



# **Wing Radiant Heating**

## **Wingline Range**



# Wings Radiant Heating and Cooling

## Wingline

### Wings Radiant Ceiling Panel “Wingline”

The Wingline Panels are lightweight radiant heating panels consisting of two types of Panels EE or EEP profiles. Each arrangement consists of 28 mm steel waterway tubes with rectangular headers. The steel tubes are spring-clipped to aluminium or steel profiles, to ensure maximum contact between the aluminium or steel profiles to create efficient heat transference to the faceplate.

The Wingline products can also come with integrated lighting known as Lit strip.

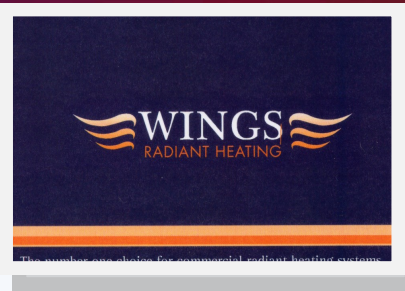
All panels are designed to be free-hung from low level positions to high level positions. Within the rear of the panels cross section is fitted with 50mm insulation. The Wingline panel is stabilised by a two part profile made from a galvanised sheet used to enable variable suspension detail.

All visible surfaces are flat without corrugations ideally suited to false ceilings of all types. All panels will come in RAL 9016 as standard or any standard RAL colour as a powder coating. It is also possible to have your radiant panels in an anti-microbial finish for areas which require the highest levels of hygiene.

The Wingline EE, and EEP can come in any single size up to 6m in length, or multiple lengths to achieve longer continuous runs. The final connections are plain end or screw end left for final connection by others.

All panels are provided with insulation attached to the rear depending on its requirements. All units are delivered with a peel-off protective coating to ensure protection from scratches during installation. All panels circuits are tested to 10 bar during manufacture in the factory.

All panels outputs are tested to BS EN 14037.



## Wings Radiant Ceiling Panel “Wingline”



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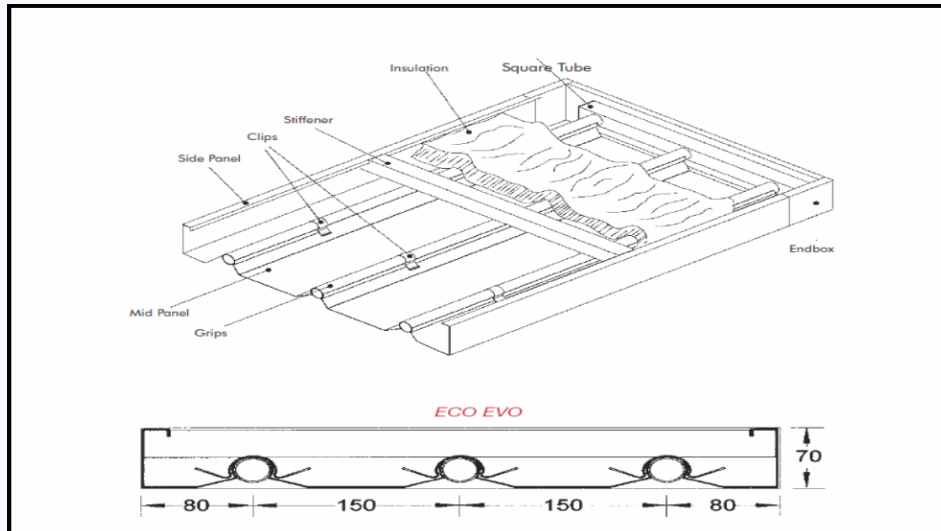


# Wings Radiant Ceiling Panel "Wingline"



- Offices
  - Administrations
  - Cinemas
  - Theatre
  - Sports halls
  - Exhibition halls
  - Factories
  - Warehouses
  - Logistics centres
  - Nursing homes
  - Surgeries
  - Patient rooms
  - Etc
- Postal distribution centres
  - High-bay warehouse
  - Maintenance hangars
  - Market halls
  - Homes
  - Clinics
  - Hospitals
  - Schools
  - Prisons

# Wings Radiant Ceiling Panel “Wingline EE”



The Wingline radiant ceiling panel EE offers a maximum technical excellence for minimal price with energy efficient ceiling panels.

