

# Fire Performance

The core material between the metal skins plays main role of the fire performance of composite materials. ALPOLIC®/fr and ALPOLIC® A2 are exclusively designed in order to meet most of all the fire regulations over the world without any limitations to the building cladding applications. Without losing original properties of ALPOLIC®, such as flatness, strength, durability, and easy processing etc, Mitsubishi Plastics pursues total balance of the panel at the same time it achieves the best performance on the fire safety.



	ALPOLIC® PE	ALPOLIC®/fr	ALPOLIC® A2
Thickness	4mm	4mm	4mm
Approx. portion of combustible ingredients within the core material	100%	< 30%	< 10%
Heat Potential of the core material	> 45 MJ/kg	< 13 MJ/kg	< 3 MJ/kg
Europe	BS 476 Part 6 (Class 0) BS 476 Part 7 (Class 1) DIN 4102 Part 1 (B2)	EN 13501-1 (B-s1-d0)	EN 13501-1 (A2-s1-d0)
USA	ASTM E84 (Passed class 1/A)	ASTM E84 (class 1/A) ASTM E108 ASTM E108 Modified UBC 26-9 & NFPA 285 ASTM E119 UBC 26-3 (Passed)	
Canada		CAN/ULC-S 134-92 (Passed)	
Russia		GOST (G1,B1,T1,D1,K0)	GOST (G1,B1,T1,D1,K0)
Japan		Passed. Certified as non-combustible material	

	Polyethylene	Aluminium Hydroxide
Chemical Reaction	$(-CH_2-) + O_2 \rightarrow CO_2 + H_2O$	$2Al(OH)_3 \rightarrow Al_2O_3 + 3H_2O$
Status	Heat Generation	Heat Absorption

	Melting Point
Titanium	1668°C
Stainless Steel	1424°C
Copper	1084°C
Aluminium	660°C
Zinc	420°C

