

Thursday, 14 April 2011

Firth - RibRaft
Attn: Dene Cook

SURVEILLANCE REPORT - for the RibRaft Building Product Quality Plan

Introduction

1. The purpose of this report is to verifying the degree of compliance in practice with the Building Product Quality Plan (BPQP) for the RibRaft product supplied by Firth Industries, which is a requirement for validating the information submitted as part of an application for a Codemark certificate.
2. Date of commencement of this surveillance: Thursday the 7th April 2011.
3. Lead Auditor: Mr. Colin Prouse from BEAL Auditing services Limited.
4. Reference Documents: 'RibRaft Technical Manual ver 5', 'Building Product Quality Plan, Firth RibRaft Flooring System Revision 3 Dec 2010', 'A Standard for a Building Product Quality Plan* – for a building product importer / manufacturer / distributor'.

*ISO 9001 is the international standard for the management of quality in a company. The BPQP standard takes the essential elements of ISO 9001 in order to make the requirement of managing risks as simple and easy to implement as possible.

5. The surveillance was carried out using a special audit tool to assess the degree of compliance with the 'Firth RibRaft Flooring System BPQP' and the BPQP Standard.
6. The following sites were visited –
 - South Island Regional Office
 - The Broughs Road Concrete Ready Mixed Batching Plant
- 7 residential properties which were constructed using the Firth RibRaft Flooring System**
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**The general locations of these seven properties were chosen from a large list of residential properties built over the past ten years in the Canterbury district, using the Firth RibRaft Flooring System, and has been identified by an independent seismic expert as being susceptible to "liquifaction" during an earthquake. The rationale for visiting these locations was to assess one of the key performance properties provided by the Firth RibRaft Flooring System;

7. The assessment was aimed at deciding whether or not the policies, procedures and practice of Firth Industries either complied with their BPQP and the Standard, or where an instance of non-conformance was found, the 'non-conformance' was either of a minor, medium, or serious nature. Instances found to be of a minor nature are brought to the applicant's attention and required to be remedied before the next surveillance assessment. Instances found to be of a medium nature, are expected to be remedied within a defined time frame, to be decided by the assessor based on the nature of the risks, and verified by either another site visit or other appropriate means.
- An instance found to be of a serious nature would attract a requirement that the issue be remedied immediately with confirmation this had been achieved within a defined period by an appropriate means.

Assessments

1. Document Management

A document version number and date of the last revision is shown on the front page of the BPQP.

2. Senior Management Responsibility

The BPQP is the responsibility of the National Technical Manager, and other senior managers are aware of it.

3. Reviews and Improvement of the BPQP, its Policies and Documents

The BPQP has yet to have its first annual review.

The BPQP has been found to meet the Standard at the time of the assessment.

4. Compliance

Key Requirements for a Building Product Manufacturer / Distributor are -

- **The key risk issues covering supply, assembly or manufacture, distributions and installation or application must be identified and filed in a BPQP manual;**
>Complies
- **A statement that describes the importance of managing quality and risks, called the 'Company QMS Policy Statement' must be written up;**
>Complies
- **The quality requirements of materials supplied to the company (commonly referred to as specifications) must be written up;**
>Complies
- **The quality requirements of building products assembled or manufactured by your company (if any) including packaging and labelling, must be written up;**
>Complies
- **The method of tracking product(s) supplied to your distributors or franchisees or applicators or installers must be written up;**
>Complies
- **Where there is a reasonable risk involved with an installation or application of a product, there must be a training manual, list of company approved trainers, and record of approved trainees, written up;**
>Complies

- **The method of ensuring all relevant risks are monitored, managed and corrected, and by whom, must be written up;**
>Complies
- **The method and records of carrying out periodic reviews by staff from your company must be written up;**
>Complies
- **A record of all complaints and defective installed product performance and what was done about them (when, whom, what, how)**
>Complies
- **A specific ring binder file into which all relevant records are kept.**
>Complies

Observations

The company has an existing certificate complying with ISO9001

The company has Audit Certificates of compliance from the New Zealand Ready Mixed Concrete Association Inc. for each of the Company's Ready Mixed Plants.

