

Kalzip

Kalzip Roof System – Kalzip Ribbed Liner Roof System

Technical Information

TIS-SYS-RIB-451

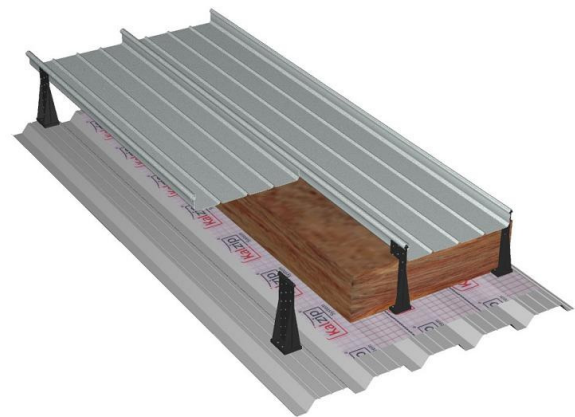
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Kalzip Ribbed Liner Roof System

The Kalzip Ribbed Liner Roof System has been developed to provide enhanced thermal performance achieving lower U-values than can be achieved with the standard Kalzip Liner Roof System.

At the heart of the system is the Kalzip Ribbed Liner Sheet which is fixed directly to the purlin supports and is robust enough to allow the Kalzip E. Clips to be fixed directly to its crown. It has a pitch suitable for use with Kalzip 65/400 standing seam outer sheet.

This fixing technique removes the need for the E.Clips to be fixed directly to the purlins, in the trough of the liner, allowing the insulation void to be increased giving rise to a better thermal performance.



Ribbed Liner System

Product Description

Material : Galvanised steel to BS EN 10346, grade

S 220GD+Z275 coating designation

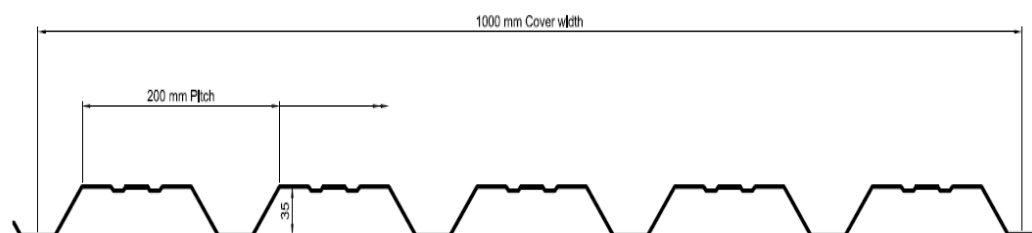
Finish : White lining enamel (for internal use)

Nominal thickness: 0.7mm

Profile Pitch : 200mm

Profile Depth : 35mm

Panel Coverwidth : 1000mm



Structural Capabilities

The following tables indicate typical performance of the Kalzip Ribbed Liner Roof System. For project specific calculations please contact the Kalzip Technical department.

The load-span tables provide the limiting maximum working loads in kN/m² for a range of spans for single span, double span and multispan support conditions.

Analytical methods based on EN 1993-1-3 were used to determine the resistance of the Kalzip Ribbed Liner Sheet alongside concentrated halter load tests.

Table 1

Kalzip Ribbed Liner Roof System – Wind Suction Load																
Working loads (kN/m²) – 1.5 Load factor included within values																
Wind Suction Loads: Deflection limit = span/90																
Support condition	Span (m)															
	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
Single	6.79	5.58	4.59	3.87	3.33	2.90	2.56	2.29	2.06	1.88	1.72	1.58	1.47	1.37	1.28	1.20
Double	7.70	6.22	5.17	4.40	3.81	3.35	2.97	2.67	2.41	2.20	2.02	1.86	1.72	1.60	1.50	1.41
Multiple	7.55	6.08	5.04	4.28	3.70	3.24	2.88	2.58	2.33	2.12	1.94	1.79	1.66	1.54	1.44	1.36

Note: Wind Suction table does not include fastener pull-out resistance which needs to be determined separately. Contact Kalzip Technical department.

Table 2

Kalzip Ribbed Liner Roof System – Imposed Load																
Working loads (kN/m²) – 1.5 Load factor included within values																
Imposed Loads (e.g. Snow, Wind Pressure etc.): Deflection limit = span/200																
Support condition	Span (m)															
	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
Single	5.92	4.86	3.97	3.25	2.70	2.28	1.94	1.66	1.43	1.24	1.08	0.94	0.82	0.70	0.52	0.38
Double	7.22	5.74	4.69	3.92	3.33	2.86	2.48	2.17	1.91	1.69	1.51	1.35	1.18	1.03	0.90	0.78
Multiple	7.03	5.56	4.53	3.77	3.18	2.72	2.35	2.05	1.80	1.59	1.41	1.25	1.12	1.00	0.89	0.80

Thermal Performance

The following graph gives the thermal transmittance performance (U-value) of a typical Kalzip Ribbed Liner Roof System taking into account the thermal bridging effect of the Kalzip E.Clips. The methodology used to determine the U-Values was agreed with the British Board of Agrément (BBA) as part of the update and extension of BBA certificate No. 98/3481 for Kalzip Standing Seam Roof Systems.

The U-value graph is based on the following parameters:

- Kalzip 65/400 standing seam outer sheet
- E180 Clips with 10 mm and 5 mm spacers
- Insulation
 - Kalzip Insulation Plus 40 ($\lambda = 0.040$ W/mK)
 - Kalzip Insulation Plus 37 ($\lambda = 0.037$ W/mK)
 - Kalzip Insulation Plus 35 ($\lambda = 0.035$ W/mK)
 - Kalzip Insulation Plus 32 ($\lambda = 0.032$ W/mK)

For U-values outside the scope of this graph and for project specific U-value calculations contact the Kalzip Technical department.

