

STEADMANS
ROOFING & CLADDING

DTS015 Technical Datasheet
AS35 Composite Roof & Wall Panels



Applications

The AS35 insulated panel is a self-supporting composite panel for roofing and cladding. The external face of the panel has a clean sharp profile and is available in an extensive range of colours.

The AS35 insulated panel is ideal for roofing and cladding steel framed buildings and can be fully integrated with both modern and traditional methods of construction.

The attractive and durable external building product is suitable for a variety of application:

- Retail parks
- Office buildings
- Schools
- Sports Centres
- Commercial unit

Core Material

Steadmans AS35 insulated panel is made from a polyisocyanurate core (PIR).

AS35 Panel Dimensions

Exterior Sheet Thickness	0.5mm
Liner Sheet Thickness	0.4mm
Cover Width	1000mm
Standard Length	2m - 12m
Panel Thickness	40, 60, 70, 80, 100 110, 120, 130

AS35 Panel Lengths

AS35 composite panel is available in lengths between 2m to 12m as standard. For longer sheet lengths please contact Steadmans sales team.

Guarantee

The AS35 panel offers a system guarantee of 25 years combined with a material warranty of up to 30 years providing a comprehensive and protected cladding option.

ASMR Wall Panel Tolerances

Panel Length	+/- 5mm
Cover Width	+/- 3mm
Thickness	+/- 2mm
Squareness	< 3mm

Thermal

The insulated panels make a vital contribution to the implementation of a fabric first strategy, by addressing conduction heat loss, air tightness and heat loss through junctions.

Conduction heat loss: AS35 insulated panels contain high performance PIR insulation, and are effective in reducing conduction heat loss through roofs and walls. They offer a range of U-values, enabling designers to match the notional building wall U-values or substantially improve on them.

Extensive thermal analysis has been carried out for panel junctions and can provide a range of design details to minimise heat loss.

AS35 Panel U-Values

Panel Thickness	U-Value (W/m²K)
40mm	0.50
60mm	0.35
70mm	0.30
80mm	0.25
100mm	0.20
110mm	0.18
120mm	0.16
130mm	0.15

Environmental

Developing sustainable construction methods presents a challenge to the whole construction industry. Our main raw material, steel, is eminently recyclable: 85 - 90% of steel from demolition goes for re-use and 40% of steel used in new construction has been recycled.

Steadmans are signatories to the sustainability charter of EPIC (Engineered Panels In Construction).

Fire

AS35 panels have passed the test requirements of LPS 1181:2005; the testing standard of the Loss Prevention Certification Board (LPCB) and have Grade EXT-B and EXT-A approval, as per table below.

BS EN 13501-1: B-s2,d0 (reaction to fire) - internal facing
 BS EN 13501-5: Broof(t4)

AS35 Panel Dimensions

LPCB Ref.	Panel	Thickness (mm)	Orientation	Integrity (mins)	Insulation (mins)	LPS1181 Grade	Core Material
635a/08	AS35 (Roof)	40, 60, 70, 80, 100, 110, 120, 130	-	n/a	n/a	EXT-B	PIR
635a/08	AS35 (Wall)	40, 60, 70, 80, 100, 110, 120, 130	V	n/a	n/a	EXT-B	PIR
635a/11	AS35 (Wall)	60, 80	V	120	15	EXT-A15	PIR
635a/12	AS35 (Wall)	100	V	120	30	EXT-A30	PIR

The maximum rail centres for EXT-A ratings is 1.8m. Stitching centres are limited to 300mm centres.

Where building regulations require 30 minutes Fire Resistance Insulation, rails centres should be limited to 1.5m and stitching centres to 250mm. For further information, please contact the Technical team.

Health & Safety

Our Business Delivery is managed efficiently and responsibly through the practise of our certified Occupational Health and Safety Management System in compliance with the requirements of ISO 45001:2018.

Through our Management System we promote a safe and healthy working environment by providing a framework that allows our organisation to identify and control its health and safety risks, reduce the potential for accidents, ensure legislative compliance and improve overall performance.

Quality Assurance

We manufacture all our products to the highest quality standard, operating a BSI certified Quality Management System in compliance with the requirements of ISO 9001:2015. Our products are manufactured from the highest-quality materials from our approved supply chain, using state-of-the-art production facilities which are rigorously controlled through inspection and testing at each production stage. Our products are designed and manufactured in accordance with all related and prevailing standards.

Conformity Assessment

The AS35 insulated panels are conformity assessed to BS EN 14509:2013 Self-supporting double skin metal faced insulating panels. Factory made products. The required Declarations of Performance (DoP) as CE for Steadmans insulated panels and other assessed products are available at www.steadmans.co.uk

Steadmans also supply relevant DoPs with invoices.

Coatings

AS35 panels can be manufactured from an extensive colour range of plastisol coated steel materials.

For further information on colour ranges, please see Steadmans Colour Selector Brochure.

