ExcelPlas
TEST REPORT

TECHNICAL REPORT ON THE ANALYSIS OF BUILDING MATERIALS

Client: BORTAS

7 Ingleton Court, Narre Warren, VIC 3805

Building Material Name: BORMAG INSULATED PANELS

ExcelPlas Job # 8823

P.O. Box 147, Moorabbin, VIC 3189
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6 August 2019

COMMERCIAL-IN-CONFIDENCE

1. Objective

The objective of this study is to obtain a Thermogravimetric trace for each supplied samples.

2. Samples Supplied

Two samples of cladding were supplied by Kayhan Bozkurt of BORTAS for analysis.

Figure 1. Sample 8823/1 (BORMAG INSULATION) and sample 8823/2 (BORMAGE BOARD) as supplied to Excelplas.

3. Testing Undertaken

Thermo gravimetric Analysis (TGA) to determine the thermal and decomposition behaviour of the material.

4. Method of Sampling

Where applicable, small specimens were obtained from the larger sample using a blade.

5. Testing Methodology

Thermogravimetric Analysis (TGA) was conducted according to ASTM E1131, using a TGA55 by TA Instruments.

TGA analysis details:

Specimen pan material:	High Temperature Platinum
Heating rate:	30°C/min
Sample atmosphere:	Air

6. Results

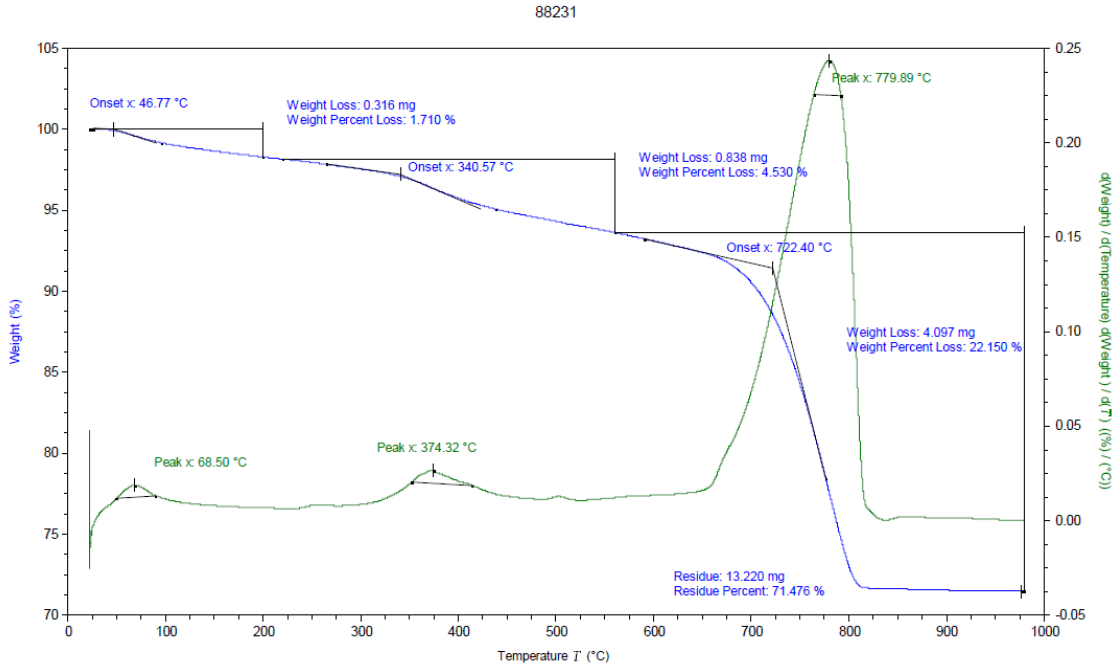

Figure 2. Thermo-gravimetric trace of sample 8823/1. Analysis indicates that the samples initial onset temperature was 46.8°C with peak burn rates at 68.5°C, 374.3°C and 779.9°C. Analysis of the weight change indicates that 71.5% of the sample was not consumed during combustion.

