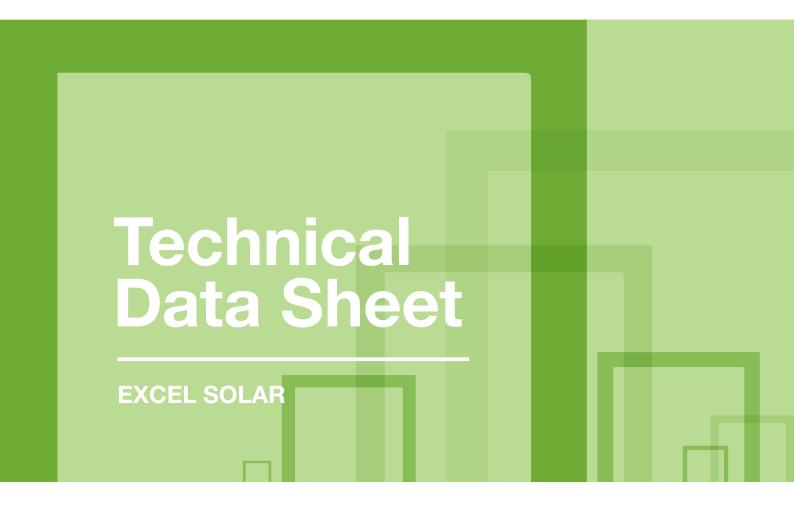


Bitumen Waterproofing



1.	Description	EXCEL SOLAR is a polyester reinforced ALPA® polymer modified bitumen waterproofing membrane. The undersurface is a thermofusible film and the surface is a peel-off silicone film. Minimum selvedge width is 80mm.		
2.	Use	Top layer in EXCEL SOLAR PV FLEX waterproofing system on new build and refurbishment projects. Axter SOLAR PV FLEX CIGS* flexible photovoltaic modules are adhered in situ to the membrane surface, into the ALPA® binder, when the peel off silicon film has been removed. EXCEL SOLAR is designed for multi or single layer applications. With exceptional ageing and bond strength characteristics, it has been developed to be flexible and durable and is suitable for use on new build and refurbishment Solar PV projects.		
		*CIGS=Copper Indium Gallium Selenide.		
3.	Application Method	Installed fully or partially bonded, with fully sealed joints, using flame free hot air welding or torch-on techniques to form a continuous layer.		
4.	Storage	Rolls to be stored upright and away from heat.		
5.	Composition	(indicative)		

Reinforcement (gm/m²):	Polyester	180
Binder (gm/m²) :	Alpa FC	4500
Surface finish (gm/m²) :	Peel-off silicone film	40
Under surface finish (gm/m²) :	Thermofusible film	10

Characteristics			Standards (BS)	Units	Value	Tolerance	
						Min	Max
	Length			m	8	-1%	
Dimensions	Width		EN 1848-1	m	1	-1%	
	Straightness			-	Pass		
	Roll weight			kg	42.1		
	Thickness (finished product)		EN 1849-1	mm	4.00	3.80	4.20
Visible defects	New product		EN 1850-1	-	None		
Visible delects	After ageing to EN 1297			-	NA		
Adhesion of granules			EN 12039	%	NA	-	-
Resistance to	Longitudinal Cross direction		EN 12310-1	N	200	180	300
tearing (nail shank)					250	230	360
Tensile properties: maximum tensile	Longitudinal		EN 10011 1	N1/50	600	500	900
force	Cross direction		EN 12311-1	N/50 mm	600	500	750
Tensile properties:	Longitudinal		EN 12311-1	%	35	25	60
elongation	Cross direction				35	25	60
	Maximum force	Selvedge	EN 12316-1	N/50mm	NA	-	-
Peel resistance		End joint			NA	-	-
of joint	Average force	Selvedge			NA	-	-
		End joint			NA	-	-
Shear resistance	Maximum force	Selvedge	EN 12317-1	N/50mm	600	500	750
of joint		End joint			600	500	900
Flexibility at low	Surface Under surface		EN 1109	°C	-14	≤	
temperature					-14	≤	
Flow resistance at elevated	New product		EN 1110	°C	120	≥	
temperature	After ageing to EN	l 1296	EN 1110	C	120	110	130
Resistance to impact		EN 12691	mm	1750	≤		
Resistance to static loading			EN 12730	kg	20	≥	
Dimensional stability			EN 1107-1	%	0.3	≤	
Form stability under cyclic temperature change			EN 1108	%	NA		

Characteristics	Characteristics		Units	Value	Tolerance	
					Min	Max
Water vapour transmission	New product	EN 1931	Sd(m)	μ=20000		
properties	After ageing to EN 1296		Sd(m)	NA		
Watertiality	New product	EN 1928	-	Pass	<10kPa	
Watertightness	After ageing to EN 1296		-	NA	< TUKPa	
Watertightness after stretching at low temperature		EN 13897	%	NA		
Reaction to fire		EN 13501-1	-	NPD		
Resistance to root penetration		EN 13948	-	NA		
Dangerous substances consult : http://europa.eu.int/comm/ enterprise/construction/internal/dangsub/dangmain.htm		-	-	None		

NA=not applicable due to use of product.

NPD=No Performance determined.

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