Acoustic

Acoustic performance has been predicted using software developed by the University of Salford, Department of Applied Acoustics and the MCRMA. The results below are based on an 80mm panel.

Predicted Acoustic Performance

Frequency (Hz)	SRI Values (dB)	Frequency (Hz)	SRI Values (dB)
100	19.9	800	26.3
125	21.1	1000	32.0
160	22.3	1250	32.8
200	23.4	1600	36.5
250	24.0	2000	43.3
315	24.1	2500	46.9
400	23.1	3150	51.2
500	18.5	4000	55.4
630	19.5	5000	59.8

Air Tightness

The nature of the insulated panel is such that a practical rigid surface is provided to enable sealing to be successful. Additionally the joint design and factory applied seals of the panel ensure air leakage is mitigated.

Packing

Steadmans insulated panels are delivered to site in plastic wrapped packs with end and side protection. The height of a pack and number of panels it contains depends upon the thickness of the panels. Typically, panels are packed in stacks up to 1100mm high.

AS35 panels are packed weather face together. Panels up to 6m long can be manually handled but longer lengths will require mechanical handling equipment.

Panel Core Thickness	40	60	70	80
Weight (kg/m)	10.06	10.75	11.10	11.62
Max Panels per pack (Up to 8m long)	14	10	10	8

Panel Core Thickness	100	110	120	130
Weight (kg/m)	12.38	12.86	13.34	13.66
Max Panels per pack (Up to 8m long)	6	6	6	6

Delivery

Packs should be off-loaded directly to the area where the panels will be used, which should be way from traffic. Packs may be stacked up to 2.5m on the pallets provided; bearers should be placed one above each other. Off-loading is the responsibility of the customer. Delivery by self-off-loading vehicles can be arranged.

Two methods of off-loading are recommended.

A forklift or telehandler can be used for off-loading packs up to 6m long.

For panels over 6m long a crane and slings should be used. Precautions should be taken when using slings to prevent any damage to the panel edges. Chains should not be used.

No more than one panel should be lifted at one time.

Structural

AS35 insulated panels are self-supporting and capable of spanning supports up to 3.0m centres. AS35 panels are designed to be fixed to steel purlins and side rails or secondary steelwork using appropriate self-drilling fasteners.

Repair & Maintenance

Regular inspections are recommended in order to maintain the appearance and performance of panels. Refer to Coatings and Colour Selector literature for full details of recommended maintenance regimes.

Unfactored Roof Loads For AS35 Panels – Outer Facing 0.5mm (Steel), Inner Facing 0.4mm (Steel)

	Panel Thickness (mm)	Load Type	Uniformly Distributed Loads KN/M2. Span L in Metres							
			1.60m	1.80m	2.00m	2.20m	2.40m	2.60m	2.80m	3.0m
Double Span	40	Downward	2.24	1.92	1.67	1.31	1.04	0.89	0.69	0.54
		Suction	2.62	2.24	1.94	1.70	1.50	1.33	1.19	1.02
	60	Downward	3.26	2.85	2.51	2.03	1.67	1.30	1.07	0.84
		Suction	3.80	3.32	2.92	2.58	2.30	1.94	1.65	1.41
	70	Downward	3.80	3.35	2.97	2.35	1.95	1.54	1.28	1.01
		Suction	4.43	3.90	3.45	3.06	2.62	2.21	1.88	1.62
	80	Downward	4.34	3.84	3.31	2.68	2.19	1.80	1.48	1.22
		Suction	5.06	4.47	3.97	3.54	2.94	2.47	2.11	1.82
	100	Downward	5.40	4.81	4.10	3.30	2.74	2.29	1.92	1.61
		Suction	6.37	5.67	5.07	4.30	3.57	3.01	2.57	2.22
	110	Downward	5.86	5.24	4.50	3.68	3.09	2.67	2.26	1.92
		Suction	6.76	6.01	5.45	4.61	3.84	3.24	2.77	2.39
Double Span	120	Downward	6.31	5.66	4.90	4.05	3.43	3.04	2.60	2.23
		Suction	7.14	6.35	5.82	4.92	4.10	3.46	2.96	2.56
	130	Downward	6.69	6.02	5.23	4.36	3.72	3.35	2.90	2.50
		Suction	7.14	6.36	5.91	5.16	4.30	3.63	3.11	2.69
	40	Downward	2.24	1.92	1.67	1.47	1.30	1.14	1.00	0.85
		Suction	6.62	2.24	1.94	1.70	1.50	1.33	1.19	1.02
	60	Downward	2.79	2.46	2.13	1.81	1.56	1.36	1.20	1.06
		Suction	3.48	2.88	2.48	2.15	1.89	1.69	1.52	1.38
	70	Downward	2.95	2.60	2.27	1.93	1.67	1.45	1.28	1.14
		Suction	3.58	3.00	2.57	2.23	1.97	1.76	1.59	1.45
	80	Downward	3.11	2.74	2.40	2.05	1.77	1.55	1.37	1.22
		Suction	3.66	3.07	2.63	2.30	2.03	1.82	1.64	1.50
Double Span	100	Downward	3.44	3.03	2.67	2.28	1.98	1.74	1.54	1.38
		Suction	3.76	3.17	2.73	2.39	2.12	1.90	1.72	1.57
	110	Downward	3.60	3.17	2.79	2.39	2.08	1.83	1.62	1.45
		Suction	3.79	3.20	2.76	2.42	2.15	1.93	1.75	1.59
	120	Downward	3.76	3.31	2.91	2.50	2.17	1.91	1.70	1.52
		Suction	3.81	3.23	2.78	2.44	2.17	1.95	1.77	1.61
	130	Downward	3.90	3.48	3.02	2.59	2.26	1.99	1.77	1.58
		Suction	3.82	3.24	2.80	2.45	2.18	1.96	1.78	1.63