The Wingline EE radiant panel heats or cools buildings just as comfortably and efficiently. They can be used for lengths over 30m and in all areas with high ceilings. This offers energy savings of up to 40% compared to other systems according to DIN V 18599th by Keymark Certificate.

The highest quality quality-controlled production ensures maximum efficiency for the entire life cycle of the Wingline EE Radiant panel.

Wingline EE has a wide range of widths, lengths and connector options that are extremely flexible, in any installation situation. Above all, the panels are very low in weight which facilitates not only easy assembly, but makes it the panel of choice.

All components are corrosion resistant, manufactured according to Keymark - Certification for humid environment. Wingline EE lighting panel has been especially made to resist ball impact, the integrated lighting feature makes it the first choice for any type of building.

Having many different types of accessories such as top-side ball guards, perforated faceplate to improve the acoustics, special colours, exciting designs and much more are available.

General application:

Sports halls  
Warehouse / logistics  
Production / manufacturing halls  
Showrooms

## Benefits

- Easy installation thanks to low weight, thus ideally suited for all types of projects
- Installation of strip lights can also be retrofitted
- Ball-resistant according to DIN 18032
- Use of compressed joints to connect the individual parts possible, no welding required
- Perforated design for high sound absorption possible
- Accessories include Ball guards, special types of connection are possible

# “Wingline” EE output chart

Reading Thermal outputs in Watts per Linear Metre

$$\Delta T = T_M - T_R$$

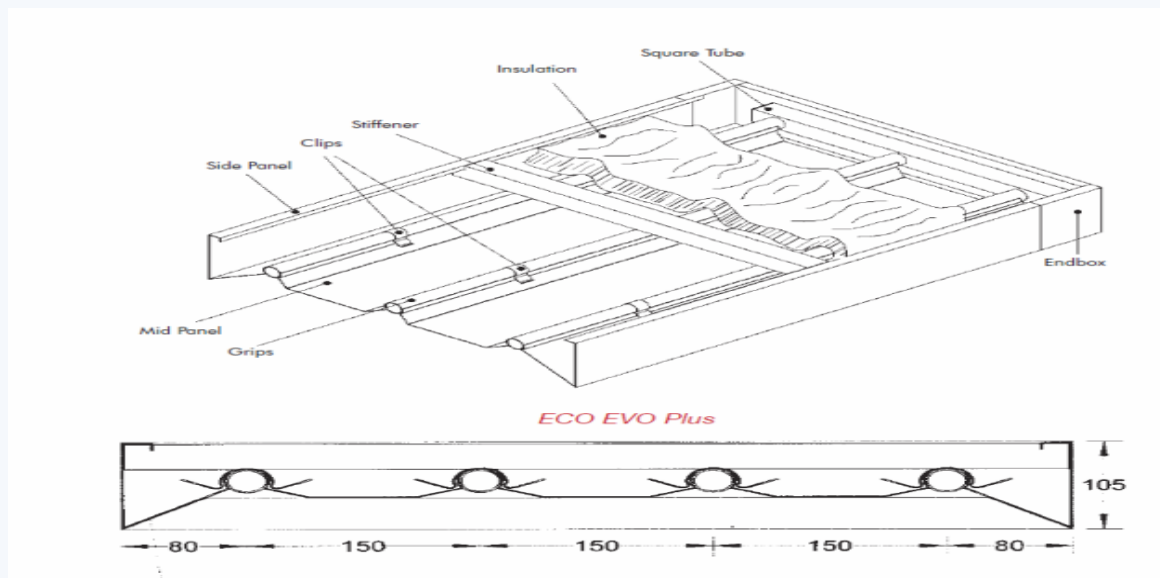
$$T_M \sim 0,5 \times (TVL + TRL) \text{ heat power}$$