It was noted that there is a schedule for the audit of each of the Company's Ready Mix Plants.

A copy of an application for certificate of plant audit for the plant situated at Hornby, Christchurch, was shown to the assessor.

A copy of a letter advising of the Hornby plant's certification was shown to the assessor.

The computerised quality management system used to track the quality of output from each plant, from which the concrete (raw material) for the Firth RibRaft Flooring System would be supplied, was observed and copies of Summary Reports and Test results provided to the assessor.

Copies of the dispatch document (customer copy) issued by the plant, showing the quality of concrete supplied to site, were viewed.

A copy of the standard used for the purchase of the polystyrene pods used in the system was viewed.

A copy of the supply agreement between the company and the plastic spacer supplier, containing the specifications, was viewed.

The company's computerised Customer Complaint management system was viewed and a copy of a manual complaint form was provided to the assessor.

Site Inspections

The company supplied a list of residential buildings that used the Firth RibRaft Flooring System, built in the Canterbury region, built within the last ten years.

Within this list, an independent seismic expert identified areas that were considered as being susceptible to 'liquifaction' during an earthquake. From these areas a selection of residential buildings were visited and assessed for damage related to recent seismic activity, as a means of assessing the ability of the flooring system to comply with the performance requirement of Clause B1 of the New Zealand Building Code – B1, in particular B1.3.1, B1.3.2, and B1.3.3 (f) earthquake.

Seven properties were inspected at six locations identified as being susceptible:

- Halswell (2)
- Phillipstown (1)
- Linwood (1)
- Wainoni (1)
- New Brighton (1)
- Marshland (1)

In each case the owner or resident of the property was asked if they were in the property during either of the main events, and what damage had they found, either inside or outside the building.

In the first instance, the owners were in the house during the second event and reported a small crack in one bedroom near the corner of a ceiling, plus a 50mm tilt to the floor from one side to the other. No other signs of damage were to be seen.

The tenants or owners of the second, third and fourth property reported no visible damage to either the inside or outside.

The owner of the fifth property reported that though there were no visible signs of damage, he believed that the foundation floor had tilted somewhat owing to all the internal doors opening wide when they would normally stay where they were left.

The tenant living in the sixth property stated that he had been in the two-storied house when the second event occurred and stated that it felt like the building was at sea. He reported no damage to the exterior corrugated iron cladding but did note a minor item of damage in an upper floor ceiling above a doorway. It was not clear what the cause of the damage was and this will be investigated to get a better understanding and a second site visit.

The tenant of the seventh property stated that apart from a small crack in one ceiling junction with a wall, there were no other visible signs of damage.

At each property a careful inspection of the roof, walls, openings, junctions with other constructions such as decks and paths, and the junction of wall/cladding to floor foundation were made. In no case was any cracking or damage noted to buildings using the Firth RibRaft Flooring System.

Findings

1. Compliance with the BPQP Standard

From the evidence provided by the company making the application, compliance with the requirements described in the Standard have been complied with.

2. Field Assessment

Inspection of the applicant's documents, computerised monitoring and management systems, typical plant documentation, and visits to residential properties built with the applicant's product, all demonstrate an active and continuous implementation of the BPQP.

3. Instances of Non-conformance.

No instances of non-conformance were reported.

The purpose of this surveillance report is to verify actual compliance with the applicant's Building Product Quality Plan, which is a requirement for validating the performance of a quality and risk management system submitted as part of an application for a Codemark certificate.

In the opinion of the BEAL Auditing Services limited the applicant has demonstrated a high standard of quality and risk management system performance.



C R Prouse – Lead Auditor

BEAL Auditing Services Limited