

# Technical Data Sheet

## FORCE LINE 4.0 FLAME FREE Capsheet

<b>1. Description</b>	Force Line 4.0 Flame Free is a polyester reinforced SBS elastomeric modified bitumen waterproofing membrane. The membrane has a self protected charcoal mineral chipping finish and a self adhesive under surface. Minimum selvedge width is 8cm.
<b>2. Use</b>	Capsheet in Force Line Neo-Bitumen® flame free, warm roof, self adhesive, multi layer bitumen membrane roof waterproofing system.
<b>3. Application Method</b>	<p>Fully bonded, with fully sealed joints, by flame free self adhesive hot air welding techniques, to form a continuous watertight layer.</p> <p>The Force Line Neo-Bitumen® flame free membrane 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.</p> <p>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>
<b>4. Storage</b>	Rolls to be stored upright and away from heat.
<b>5. Composition</b>	(Indicative). See below.

<b>Reinforcement (g/m<sup>2</sup>) :</b>	Non-woven polyester reinforced with glass-fibre	120
<b>Binder (g/m<sup>2</sup>) :</b>	SBS elastomer (self adhesive on under surface)	
<b>Surface finish (g/m<sup>2</sup>) :</b>	Mineral chippings, with silicone film on selvedge	
<b>Under surface finish (g/m<sup>2</sup>) :</b>	Peel-off silicone film	

Characteristics		Standards (BS)	Units	Value	Tolerance	
					Min	Max
Dimensions	Length	EN 1848-1	m	8	MLV	
	Width		m	1	MLV	
	Straightness		mm	20mm x 10m		
Visible defects		EN 1850-1	-	Without defects		
Adhesion of granules		EN 12039	%	30 max.	MDV	
Self adhesion properties		ASTM D 1000	N/10mm	20	-5	
Resistance to tearing (nail shank)	Longitudinal	EN 12310-1	N	130	-30%	
	Cross direction			130		
Tensile properties: maximum tensile force	Longitudinal	EN 12311-1	N/50mm	400	±20%	
	Cross direction			300		
Tensile properties: elongation	Longitudinal	EN 12311-1	%	35	-15 absolute	
	Cross direction			35		
Shear resistance of joint	Maximum force	EN 12317-1	N/50mm	Selvedge 300	±20%	
				End joint 200		
Flexibility at low temperature	New product	EN 1109	°C	-25	MLV	
	After ageing to EN 1296	EN 1297 / EN 1296		-15	+15	

<b>Flow resistance at elevated temperature</b>		EN 1110	°C	100	MLV
<b>Dimensional stability</b>	Longitudinal	EN 1107-1 (A)	%	±0.3	MLV
	Cross direction				
<b>Watertightness (A)</b>		EN 1928	kPa	60	MLV
<b>External fire performance</b>		EN 13501-5	Class	F Roof	NPD
<b>Reaction to fire</b>		EN 13501-1	Class	E	Pass

NA=not applicable due to use of product.

NPD=No performance determined.

MLV=Manufacturer limiting value.

MDV=Manufacturer declared value.

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

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