



# BUILDING PRODUCT QUALITY PLAN

Version 2.1

Rebain International (NZ) Limited

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## Policy

Rebain International (NZ) Limited will import Demilec Polyurethane systems for the New Zealand market ensuring the quality of these products are suited to their intended use.

Rebain International (NZ) Limited will provide these materials to their installers under this Building Product Quality Plan.

## Introduction

Rebain International (NZ) Limited was formed in July 1998. We introduced Demilec Heatlok to the New Zealand market in late 2015 due to the demand for a high performance closed cell, stable and environmentally green polyurethane spray foam for insulation.

We decided that these materials needed to have an appraisal from a suitable experienced testing house and we asked the Building Element Assessment Laboratory (BEAL) to carry out an appraisal of our products. Following the success of this initial appraisal for home insulation we asked BEAL to proceed to CODEMARK approval for Heatlok Foam.

## Contact Details

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## Reference Documents

1. Building Regulations & Building Code 2004.
2. Suppliers' Technical Literature or documents
3. Technical information supplied by Rebain International (NZ) Limited
4. Rebain International (NZ) Limited Products Installer Training Manual(s)
5. Third party test reports:
  - a. ASTM D 1622: *Standard Test Method for Apparent Density of Rigid Cellular Plastics*
  - b. ASTM C 518: *Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Apparatus*
  - c. ASTM E 283: *Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen*
  - d. ASTM E 2178: *Standard Test Method for Air Permeance of Building Materials*
  - e. ASTM E 96: *Standard Test Methods for Water Vapor Transmission of Materials*
  - f. ASTM D 2842: *Standard Test Method for Water Absorption of Rigid Cellular Plastics*
  - g. ASTM D 1621: *Standard Test Method for Compressive Properties of Rigid Cellular Plastics*
  - h. ASTM D 1623: *Standard Test Method for Tensile and Tensile Adhesion Properties of Rigid Cellular Plastics*
  - i. ASTM D 2126: *Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging*
  - j. ASTM C 1338: *Standard Test Method for Determining Fungi Resistance of Insulation Materials and Facing*
  - k. ASTM D 2856: *Standard Test Method for Open-Cell Content of Rigid Cellular Plastics by the Air Pycnometer*
  - l. ASTM E 84: *Standard Method of Test for Surface Burning Characteristics of Building Materials*
  - m. NFPA 286: *Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth*
  - n. ASTM D 1929: *Standard Test Method for Determining Ignition Temperatures of Plastics*

