

Technical Data Sheet

EXCEL SOLAR Solar PV

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.	
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 thermofusible film is heated. 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.	
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.	
Storage	Rolls to be stored upright and away from heat.	
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	
Dimensions	Length	EN 1848-1	m	8	-1%		
	Width		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			
	After ageing to EN 1297		-	NA			
Adhesion of granules		EN 12039	%	NA	-	-	
Resistance to tearing (nail shank)	Longitudinal	EN 12310-1	N	200	180	300	
	Cross direction			250	230	360	
Tensile properties: maximum tensile force	Longitudinal	EN 12311-1	N/50 mm	600	500	900	
	Cross direction			600	500	750	
Tensile properties: elongation	Longitudinal	EN 12311-1	%	35	25	60	
	Cross direction			35	25	60	
Peel resistance of joint	Maximum force	EN 12316-1	N/50mm	Selvage	NA	-	-
				End joint	NA	-	-
	Average force			Selvage	NA	-	-
				End joint	NA	-	-
Shear resistance of joint	Maximum force	EN 12317-1	N/50mm	Selvage	600	500	750
				End joint	600	500	900
Flexibility at low temperature	Surface	EN 1109	°C	-14	≤		
	Under surface			-14	≤		
Flow resistance at elevated temperature	New product	EN 1110	°C	120	≥		
	After ageing to EN 1296			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		Standards (BS)	Units	Value	Tolerance	
					Min	Max
Water vapour transmission properties	New product	EN 1931	Sd(m)	μ=20000		
	After ageing to EN 1296		Sd(m)	NA		
Watertightness	New product	EN 1928	-	Pass	<10kPa	
	After ageing to EN 1296		-	NA		
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.

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