Delta T	Widths mm								
Room Temp	310 mm	460	610	760	910	1060	1210	1360	1510
23	72	97	122	145	168	191	213	236	258
24	75	102	128	152	176	200	224	247	271
25	79	107	134	160	185	210	235	260	285
26	82	111	140	167	193	219	245	272	298
27	86	116	147	175	202	229	256	284	312
28	89	121	153	182	210	239	267	296	325
29	93	126	160	190	219	249	279	309	339
30	97	131	166	197	228	259	290	321	352
31	101	136	173	205	237	269	301	334	366
32	104	141	179	212	246	279	312	346	379
33	108	147	186	220	255	289	324	359	393
34	112	152	192	228	263	299	335	371	407
35	116	157	199	236	273	310	347	384	421
36	119	162	205	243	282	320	358	397	435
37	123	167	212	251	291	331	370	410	449
38	127	172	218	259	300	341	382	422	463
39	131	178	225	267	309	352	394	435	478
40	134	183	231	275	318	362	405	448	492
41	138	188	238	283	328	373	417	462	506
42	142	193	245	291	337	383	429	475	520
43	146	199	252	299	346	394	441	488	535
44	150	204	258	307	355	404	453	501	549
45	154	210	265	315	365	416	465	515	564
46	158	215	272	323	374	427	477	528	579
47	162	221	279	331	384	437	489	541	594
48	166	226	286	339	393	447	501	554	608
49	170	232	293	348	403	458	513	568	623
50	173	237	299	356	412	469	525	581	638
51	177	242	306	364	422	480	538	595	653
52	181	247	313	372	431	491	550	609	668
53	185	253	320	381	441	502	562	623	683
54	189	258	327	389	451	513	574	636	698
55	<b>193</b>	<b>264</b>	<b>335</b>	<b>398</b>	<b>461</b>	<b>524</b>	<b>587</b>	<b>650</b>	<b>713</b>
56	197	270	342	406	470	535	599	663	728
57	202	276	349	415	480	546	612	677	743
58	206	281	356	423	490	557	624	691	758
59	210	287	363	432	500	568	637	705	774
60	214	292	370	440	509	579	649	719	789
61	218	298	377	449	519	591	662	733	804
62	222	303	384	457	529	602	674	747	819
63	213	259	392	466	539	613	687	761	835
64	203	214	399	474	549	624	700	775	850
65	221	270	406	483	559	636	713	789	866
66	238	326	413	491	569	647	725	803	881
67	243	332	421	500	579	659	738	818	897
68	247	337	428	508	589	670	751	832	912
69	251	343	435	517	599	682	764	846	928
70	255	349	442	526	609	693	777	860	944



# Wings Radiant Ceiling Panel "Wingline EE Plus"

## Product information



### THE WINGLINE HIGH-PERFORMANCE RADIANT CEILING PANEL EE - PLUS

The high performance radiant ceiling panel Wingline EE-Plus has more output than our normal Wingline EE. The ceiling radiant panels gives a further 15-19% additional energy savings using, Pioneering energy-saving technology. In cooperation with leading universities, using the latest computer simulations we developed higher radiation output which optimised the Wingline EE Plus. When used in sports, industrial and warehouse facilities, it is one of the most efficient panels in the market today.

Wingline EE Plus is a particularly efficient form of indoor heating - through extensive research and development the already highly efficient radiant ceiling panel was further improved again. This lowers operating costs creating energy savings of approximately 15-19%. This is made possible by an increase in the radiation component to 81% and a reduction of the residual convection to a minimum.

As a result of the higher efficiency warehouses, sports halls, production and manufacturing facilities are more energy efficient. The energy savings in accordance with DIN 18599 used for radiant ceiling panels are far exceeded when using Wingline EE Plus.

Wingline EE-Plus can also be used as chilled ceiling in buildings just as comfortably and efficiently. Keymark Certificate the highest quality in a quality-controlled manufacturing ensures maximum efficiency for the entire life cycle of the Wingline EE-Plus. Wingline EE-Plus has a wide variety of widths, lengths and connection options extremely flexible, and thus any mounting situation is achievable.

Above all, their very low weight facilitates not only easy assembly, but makes access to tight spaces under the roof structures the panel of choice. All components are corrosion resistant, manufacturing them according to Keymark - Certification for humid environment. Wingline EE-Plus, can have lighting can be incorporated at the same time being ball-proof according to DIN 18032 T3 and EN 13 964 integrated This feature is especially good in a sports halls, the perfect package with the most energy-efficient indoor heating. Other accessories such as top-side ball guards, perforated faceplates to improve the acoustics, special colours, exciting designs and much more is available.