## PRODUCTS covered by this BPQP

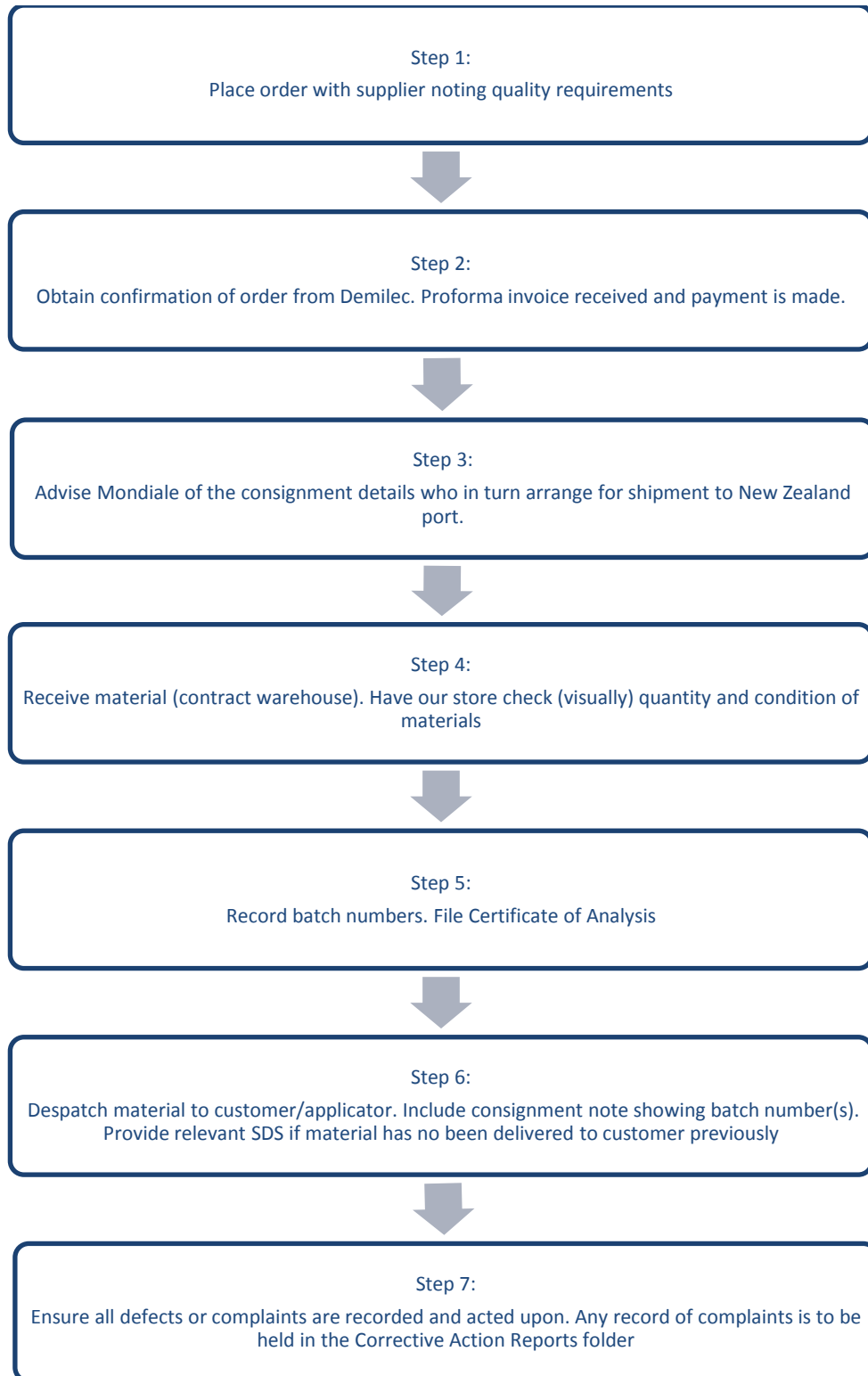
	Product Name	Scope of Use	Approvals
1	HEATLOK (Polyol for closed cell foam)	Home & Industrial for high performance insulation	BEAL Codemark
2	SEALECTION AKA AGRIBALANCE (Polyol for open cell foam)	Acoustic foam Thermal insulation	
3	MAXGUARD	Elastomeric coatings	
4	Demilec PF 6328	Pour Foam	
5	ECO PUR 352	Coastguard approved foam	
6	BLAZELOK	Intumescent coatings	
7	MDI (Methylene diphenyl diisocyanate)	Isocyanate for reaction with polyol	

Note: Other products to be added as they are introduced to the market

## Key RISKS covered by this BPQP

- Materials short-supplied or delayed (stock shortages)
- Materials supplied to us not meeting the relevant specification (included with our order)
- Materials supplied to us not properly identified
- Materials supplied to us damaged
- Our Technical Manuals not up to date and displaying the latest version number
- Training Manual(s) not up to date and displaying the latest version number
- Check List Sheets not being properly completed / filed by the Applicator
- An Internal Audit of our BPQP not being carried out on a six monthly basis
- An External Audit of our BPQP not being carried out at least once a year
- Incorrect product (Resin or Isocyanate) delivered by warehouse
- Shelf life limitations

## Flow Chart covering ordering to receipt to distribution to installation



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## Product Components Specifications & Descriptions

Specifications of the products supplied by us:

1. For the Demilec Spray & Pour polyurethane systems – the specifications for each component can be found in the Rebain International (NZ) Ltd. Technical Manual.
2. Components include:
  - HEATLOK (Polyol for closed cell foam)
  - SEALECTION (Polyol for open cell foam)
  - MAXGUARD (Plural component spray elastomer)
  - PF 6328 (polyol for closed cell pour foam)
  - ECO PUR (Polyol for Coastguard approved buoyancy foam)
  - BLAZELOK (Intumescent coating)
  - MDI

### General Description of Features and Benefits:

Demilec Inc. manufactures high quality resins for manufacture of polyurethane foams for insulation and acoustic applications along with spray elastomer systems, pour-in-place foams and coastguard approved foams. These must be applied by trained and approved applicators.

Demilec spray foam systems can be used for exterior and interior applications for ceiling, walls, underfloor and basements.

The benefits of the Demilec spray foam system are:

- A proven and tried product (many have over 20 years use history)
- A variety of grades to meet differing climatic and application conditions
- Limited lifetime warranty.

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## Inspection & Testing Requirements

### Inspections of Components:

Quality inspections of the Certificate of Analysis (COA) against specifications for each component are conducted on receipt of documents from the manufacturer. As a COA is approved the batch number is noted and recorded.

