

Resene Construction Systems Ltd
By email

Attention: Mark Flewellen

Dear Mark

1 Third Party Product Environmental Verification

Within this letter we explain the outcome of our third party product environmental verification of six of Resene Construction Systems Ltd's Rockcote products. The work was carried out in accordance with our engagement dated 13 August 2019.

Based on our assessment, the six Rockcote products do not comply with the GreenStar (Design & As Built NZ V1.0) credit we examined, and the products do comply with two of the three LEED (version 4.1) credits we examined.

2 Scope of assessment

The products assessed were:

- 1 ROCKCOTE Venetian Plaster (product code 4221, 4210)
- 2 ROCKCOTE Lime Plaster (product code 4178, 4393, 5002)
- 3 ROCKCOTE Clay Plaster Décor (product code 3443, 3753)
- 4 ROCKCOTE Velvetina (product code 5318, 5319)
- 5 ROCKCOTE Otsumigaki (product code 5151, 5152)
- 6 ROCKCOTE Marrakesh (product code 4384)

We have assessed your products against the following US Green Building Council (USGBC) LEED Interior Design and Construction (version 4.1) credits:

- Material & Resources: building product disclosure and optimisation – material ingredients. Verification based on completing a Manufacturer Inventory showing that no GreenScreen LT-1 hazards are present in the products.
- Material & Resources: building product disclosure and optimisation – sourcing of raw materials. Verification based on showing that the products meet the recycled content criteria.
- Indoor Environmental Quality: low-emitting materials. Verification based on laboratory reports to show VOC emissions are met.

In our Variation Order of 13 September 2019, we also said that we would assess whether the Rockcote products meet the following NZ Green Building Council (NZGBC) Green Star (version 3.2) credits:

- MAT-3 Sustainable Materials. Verification of criteria for recycled content or product stewardship.
- MAT-4 Low Emitting Materials. Verification based on laboratory reports to show VOC emissions are met.

During our assessment, on 31 October, the Green Star tool (version 3.2) was superseded by a new Green Star Tool – Design & As Built NZ V1.0. James Woods, Technical Coordinator Green Star confirmed via email on 12 November 2019 that under this new tool, the Rockcote products would need to comply with only one credit, credit 21 Sustainable Products.

Mr Woods confirmed that the current Green Star credit for low emitting materials (formerly credit Mat 4 Low Emitting Materials in Green Star version 3.2, now credit 13 Indoor Pollutants in Green Star – Design & As Built NZ V1.0) does not apply to the Rockcote plaster products.

3 NZGBC Green Star credits

3.1 Credit 21 – Sustainable Products

Up to three points are available when a proportion of all materials used in the project meet transparency and sustainability requirements – reused products, recycled content products, Environmental Product Declarations (EPD), third party certification and stewardship programmes.

For this verification, we assessed the Rockcote products against the recycled content products and the stewardship programme criteria. As the products do not have a third-party certification or an EPD, and they cannot be reused, the products cannot be assessed under these sustainability requirements.

Assessment:

Verification for recycled content is based upon the fraction of pre- and post-consumer recovered content included in the product by mass. There must be at least some pre- or post-consumer recycled content in the product to meet the criteria.

Although the Resene Construction website states “refined recycled glass is incorporated into all Rockcote base renders replacing a natural component of sand as a filler”, Mark Flewellen, National Technical Development of Resene Construction Systems confirmed via email on 28 November 2019 that the six Rockcote products included in this assessment do not contain any pre-consumer or post-consumer recycled content.

Verification for stewardship programme is based upon a contract for the supplier to collect the item at the end of use for re-lease, re-use or recycling. Although Resene operates a PaintWise programme for unwanted paint and paint packaging to be returned to designated Resene ColorShops, Mark Flewellen, National Technical Development of Resene Construction Systems confirmed via email on 17 December 2019 that the six Rockcote products included in this assessment are not eligible for the PaintWise programme. Resene Construction Systems Ltd does not currently offer any alternative contracts to collect the products at the end of use for re-use or recycling.

Therefore, the products do not meet the criteria in credit 21 Sustainable Products.

Products **do not** comply.