# “Wingline EE Plus Output chart

Reading Thermal outputs in Watts per Linear Metre

$$\Delta T = T_M - T_R \quad T_M \sim 0,5 \times (T_{VL} + T_{RL}) \text{ heat power}$$

Delta T									
Room Temp	Widths								
	310	460	610	760	910	1060	1210	1360	1510
25	71	95	120	144	168	191	215	239	262
26	74	99	125	150	175	200	225	250	274
27	78	104	130	157	183	209	235	261	287
28	81	108	135	163	191	218	245	272	299
29	84	113	141	170	199	227	256	284	312
30	87	117	147	177	206	236	266	295	324
31	91	122	153	184	214	245	276	307	337
32	94	126	158	190	222	254	286	318	349
33	97	131	164	197	230	264	297	330	362
34	100	135	169	204	238	273	307	341	375
35	104	140	175	211	247	282	318	353	388
36	107	144	180	218	255	291	328	365	401
37	110	149	186	225	263	301	339	377	414
38	113	153	192	231	271	310	349	388	427
39	117	158	198	238	279	320	360	400	440
40	120	162	203	245	287	329	371	412	453
41	124	167	209	253	296	339	382	424	467
42	127	171	215	260	304	348	392	436	480
43	131	176	221	267	313	358	403	448	494
44	134	180	227	274	321	367	414	460	507
45	138	185	233	281	329	377	425	473	521
46	141	190	239	288	337	387	436	485	534
47	145	195	245	295	346	397	447	497	548
48	148	199	250	302	354	406	458	509	561
49	151	204	256	310	363	416	469	522	575
50	154	208	262	317	371	426	480	534	588
51	158	213	268	324	380	436	491	547	602
52	161	218	274	331	388	445	502	559	616
53	165	223	280	339	397	455	514	572	630
54	168	227	286	346	406	465	525	584	644
55	172	232	293	354	415	475	536	597	658
56	175	237	299	361	423	485	547	610	672
57	179	242	305	369	432	495	559	623	686
58	182	247	311	376	440	505	570	635	700
59	186	252	317	383	449	515	582	648	714
60	190	256	323	390	458	525	593	660	728
61	194	261	329	398	467	536	605	673	743
62	197	266	335	405	475	546	616	686	757
63	201	271	342	413	484	556	628	699	771
64	204	276	348	420	493	566	639	712	785
65	208	281	354	428	502	576	651	725	800
66	211	285	360	435	511	586	662	738	814
67	215	290	367	443	520	597	674	751	829
68	218	295	373	451	529	607	685	764	843
69	222	300	379	459	538	618	697	777	858
70	225	305	385	466	547	628	709	790	872



# Wings Radiant Ceiling Panel “Wingline” Technical Specification

- Grids: 28mm steel tubes according to DIN 2394 and internal standard, wall thickness 1.5mm (2.5mm wall thickness for MTHW and Steam)
- Ball resistance tested according to DIN 18032 part 3
- Operating pressures (Standard) 6 bars: Special versions up to 20 bars possible, pressure level according DINPLUS Certification: Level 2
- Maximum operating temperature: 120°C application up to 4 bars available
- Distance between tube centres; 150mm
- Widths in 150 mm increments from 310 to 1510mm lengths from 1.000 m to 70.000 m
- End boxes to cover headers and connections positions
- Use of press-fitting for joining
- Grid stiffeners fitted which can also be used as fixing positions

- Insulation: Mineral Wool, encapsulated in LDPE Bags 30mm thick, Density 25kg/m<sup>3</sup>, λ=0.04 w/mk, installed from above, fire resistance in accordance with EN 13501:B1
- Profiled surface with part exposed tubes to increase radiant effect. Tubes can be painted in contrasting or similar colours to infill panels
- Aluminium infill panels, thickness 0.7 mm fitted by spring clips.
- Perforated centre panels are also available
- Standard colour similar to RAL 9010 matt, painting according to DINPLUS– certification: Level 4 (suitable for heating and cooling, also in wet rooms)
- Integration of light fittings Lit strip (Lthw only possible)
- Emission Coefficient: 0.95
- Low operating weight