



# FIRE ASSESSMENT REPORT

## FAR 4066

ASSESSMENT REPORT ON THE FIRE PERFORMANCE AND GROUP NUMBER  
CLASSIFICATION OF CLIMATELINE

**CLIENT**  
Climate Coating Limited (CHH subsidiary)  
9 Doncaster Road  
Mangere  
Auckland 2022  
New Zealand

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## ASSESSMENT OBJECTIVE

This report gives the BRANZ assessment of the Group Number Classification in accordance with the New Zealand Building Code (NZBC) Verification Method C/VM2 Appendix A for the Classification of Fire Performance of Wall and Ceiling Lining Materials, for a product tested in accordance with AS/NZS 3837.

## CLIENT

Climate Coating Limited  
9 Doncaster Street  
Mangere  
Auckland  
New Zealand

## PRODUCT

ClimateLine.

## CONCLUSION

For the purposes of compliance with the NZBC Verification Method C/VM2 Appendix A for the Classification of Fire Performance of Wall and Ceiling Lining Materials, the following classification is considered applicable to the product as detailed in Section 2.

Group number (NZBC C/VM2 Appendix A)	Average Specific Extinction Area (m <sup>2</sup> /kg)
1-S	Less than 250

## LIMITATION

This report is subject to the accuracy and completeness of the information supplied.

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# 1. INTRODUCTION

This report gives the BRANZ assessment of the Group Number Classification in accordance with the New Zealand Building Code (NZBC) Verification Method C/VM2 Appendix A for the Classification of Fire Performance of Wall and Ceiling Lining Materials, for a product tested using the cone calorimeter in accordance with the test standard AS/NZS 3837.

# 2. BACKGROUND

In BRANZ Report FH 4517, ClimateLine described by the test client as a “solid white” coloured epoxy/polyester powder coat applied to 10 mm thick standard grade paper faced plasterboard, was subjected to testing in accordance with AS/NZS 3837 and a Group Classification number determined. This is summarised in Table 1.

In accordance with the NZBC C/VM2 Appendix A, for determination of Group Classification numbers using the cone calorimeter is to be in accordance with test standard ISO 5660 parts 1 and 2.

# 3. TESTS SUMMARY

**Table 1 Summary of test specimens and their reported results**

Product	Description	Group number (AS/NZS 3837)	Average Specific Extinction Area (m <sup>2</sup> /kg)
ClimateLine	Nominal 10 mm thick epoxy/polyester coated plasterboard	1	Less than 250 (tested result 106.0)

# 4. DISCUSSION

## 4.1 Differences between AS/NZS 3837 and ISO 5660

ISO 5660 is essentially identical to AS/NZS 3837. It uses the same equipment, the same test conditions and specimen preparation, the key difference is in the end of test criteria. The differences are summarised Table 2.

**Table 2 End of test criteria for AS/NZS 3837 and ISO 5660**

	AS/NZS 3837	ISO 5660
1	2 minutes after flaming or other signs of combustion cease	30 minutes after sustained flaming.



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	AS/NZS 3837	ISO 5660
2	Average mass loss rate over 1 minute falls below 150 g/m <sup>2</sup> ; or	30 minutes with no ignition
3	60 minutes have elapsed, whichever occurs first	Oxygen level returns to within 100 ppm of ambient for at least 10 minutes
4	-	Mass of specimen becomes zero

The test that is the subject of this assessment was carried out in accordance with AS/NZS 3837.

Any comparison between the test methods needs to establish that sufficient data was collected when tested to AS/NZS 3837 to fully characterise the fire performance that would be captured if the end of test criteria of ISO 5660 were applied.

#### 4.2 The AS/NZS 3837 test results

In BRANZ test FH 4517, the three replicate specimens were each tested until the end of test criteria was met. In these tests, the values for time to ignition ranged from 32 s to 34 s, and test durations as determined by the AS/NZS 3837 end of test criteria ranged from 224 s to 280 s. In all of these tests, they were run and data collected for at least 600 s. No specimen recorded any re-ignition or dramatic increase in the heat release rate after the AS/NZS 3837 end of test criteria was reached. Given the composition of the specimens it is unlikely that such specimens would exhibit any additional heat release had the tests been run for any longer.

It is therefore considered that if the tests had been conducted and data reduced in accordance with ISO 5660, the increased duration of the tests would not have yielded a different Group Number Classification.

The Specific Extinction Area values are typically reduced slightly when the data is reduced over a longer period. Therefore it is considered to be conservative to use the Specific Extinction Area from testing to AS/NZS 3837 directly.

#### 4.3 The average specific extinction area

In accordance with NZBC Verification Method C/VM2 Appendix A, samples achieving either a Group number classification 1 or 2, and with an average specific extinction area less than 250 m<sup>2</sup>/kg are identified with "S" post-script to the Group number. This is not applicable to specimens achieving a Group 3 classification.



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## 5. CONCLUSION

It is considered that for the purposes of compliance with the NZBC Verification Method C/VM2 Appendix A, the classification in Table 3 is considered applicable to the product as described in Section 2.

**Table 3 Summary of Assessed Performance in Accordance with NZBC Verification Method C/VM2 Appendix A**

Product	Description	Group number (NZBC C/VM2 Appendix A)	Average Specific Extinction Area (m <sup>2</sup> /kg)
ClimateLine	Nominal 10 mm thick epoxy/polyester coated plasterboard	1-S	Less than 250



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