4 USGBC LEED credits

4.1 Material & Resources: Building Product Disclosure and Optimization – Material Ingredients

One point is available under Option 2 material ingredient optimization. Verification is based upon completing a Manufacturer Inventory showing EITHER:

- Products have fully inventoried chemical ingredients to 100 ppm and contain no GreenScreen v1.2 Benchmark hazards

OR

- *International Alternative Compliance Path – REACH Optimization*: that end use products and materials have fully inventoried chemical ingredients to 100 ppm and assess each substance against the REACH Authorization list – Annex XIV, the Restriction list – Annex XVII and the SVHC candidate list, (the version in effect in June 2013), proving that no such substance is included in the products.

Assessment:

The list of chemical ingredients within the six Rockcote products was provided by Mark Flewellen on 25 November 2019. Analysis of the three REACH lists revealed that there was one ingredient on a REACH list. 'Calcium carbonate' is included on the SVHC webpage list as a sub-heading under 'Cadmium Carbonate'. We reviewed the associated decision document (ED/01/2018) for the SVHC entry and it relates to cadmium carbonate and includes the CAS number for cadmium carbonate. There is no mention of calcium carbonate or the CAS number for calcium carbonate.

We believe that calcium carbonate has been included on the SVHC webpage in error and we have contacted the European Chemicals Agency (which manages the technical and administrative aspects of the REACH lists) to clarify this. Although yet to be confirmed, Tonkin + Taylor believes the six Rockcote products do meet the LEED criteria for Material & Resources: Building Product Disclosure and Optimization – material ingredients.

Products comply.

Note: When any of the six Rockcote products are being used in a project to be assessed against a LEED scheme, the assessor can use our letter of verification (Appendix A) to confirm compliance with the requirements of Material & Resources: Building Product Disclosure and Optimization – material ingredients and can complete assessment of this criteria (by completing the required LEED calculator tool).

4.2 Material & Resources: Building Product Disclosure and Optimisation – Sourcing of Raw Materials

One point is available under Option 2 leadership extraction practices. Verification is based upon showing that the products meet the following recycled content criteria:

- Recycled content is the sum of post-consumer recycled content (*waste generated by households or commercial, industrial and institutional facilities in their role as end users of a product that can no longer be used for its intended purpose*) plus one-half the pre-consumer recycled content (*matter diverted from the waste stream during the manufacturing process, determined as the percentage of material, by weight. Examples include planer shavings, sawdust, bagasse, walnut shells, culls, trimmed materials, over issue publications, and obsolete inventories. The designation excludes rework, regrind, or scrap materials capable of*

being reclaimed within the same process that generated them (ISO 14021). Formerly known as post industrial content), based on weight.

To obtain the point, there must be at least some pre- or post-consumer recycled content in the product.

Assessment:

Although the Resene Construction website states “refined recycled glass is incorporated into all Rockcote base renders replacing a natural component of sand as a filler”, Mark Flewelling, National Technical Development of Resene Construction Systems confirmed via email on 28 November 2019 that the six Rockcote products included in this assessment do not contain any pre-consumer or post-consumer recycled content. Therefore, the products do not meet the LEED criteria for Material & Resources: Building Product Disclosure and Optimisation – sourcing of raw materials.

Products **do not** comply.

4.3 Indoor Environmental Quality: Low-Emitting Materials

The criteria require that least 75% of all wall panels, by cost or surface area, meet the Volatile Organic Compound (VOC) emissions evaluation, OR inherently non-emitting sources criteria, OR salvaged and reused materials criteria.

The wall panels product category includes all finish wall treatments (wall coverings, wall panelling, wall tile), surface wall structures such as gypsum or plaster, cubicle/curtain/partition walls, trim, doors, frames, windows, and window treatments.

The definition for *inherently non-emitting sources criteria* is: product is an inherently non-emitting source of VOCs (stone, ceramic, powder-coated metals, plated or anodized metal, glass, concrete, clay brick, and unfinished or untreated solid wood) and has no integral organic-based surface coatings, binders, or sealants.

Assessment:

We were supplied, by Resene Construction, with fully inventoried chemical ingredients to 100 ppm and can confirm that the products are lime or clay based coating with water as a binder. They do not contain any integral organic-based surface coatings, binders, or sealants.