### Testing of Components:

Testing is an essential step in maintaining ongoing and continuous quality. Samples of foam from each batch/job/day are tested by the Approved Applicator and a retain sample kept. COAs are stored from each batch received on every shipment from the manufacturer. A random sample of the foam is tested regularly by BEAL Laboratory to ensure compliance with the standard. This testing will measure thermal properties and density in line with the following standards:

- *AS/NZS 4859.1: Materials for thermal insulation of buildings. Part 1: General criteria and technical provisions*
- *ISO 8302: Thermal insulation -- Determination of steady-state thermal resistance and related properties -- Guarded hot plate apparatus*
- *DIN EN 1946-2: Thermal performance of building products and building components - Specific criteria for the assessment of laboratories measuring heat transfer properties - Part 2: Measurements by guarded hot plate method.*
- *EN 12667: Thermal performance of building materials and products - Determination of thermal resistance by means of guarded hot plate and heat flow meter methods - Products of high and medium thermal resistance*
- *ASTM C177 (DIN 52612): Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus*

BEAL will test foam from one set annually for two years, followed by one set every three to four years.



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## Storage and Dispatch / Product Recall

### Storage Requirements:

- Product is stored in a clean dry area within the temperature range specified on the TDS.
- Rebain advises the store to arrange delivery of product
- The store provides a consignment note with names and volumes of stock to be dispatched. The consignment note includes the consignment note reference number, Rebain reference number, the customer order number, customer address and date required. The consignment note includes the batch number of the product and any relevant DG documentation.
- A copy of the consignment note goes with the product to the customer. Rebain can log in by computer at any time to view any consignment note.
- The store sends a run report for each day's dispatches which will include a reference to the aforesaid consignment note (job number, batch number and Rebain reference number)

### Product Recall

Upon receiving the notice of product falling outside the specification or product is received damaged, the following action is taken:

- If product is on the customer's site, arrange for it to be collected and received into Quarantine location.
- Place all other packed product of the same batch on hold, clearly marking so.
- Trace back to isolate the failure.
- Take corrective action to prevent further product failure.
- Inform all relevant staff of the action taken.
- Implement all necessary action.
- Verify that all actions taken are working.

A numbered register of all Corrective Action Reports is held on file.

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## Register of Approved Applicators

### Distributors

- Rebain will ensure all products will be applied by trained and approved installers.
- Applicators are to be approved by the Rebain trained service technician
- A record of each trained and approved applicator will be kept by Rebain

### [Rebain Register of Approved Applicators](#)

This document is saved with the BPQP on the company drive and will be kept up to date as new applicators are trained and approved.

### Installers

- All applicators are trained and approved and have completed training complying with our BPQP procedures, especially the use of the Checklists described in the Technical manual and/or in this Building Product Quality Plan.
- A Training Manual describes the training and application of these BPQP procedures.
- Demilec will issue an Approved Applicator Certificate for each individual passing the training test.
- A record must be kept of all training. It must be easily recorded in order to maintain records. BPQP installers must keep and maintain their own records.

All staff members are to be trained in the following areas, according to the Rebain Installer Training Manual:

1. Safe work practices
2. Product Training
3. Appropriate use
4. Trouble shooting
5. Equipment maintenance
6. Awareness of handling and storage of chemicals of hazardous and or trackable nature along with appropriate precautions
7. Application of these BPQP procedures and all relevant checklists.

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## BPQP Management & Audit Responsibilities

### Management:

- The overall responsibility for ensuring that this BPQP is implemented is the Rebain Managing Director.
- The person at head office responsible for carrying out periodic internal audits of this BPQP document and attachments is the Compliance Officer
- Each Rebain Approved Applicator shall be responsible for the on- site application of this BPQP as it applies to their work and shall be responsible for having periodic reviews of their documentation and diary notes that are related to the BPQP. In addition each Approved Applicator will complete a full daily report for each installation carried out. Checklists on site for each job will include the following information:
  - A photograph of the installed foam per job per day.
  - the name and address of the customer
  - the address of the site to be sprayed
  - weather conditions including relative humidity and temperature during installation. (record periodically in changeable conditions)
  - names of resin and isocyanate used including batch numbers and comments on temperature of drums as stored prior to the job
  - the type of machine and gun used
  - the temperature and pressure used during spraying
  - the name of operator
  - the type of application (Ceiling/walls/underfloor, and the materials sprayed onto including temperature of substrate)
  - a record of the final volume used and confirmation that a core sample has been taken

The checklist in Appendix 1, page 13 can be used for this purpose


### Audit Requirements

- This BPQP will be reviewed **every six months** at head office by management and/or compliance staff. A record is to be kept of each review.
- The BPQP of each Rebain International (NZ) Ltd Approved Applicator will be audited at least every year by Rebain. The Rebain trained service technician may occasionally need to go out on a job to observe application techniques and record keeping.

