

Technical Data Sheet

FORCE 4000 FLAME FREE Capsheet

Description	Force 4000 Flame Free is a stabilised polyester reinforced, SBS elastomeric modified bitumen waterproofing membrane. The membrane has a self protected mineral finish and a self adhesive under surface. Minimum selvedge width is 8cm.
Use	Capsheet in Force Neo-Bitumen® warm roof, self adhesive, multi-layer bitumen membrane roof waterproofing system. Suitable for use on inaccessible flat roofs and self protected flat roofs with plant. Also on profiled metal decks and decks made from timber and timber derivatives, concrete and cellular concrete roof slabs and non-torchable insulation boards; for new and refurbishment projects.
Application method	<p>Fully bonded, with fully sealed joints, by flame free self adhesive hot air welding techniques, to form a continuous, watertight layer.</p> <p>Force 4000 Flame Free must be laid loose and positioned prior to removal of the protective silicone release film from the underside of roll.</p> <p>Simultaneously unroll the membrane and remove the protective silicone release film exposing the Neo-Bitumen® self adhesive surface and ensure full adhesion to the membrane/prepared surface below, using hot air activation/flame-free tooling as necessary. A heavy metal roller should be used to remove any air bubbles and ensure full bonding is achieved.</p> <p>Lap joints are secured using flame free self adhesive hot air tooling and a 2mm bead of bitumen should be visible along the selvedge.</p> <p>At head laps mineral granules should be heated and removed using flame free hot air tooling techniques ensuring a black to black bond is achieved and a 2mm bead of bitumen is visible along the head lap.</p>

Storage Rolls to be stored upright and away from heat.

Composition

Reinforcement (g/m²) :	Stabilised polyester reinforced with glass-fibre	180
Binder :	SBS elastomer (self adhesive on under surface)	
Surface finish :	Mineral chippings, with silicone film on selvedge	
Under surface finish :	Peel-off silicone film	

Characteristics		Standard(BS)	Units	Values	Tolerance	
					Min	Max
Dimensions	Length	EN 1848-1	m	8	-1% MLV	
	Width		m	1	-1% MLV	
	Straightness		-	20mm x 10m	Pass	
Nominal roll weight	kg		46.5			
	Thickness (selvedge)		mm	4.00	±0.2	
Visible defects		EN 1850-1	-	None		
Adhesion of granules		EN 12039	%	30 max.	MDV	
Resistance to tearing (nail shank)	Longitudinal	EN 12310-1	N	190	-30%	
	Cross direction			190		
Tensile properties: maximum tensile strength	Longitudinal	EN 12311-1	N/50 mm	900	±20%	
	Cross direction			650		
Tensile properties : elongation at break	Longitudinal	EN 12311-1	%	40	-15 absolute	
	Cross direction			45		
Flexibility at low temperature		EN 1109	°C	-25	MLV	
Flow resistance at elevated temperature	New product	EN 1110	°C	100	MLV	
	After ageing to EN 1296			-15	+15	
Dimensional stability	Longitudinal	EN 1107-1 A	%	±0.3	MLV	
	Cross direction					
Self Adhesion Properties		ASTM D 1000	N/10mm	20	-5	
Water vapour transmission properties		EN 1931	Sd/m	170	±60	

Characteristics	Standard(BS)	Units	Values	Tolerance	
				Min	Max
Watertightness (A)	EN 1928	kPa	60	MLV	
Reaction to fire	EN 13501-1	-	PND		

PND=Performance not determined. MDV=manufacturer declared value. MLV=manufacturer limiting value.

The manufacturer reserves the right to modify, at any time, the characteristics of this product.