Products **comply**.

Note: When any of the six Rockcote products are being used in a project to be assessed against a LEED scheme, the assessor can use our letter of verification (Appendix A) to confirm compliance with the requirements of Indoor Environmental Quality: low-emitting materials.

5 Closing remarks

Based on our assessment, the six Rockcote products do not comply with the GreenStar (Design & As Built NZ V1.0) credit we examined (as the products do not contain recycled content, nor are the products part of a stewardship programme), and the products comply with two of the three LEED (version 4.1) credits we examined (they do not comply with the third credit as they do not contain recycled content).

Please see Appendix A for a letter confirming the six Rockcote products meet the requirements for LEED credits Material & Resources: Building Product Disclosure and Optimization – material ingredients, and Indoor Environmental Quality: low-emitting materials.

We trust that this satisfactorily meets your needs.

Please contact Claire Smith at csmith@tonkintaylor.co.nz if you would like to discuss anything about this project.

Yours sincerely



Penny Kneebone
Environmental Scientist, Tonkin + Taylor

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Appendix A: Letter of compliance with LEED credits
Material & Resources: Building Product
Disclosure and Optimization - material
ingredients and Indoor Environmental
Quality: low-emitting materials

To whom it may concern

Third Party Product Environmental Verification

LEED credits Material & Resources: Building Product Disclosure and Optimization - material ingredients and Indoor Environmental Quality: low-emitting materials

Please accept this letter of third party product environmental verification to confirm that the six Rockcote products (listed below) comply with Material & Resources (MR) credit: Building Product Disclosure and Optimization - material ingredients and the Indoor Environmental Quality (IEQ) credit: low-emitting materials.

1 Background

On 7 August 2019, Mark Flewellen, National Technical Development of Resene Construction Systems engaged the services of Tonkin & Taylor Ltd to carry out a third party product environmental verification.

The following six Rockcote products were assessed against MR credit: Building Product Disclosure and Optimization - material ingredients and IEQ credit: low-emitting materials:

- 1 ROCKCOTE Venetian Plaster (product code 4221, 4210)
- 2 ROCKCOTE Lime Plaster (product code 4178, 4393, 5002)
- 3 ROCKCOTE Clay Plaster Décor (product code 3443, 3753)
- 4 ROCKCOTE Velvetina (product code 5318, 5319)
- 5 ROCKCOTE Otsumigaki (product code 5151, 5152)
- 6 ROCKCOTE Marrakesh (product code 4384)

2 Assessment

2.1 MR credit: Building Product Disclosure and Optimization - material ingredients

To complete the verification, we assessed the products against Option 2 material ingredient optimization using the *International Alternative Compliance Path - REACH Optimization*.

We were supplied, by our client, with fully inventoried chemical ingredients to 100 ppm and assessed each substance against the REACH Authorization List – Annex XIV, the Restriction list – Annex XVII and the SVHC candidate list, (the version in effect in June 2013).

2.2 IEQ credit: low-emitting materials

To complete the verification, we assessed the products against the inherently non-emitting sources criteria. We were supplied, by Resene Construction, with fully inventoried chemical ingredients to 100 ppm and we can confirm that the products are lime or clay based coating with water as a binder. They do not contain any integral organic-based surface coatings, binders, or sealants.

3 Conclusion

Our assessment concluded that no ingredients included in any of the six Rockcote products listed above are listed in the REACH Authorization List – Annex XIV, the Restriction list – Annex XVII and the SVHC candidate list. We conclude that the products comply with MR credit: Building Product Disclosure and Optimization - material ingredients.

We also concluded that the ingredients included in the six lime/clay based Rockcote products listed above do not contain any integral organic-based surface coatings, binders, or sealants. Therefore the products comply with IEQ credit: low-emitting materials.

4 Applicability

This report has been prepared for the exclusive use of our client, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

We understand and agree that our client will submit this report as part of an application for LEED certification and that the USGBC as the certifying authority will use this report for the purpose of assessing that application.

Tonkin & Taylor Ltd

Environmental and Engineering Consultants

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Penny Kneebone

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Penny Kneebone

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