



Arkroof - system construction

Outer profile	Arkroof 32.1000.200-0.7mm-Roof. Refer to Ark product data sheet 01-Ark-Prod
Insulation	Glass or rock mineral wool quilt to BS EN 13162 and BS3533:1981, non-combustible Euroclass A1 to BS EN ISO 13501-1 Thickness as System Performance table below.
Spacer	Bracket and rail spacer system. 1.5mm galvanised steel brackets to depth as System Performance table below, max spacing 1m. 1.25mm galvanised steel rail, interlocking end joints, bracket stability braces at 20m max spacing on brackets of 250mm and above.
VCL and air barrier	Generally formed by the steel liner in building humidity classes 1-4. Additional 250gsm reinforced polyethylene membrane vcl optional where specified for complicated roof plans. Increase spacer bracket by 30mm when a membrane vcl is included.
Liner	Arkliner 32.1000.200-0.65mm. Refer to Ark product data sheet 02-Ark-Prod

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Arkroof - system performance data

U value	W/m ² K	0.25	0.24	0.23	0.22	0.21	0.20	0.19	
Spacer depth/ compressed insulation depth	mm	180	190	200	210	220	230	240	
Insulation roll size	mm	200	210	220	240	250	260	270	
Insulation lambda value	W/mK	0.040	0.040	0.040	0.040	0.040	0.040	0.040	
Depth of roof	mm	212	222	232	242	252	262	272	
Weight of roof	kg/m ²	16.9	17.0	17.1	17.4	17.5	17.6	17.7	
SRI Rw (0.7 spacer bracket/m ² , indicative/computer modeled)	dB	41	41	41	42	42	42	42	
Bracket stability brace required?		No	No	No	No	No	No	No	
U value	W/m ² K	0.18	0.17	0.16	0.15	0.14	0.13	0.12	0.11
Spacer depth/ compressed insulation depth	mm	250	270	280	300	300	350	300	350
Insulation roll size	mm	280	300	310	330	330	390	330	390
Insulation lambda value	W/mK	0.040	0.040	0.040	0.040	0.037	0.037	0.032	0.032
Depth of roof	mm	282	302	312	332	332	382	332	382
Weight of roof	kg/m ²	17.9	18.1	18.2	18.5	19.8	20.7	25.1	27.0
SRI Rw (0.7 spacer bracket/m ² , indicative/computer modeled)	dB	43	43	43	43	44	45	47	48
Bracket stability brace required?		Yes	Yes	Yes	Yes	Yes	No (refer Ark)	Yes	No (refer Ark)

Arkroof - system data

Non-fragility	Non Fragile Class B to ACR[M]001. Refer to Ark product data sheet 02-Ark-Prod Arkliner
Fire properties	Insulation is EuroClass A1 to BS EN ISO 13501-1, non combustible Liner Class 0, Topsheet Class AA to National Standards (Refer to Ark product data sheets 01-Ark-Prod Arkroof and 02-Ark-Prod Arkliner)
Minimum pitch	Nominal 4°, on a curved roof end lap pitch must be 4° or greater.
Guarantees and Warranties	Ark Silver and Ark Gold. Refer to Ark technical data sheet 05-Ark-Tech "Warranties and guarantees"
Curve options	Natural curve to 40m minimum radius. Crimp curve to 1m minimum radius
Fasteners, sealants	Refer to Ark product data sheets 01-Ark-Prod Arkliner and 02-Ark-Prod Arkroof
Airtightness	Arkroof systems with sealed liners are inherently airtight and contribute to low building air leakage rates. The liner is the air barrier and vapour control layer and has sealed fasteners, sealed side and end laps and robust sealing at eaves, ridge and verge. Penetrations (SVP etc) must be sealed into the liner as well as into the outer sheet. Where a membrane vcl is used in addition, it must also be sealed as above.

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Installation key requirements	<p>Insulation must be dry when covered by the outer sheet.</p> <p>Insulation must fill the insulation cavity with minimal gaps around the spacer</p> <p>Fasteners for liner and spacer brackets are carbon steel self drillers and must have 15/16mm diameter sealed washers</p> <p>Liner fixings are in every trough at end laps, ridges and eaves, alternate troughs at intermediate purlins.</p> <p>Fasteners for outer sheets are 304 grade stainless steel with coloured heads and 19mm diameter sealer washers.</p> <p>Spacer brackets must have 2 fasteners per bracket.</p> <p>Spacer brackets max 300mm from joggle joint</p> <p>Isolate aluminium from galvanised steel</p> <p>Liners must be sealed all round, including fillers bedded in sealant</p>
Rooflights	<p>In-plane 32/1000 profiled site assembled triple skin GRP rooflight.</p> <p>2.4kg/m² inner and outer GRP, 4 wall polycarbonate internal layer, Class B non-fragility, U=1.3W/m²K</p> <p>Partner company Brett Martin Daylight Systems, www.daylightsystems.com</p>
Insulation	<p>Earthwool Ecosse FactoryClad 40/37/32 glass mineral wool quilt to BS EN 13162BS and BS3533:1981, non-combustible Euroclass A1 to BS EN ISO 13501-1</p> <p>Partner company Knauf Insulation Ltd, www.knaufinsulation.co.uk</p>
Roof safety systems	<p>Partner company Latchways plc, www.latchways.com</p> <p>Partner company QBM Distributors Ltd, www.qbmdistributors.co.uk</p>
Fasteners	<p>Partner company EJOT UK Ltd, www.ejot.co.uk</p> <p>Partner company SFS intec Ltd, www.sfsintec.biz/uk</p> <p>Partner company Woodall Fastening Systems Ltd, www.techscrew.com</p> <p>Partner company QBM Distributors Ltd, www.qbmdistributors.co.uk</p>