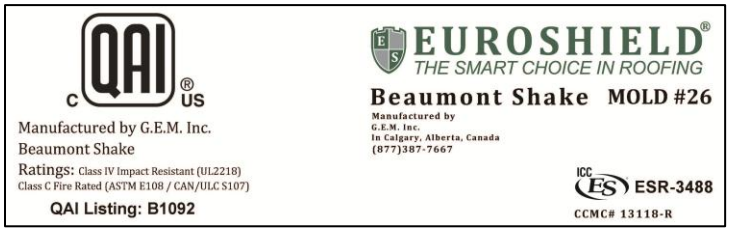
Ranchlands Shake, Rundle Slate, Beaumont Shake
- Examples of Finished Product and Skid Labels



Example Ranchlands Shake Final Product Label



Example Rundle Slate Final Product Label



Example Beaumont Shake Final Product Label

Example Ranchlands Shake Skid Label

Example Rundle Slate Skid Label

Example Beaumont Shake Skid Label

RECORD OF REVISIONS

Edition	REVISION			APPROVALS			
	DATE	PAGES REVISED	DESCRIPTION	G.E.M. Inc.	DATE	QAI	DATE
1	01/03/2016	Page 6 Page 12 Page 15	- Updated formulation information Section 7, Section 12.2 - Updated Manufacturer Declarations Section 18	BE	01/03/2016	ML	01/03/2016
2	06/20/2016	Page 5 Page 11 Appendix B	- Included three additional products - Updated label information. - Updated Section 14.1. - Added product drawings.	BE	06/28/2016	ML	06/10/2016
3	10/24/2016	Pages 1 to 11 Appendix A Appendix B	- Updated product names to Heritage Slate and Harvest Shake - Added Heritage Slate and Harvest Shake product labels - Added COA for Colorant and Rubber suppliers - Added Heritage Slate and Harvest Shake product drawings	BE	11/14/2016	ML	11/04/2016
4	01/12/2017	Pages 7 to 15	- Quality Manager added to Organization Section 9.1 - Footnotes 2,3,4 removed from Section 12.1 - ASTM E108 slope changed in Section 14.2 - Chemical Composition Acceptance Limits reference changed in Section 14.2	BE	01/12/2017	AH	11/04/2016
5	04/24/2017	Pages 12 and 13	- Section 14.2 updated to include ASTM E108 sampling requirement for both Harvest Shake and Beaumont Shake - Section 14.3 changed to include nonconforming procedure and rate of burning changed to 29 mm/minute	BE	04/24/2017	AH	04/24/2017
6	09/07/2017	Appendix B	- Worksheets for all models updated with 29 mm/minute rate of burning			AH	09/07/2017
7	02/28/2019	Entire Document	- Updated product names as follows: Euroshake → Ranchlands Shake; Euroslate → Rundle Slate; Heritage Slate → Granville Slate. - Updated Product Mold Label Examples. - Added clarification to manufacturing process regarding adhesive strip application, - Added Appendix C containing example Final Product Labels and Skid Labels.	BE	03/04/2019	AP	02/28/2019
8	04/24/2019	Entire Document	- Added new product "Beaumont Shake Loc" - Updated manufacturing and QC procedures, to reflect addition of the newly added product. - Minor Report corrections.	BE	04/24/2019	AP	04/24/2019
9	10/09/2025	Entire Document	Update to remove obsolete products Harvest Shake, Heritage Slate, EuroShake, EuroSlate (renamed Vermont Slate, Ranchlands Shake), add Beaumont Shake HP and Vermont Slate HP. Update contact information. Update labels. Update incoming material specifications. Update to remove adhesives from production as no longer used. This does not affect certification.	LG		ML	10/09/2025