Unfactored Roof Loads For AS35 Panels – Outer Facing 0.5mm (Steel), Inner Facing 0.4mm (Steel)

	Panel Thickness (mm)	Load Type	Uniformly Distributed Loads KN/M2. Span L in Metres							
			1.60m	1.80m	2.00m	2.20m	2.40m	2.60m	2.80m	3.0m
Double Span	40	Pressure	1.94	1.65	1.42	1.10	0.86	0.73	0.56	0.48
		Suction	2.35	2.00	1.72	1.49	1.31	1.15	1.02	0.91
	60	Pressure	2.93	2.55	2.23	1.78	1.46	1.13	0.92	0.71
		Suction	3.51	3.05	2.67	2.35	2.08	1.86	1.66	1.49
	70	Pressure	3.46	3.01	2.67	2.09	1.72	1.36	1.11	0.87
		Suction	4.12	3.62	3.17	2.82	2.44	2.09	1.89	1.66
	80	Pressure	4.00	3.52	3.02	2.43	1.97	1.62	1.32	1.06
		Suction	4.75	4.19	3.71	3.29	2.94	2.55	2.19	1.90
	100	Pressure	5.04	4.47	3.81	3.06	2.52	2.10	1.75	1.46
		Suction	6.04	5.37	4.79	4.28	3.65	3.10	2.66	2.31
	110	Pressure	5.47	4.87	4.18	3.40	2.84	2.45	2.06	1.74
		Suction	6.41	5.69	5.14	4.59	3.87	3.27	2.82	2.44
Double Span	120	Pressure	5.89	5.27	4.55	3.75	3.16	2.79	2.37	2.03
		Suction	6.77	6.01	5.50	4.90	4.14	3.49	3.02	2.61
	130	Pressure	6.25	5.60	4.86	4.04	3.42	3.07	2.65	2.27
		Suction	6.77	6.02	5.58	5.13	4.34	3.67	3.17	2.74
	40	Pressure	1.94	1.65	1.42	1.23	1.08	0.93	0.81	0.75
		Suction	2.35	2.00	1.72	1.49	1.31	1.15	1.02	0.91
	60	Pressure	2.80	2.49	2.16	1.78	1.50	1.27	1.08	0.93
		Suction	3.21	2.65	2.27	1.96	1.71	1.62	1.53	1.46
	70	Pressure	2.96	2.63	2.30	1.91	1.64	1.38	1.22	1.03
		Suction	3.33	2.79	2.36	2.05	1.83	1.72	1.62	1.52
	80	Pressure	3.11	2.76	2.43	2.09	1.82	1.61	1.43	1.27
		Suction	3.44	2.88	2.46	2.14	2.03	1.88	1.70	1.57
Double Span	100	Pressure	3.44	3.04	2.70	2.31	2.02	1.79	1.60	1.44
		Suction	3.57	3.00	2.58	2.38	2.17	1.96	1.78	1.63
	110	Pressure	3.50	3.18	2.82	2.42	2.12	1.86	1.67	1.49
		Suction	3.59	3.03	2.60	2.40	2.19	1.98	1.80	1.64
	120	Pressure	3.76	3.32	2.94	2.53	2.22	1.95	1.75	1.57
		Suction	3.61	3.06	2.63	2.43	2.22	2.01	1.82	1.66
	130	Pressure	3.90	3.49	3.05	2.62	2.31	2.02	1.82	1.63
		Suction	3.62	3.07	2.64	2.44	2.23	2.02	1.83	1.67




England & Wales

Warnell,
Welton,
Carlisle,
Cumbria
CA5 7HH

 016974 78277


Scotland & Ireland

Unit C,
Coalburn Road,
Bothwell,
Glasgow
G71 8DA

 01698 819 050

Northern Scotland

Mill of Crichtie
Fyvie,
Turriff,
Aberdeenshire
AB53 8QL

 01651 891 668

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