



LSM21 is a Limited Fire Hazard, decorative laminate constructed from a glass phenolic core surfaced with a decorative layer of melamine.

Characteristics	Fire	Other
	Flame retardant, low smoke and low toxic fume IMO: Class C Division; DNV:F-16716 EC Type Examination; DNV:MED-B-1307 Class 1 (BS 476-7) and Class O (inc LSB200) Compliant to BS 6853:1999 Category Ia Compliant to Railtrack GM/RT2120 Fire resistant (dependent on design)	Graffiti resistant Wear resistant Resistant to most air and environmental pollutants Impact resistant with "Safe Break" properties Low water absorption Easy to machine, cuts without shattering Range of colours and textures
Colours	A range of solid colours , patterns and woodgrains are available	
Thickness	1.4 mm to 10 mm available on request	
Sheet Size	2400mm x 1200mm, 3000mm x 1200mm (panel sizes cut on request)	

APPLICATIONS

LSM21 has found application in:

- Wall panel systems throughout Heathrow and Gatwick Airports
- Decorative fire barriers on railway rolling stock
- Lightweight aluminium honeycomb composites on ships (Product LSB100)
- Class O composites using standard cellulosic cores such as MDF in building (Product LSB200)
- Table tops
- Over-lamination of multi-layer paint (and other) surfaces, (good life cycle costs).

GENERAL PROPERTIES		units	test method
Relative Density	1.9	-	
Operating Temperature	< 90	°C	
Water Absorption	30	mg/3mm	BS 2782-430 A
Flammability	V-0	-	UL-94
MECHANICAL PROPERTIES			
Flexural Strength	200	MPa	BS 2782-1005
Flexural Modulus	12	GPa	BS 2782-1005
Flexural Strength	100	MPa	BS 2782-1003
Flexural Modulus	22	GPa	BS 2782-1003
Impact Resistance Flatwise (lengthwise)	75	kJm ⁻²	BS 2782-359
Impact Resistance Edgewise (lengthwise)	227	kJm ⁻²	BS 2782-359
Compressive Strength	300	MPa	BS 2782 345A
Co-Efficient of Thermal Expansion	1.5 x 10 ⁻⁵	K ⁻¹	ASTMD696
Thermal Conductivity	0.63	Wm ⁻¹ K ⁻¹	ASTMC177



		units	test method
FIRE PERFORMANCE			
Spread of Flame	1	Class	BS 476-7 (WARRES 61101)
Fire Propagation	i1 2.8; I 8.0	°C/min (nominal)	BS 476-6 (WARRES 61102)
Flammability Temperature Index	> 350	°C	BS 4589-3
Limiting Oxygen Index	> 70	%	BS 4589-2
Smoke Emission (1.2Mm)	Ao(ON) 1.2; Ao(OFF) 1.4	m ² /"burn area"	BS 6853 D8.4 (LUL C5323)
Smoke Emission (3Mm)	Ao(ON) 2.1; Ao(OFF) 2.3	m ² /"burn area"	BS 6853 D8.4 (LUL C6785)
Smoke Index	5.8	dimensionless	NES 711 (WARRES L12990)
Toxic Fume Emission	R 0.54	dimensionless	BS 6853 B.2 (RAPRA CTR36739)
Toxicity Index	3.35	dimensionless	NES 713 (WARRES L12991)
Fire Resistance (3mm - indicative only)	> 60	Integrity minutes	BS 476-20 (LPC TE 89432)

SYSTEM AND PRODUCT APPROVALS AND COMPLIANCES

Approved by NSAI to I.S. EN ISO 9001:2008

Product approved by MCA generally and specifically for over-lamination of existing surfaces

Product approved by DNV as Class C division, certificate numbers F-16716 and MED-B-1307

Product approved to NES705A category A1

Product approved to DPA BR1326(A) Class C

Complies with BS 6853:1999 Category Ia

Complies with GM/RT2120