6. Results (continued)

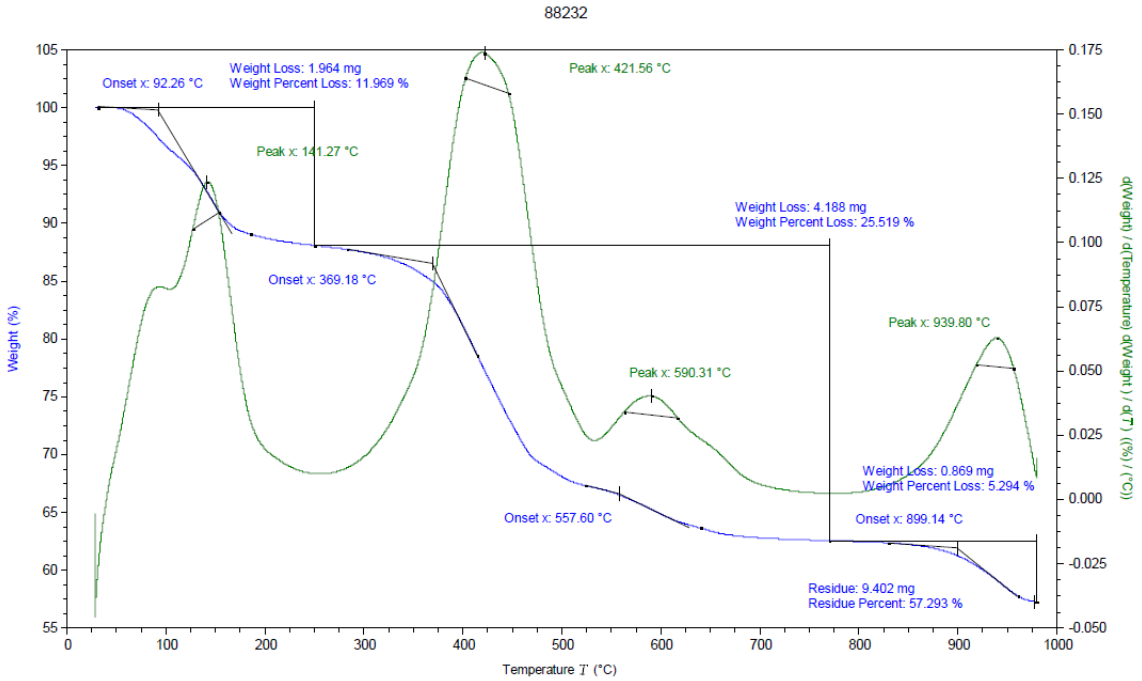

Figure 3. Thermo-gravimetric trace of sample 8823/2. Analysis indicates that the samples initial onset temperature was 92.3°C with peak burn rates at 141.3°C, 421.6°C, 590.3°C, and 939.8°C. Analysis of the weight change indicates that 57.3% of the sample was not consumed during combustion.

7. Summary

Sample ID	First Onset °C	Second Onset °C	Third Onset °C	Fourth Onset °C	First Peak Burn °C	Second Peak Burn °C	Third Peak Burn °C	Fourth Peak Burn °C	Residual Filler* %
8823/1	46.8	340.6	722.4	-	68.5	374.3	780	-	71.5
8823/2	92.3	369.2	557.6	899.1	141.3	421.6	590.3	939.8	57.3

*Note: Residual filler is not a representation of the initial filler content as it does not account for water or gas loss during the decomposition of endothermic flame retardants and/or other fillers.

In our opinion according to the Thermo Gravimetric Analysis (TGA), the Bormag Insulated Panel, sample (8823/1) appears to be non-combustible and non-flammable in that it only shows significant weight loss at 780°C, and the Bormag Board sample (8823/2) when tested separately appears to show limited combustibility and limited flammability.

Prepared By	Reviewed By
	
Date: 09 August 2019	Date: 09 August 2019
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