



The
University
Of
Sheffield.

Department of Materials Science and Engineering

Sir Robert Hadfield Building
Mappin Street
Sheffield, S1 3JD
United Kingdom
Tel: +44 (0)114 222 5978
Fax: +44 (0)114 222 5943
E-Mail: e.j.palmiere@sheffield.ac.uk

*E.J. Palmiere, BS, MS, PhD, CEng, FIMMM
Professor of Metallurgy and Thermomechanical Processing*

31 July 2017

Ms. Jill Hurst
Head of Housing Investment and Repairs
Housing and Neighbourhood Services,
Place Portfolio
Sheffield City Council
Floor 11, Moorfoot Building
Sheffield, S1 4PL

Dear Ms. Hurst,

Thank you for asking The University of Sheffield to undertake tests of Sheffield City Councils cladding samples from 20 tower blocks in the city.

The table which follows this letter represents an analysis of panel samples obtained using X-ray diffraction (XRD). This data shows that **all panel samples** were made from an aluminium (Al) alloy. Aluminium is the primary element in your panel samples.

There are many different types of Al alloys, depending on the other elements that are present along with Al as the primary element. In the case of the panel samples analysed, the major alloy additions consisted of manganese (Mn), iron (Fe) and silicon (Si). As such, these particular alloys fall into the 3000 series of Al alloys, which **are not combustible**, and will therefore never be the cause of a fire. However, when subjected to fire conditions, particularly if the fire reached temperatures in excess of 630°C, the solid panels would begin to melt.

Yours sincerely,

Eric J. Palmiere

	Al	Mn	Fe	Si
Wiggen block, 1-119 Leverton Drive Stairs, below 18m	98.19	1.00	0.52	
Wiggen block, 1-119 Leverton Drive, above 18m	98.23	0.97	0.45	
Wiggen block, 1-119 Leverton Drive , below 18m	98.33	0.87	0.43	
Bankwood block, 1-95 Callow Mount, above 18m	98.43	0.84	0.38	
Brightmore Adamfield block 1-95, above 18m	98.22	0.73	0.52	0.34
Callow block, 1-111 Callow Place, above 18m	98.36	0.98	0.43	
Handbank block, 98-192 Callow Mount, above 18m	98.42	0.80	0.41	
Keating block, Leverton/Landsdowne, above 18m	99.36		0.32	
Newfield block, 97-191 Callow Mount, above 18m	98.35	0.90	0.44	
Parkfield block, 1-95 Callow Drive, above 18m	98.49	0.81	0.36	
Pemberton block, 2-96 Callow Mount, above 18m	97.84	0.88	0.38	0.62
Adelphi block, Martin Street, above 18m	98.44	0.80	0.46	
Adelphi block, Martin Street, below 18m	98.31	0.83	0.41	0.31
Wiggen block, 1-119 Leverton Drive Stairs, above 18m	98.24	0.97	0.45	
Albion block, Martin Street, above 18m	98.27	0.78	0.50	0.37
Bond block, Martin Street, above 18m	98.80	0.41	0.29	
Brightmore Cornhill block 99-193, above 18m	98.41	0.84	0.47	
Burlington block, Martin Street, above 18m	98.54	0.72	0.49	
Crawshaw block, 2-112 Mitchell Street, above 18m	98.41	0.77	0.45	
Gregory block, Leverton/Landsdowne, above 18m	98.14	1.08	0.57	
Wentworth block, Martin Street, above 18m	98.55	0.77	0.40	
Oxford block, Martin Street, above 18m	98.57	0.80	0.43	
Martin block, Martin Street, above 18m	98.36	0.81	0.47	
	Figures are in wt%; only values over 0.25wt% reported			
ERROR	0.20	0.03	0.03	