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- Use will be made of the checklist in Appendix 2, page 15.
- Records of each audit completed will be filed in the BPQP file (folder) under the tab entitled Rebain AUDIT BPQP.
- Where there is a non-conformance found, a note for the reason shall be written into the checklist.
- Where a non-conformance is seen to be important (such as for a high or medium risk material) then raise a Corrective Action Report (CAR) and have a meeting with the relevant management people as soon as practical to:
  - a) determine the importance of the non-conformance;
  - b) determine who shall be responsible for correcting the non-conformance;
  - c) determine whether or not there needs to be a correction or addition to the BPQP documents;
  - d) write up a record of when the non-conformance was dealt with and the names of any other parties that may have been involved in achieving the corrective action. These notes should be filed in a manner that enables them to be easily found in the event that there is a repeat of the non-conformance.
- The BPQP will be audited annually by BEAL and a record shall be maintained of every audit carried out.

## Appendix 1: On-site Checklist for Demilec Applicators:

 <b>ON SITE CHECKLIST FOR DEMILEC APPLICATORS v2.1</b>		<b>Job number:</b>	
		<b>Date:</b>	
		<b>Supervisor:</b>	
		<b>Applicator:</b>	
<b>Building consent #:</b>		<b>Assistant:</b>	
<b>Owner/Applicant:</b>			
<b>Architect/Designer/Engineer:</b>			
<b>Site address:</b>			
<b>Weather conditions:</b>		Relative Humidity (RH): ___%	
<b>Substrate:</b>	Wood <input type="checkbox"/>	Steel <input type="checkbox"/>	Concrete <input type="checkbox"/>
<b>Prep work complete:</b>	<input type="checkbox"/> <b>Comment:</b>		
<b>Air Temperature:</b> Limit(s): _____	Start temperature		Finish temperature
<b>Substrate Moisture (%):</b> Limit(s): _____	Start moisture		N/A
<b>Substrate Temperature (°C):</b> Limit(s): _____	Start temperature		Finish temperature
<b>Rise time:</b> Spec: _____	Start rise time		Finish rise time

<b>Pump pressure (psi)</b>	MDI:	Polyol:	
<b>Temperature (°C)</b>	MDI:	Polyol:	Hose:
<b>Spray pattern OK?</b>	Time: _____ Yes <input type="checkbox"/> No: _____	Time: _____ Yes <input type="checkbox"/> No: _____	Time: _____ Yes <input type="checkbox"/> No: _____
<b>Spray sample collected, bagged and labelled for density testing:</b>		<input type="checkbox"/>	

	Unit Size	Batch Number(s)	Qty. Brought to Site	Quantity Returned	Quantity Used
<b>MDI</b> Product name:					
<b>Polyol</b> Product name:					
<b>Total Volume sprayed (m<sup>3</sup>):</b>	<b>Weight of MDI Used (kg):</b>	<b>Weight of Polyol Used (kg):</b>	<b>Total Weight of System Used (kg):</b>	<b>Post-Application Inspection:</b> <input type="checkbox"/>	
				<b>Post- 24 hours Inspection:</b> <input type="checkbox"/>	

<b>Comments:</b>	
<b>Signed:</b>  (Applicator)	<b>Signed:</b>  (Supervisor)

## Appendix 2: Rebain Checklist for Approved Applicator BPQP Audit



### CHECKLIST FOR DEMILEC APPLICATORS BPQP AUDIT v1.1

DATE: \_\_\_\_\_

APPROVED APPLICATOR #: \_\_\_\_\_ NAME: \_\_\_\_\_

COMPANY: \_\_\_\_\_

NAME OF REBAIN AUDITOR: \_\_\_\_\_

AUDIT LOCATION: \_\_\_\_\_

BRIEF DESCRIPTION OF JOB OBSERVED: \_\_\_\_\_

\_\_\_\_\_

#### ON-SITE OBSERVATION:

##### INITIAL CHECKS:

- |  |          |
|--|----------|
| 1. Moisture content of substrate recorded                          | YES / NO |
| 2. Temperature of substrate recorded                               | YES / NO |
| 3. Checked that this complies with resin manufacturer's guidelines | YES / NO |

##### CHEMICAL SUPPLY:

- |   |          |
|---|----------|
| 4. Correct material on hand                       | YES / NO |
| 5. Batch number and quantities of polyol recorded | YES / NO |
| 6. Batch number and quantities of MDI recorded    | YES / NO |

##### DAILY CONDITIONS:

- |   |          |
|---|----------|
| 7. Temperature recorded (min twice daily)       | YES / NO |
| 8. Note taken of weather condition and forecast | YES / NO |
| 9. Rise time recorded (start and finish)        | YES / NO |

##### MACHINE SETTINGS:

- |  |          |
|--|----------|
| 10. Pressure of pumps recorded while spraying    | YES / NO |
| 11. Temperature of polyol, MDI and hose recorded | YES / NO |
| 12. Spray pattern tested                         | YES / NO |

