



**POWERBOARD-S (Steel Version With Paper Coating)**

The **POWERBOARD-S** is a heated and insulated panel incorporating LaminaHeat’s novel full surface carbon fiber heating films. The **POWERBOARD-S** was designed to be analogous to standard size plaster/gypsum board making it ideal for residential and commercial suspended ceiling applications. The **POWERBOARD** heating system provides a comfortable and low-cost sustainable radiant heating solution with top of class safety guarantees!



Electrical Properties	<ul style="list-style-type: none"> <li>• Dielectric breakdown voltage</li> <li>• Dielectric constant @ 1GHz</li> <li>• Loss Tangent @1GHz</li> </ul>	<p>&gt;1.5 kv</p> <p>7.0</p> <p>0.006</p>
Physical Properties	<ul style="list-style-type: none"> <li>• Material</li> <li>• Thickness</li> </ul>	<ul style="list-style-type: none"> <li>- E Fibreglass</li> <li>- PET Film</li> <li>- Proprietary fire coating</li> <li>- Carbon veil material</li> </ul> <p>1,2mm</p>
Thermal Properties	<ul style="list-style-type: none"> <li>• Maximum operating temperature</li> <li>• Thermal expansion</li> <li>• Thermal conductivity</li> </ul>	<p>70°C / 158°F</p> <p><math>11 \times 10^{-6} \text{cm/cm/}^\circ\text{C}</math></p> <p>0.04 W/m °C</p>
Mechanical Properties	<ul style="list-style-type: none"> <li>• Heater conductor thickness</li> <li>• Max. Tensile strength</li> <li>• Elongation</li> <li>• Tensile modulus</li> <li>• Cross section Cu bus</li> </ul>	<p>100 -150 <math>\mu\text{m}</math></p> <p>250 MPa</p> <p>4.8%</p> <p>6 Gpa</p> <p>20mm x 0,050mm</p>

DISCLAIMER OF LIABILITY: This information is offered solely as a guide in material selection. We believe this information to be reliable, but do not guarantee its applicability to the users process or assume any liability arising out of its use of performance. The user, by accepting the product described herein, agrees to be responsible for thoroughly testing any application to determine its suitability before committing to production. It is important for the user to determine the properties of its own commercial compounds when using this or any other material. LaminaHeat makes no warranty of any kind, express or implied, including those of merchantability and fitness for a specific purpose. Statements of this Data Sheet shall not be construed as representations of warranties or as inducements to infringe any patent or violate any law, safety code or insurance regulation.



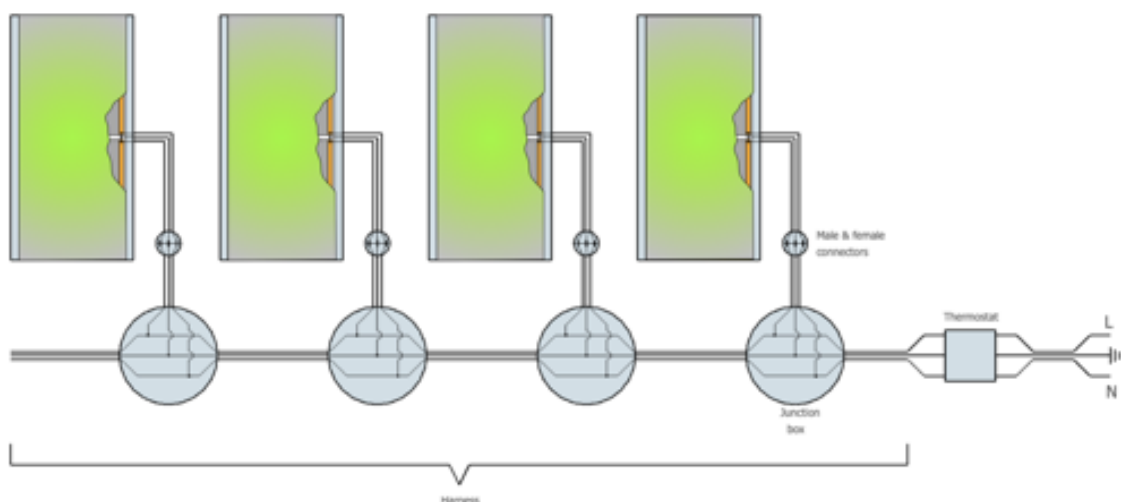
**POWERBOARD**  
POWERED BY LAMINAHEAT

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### Product Specification

LaminaHeat Product ID		PB-S-180W	PB-S-250W
Wattage /m <sup>2</sup>	W/m <sup>2</sup>	351 +/- 10%	488 +/- 10%
Wattage / Board	W	180 +/- 10%	250 +/- 10%
Total Length	mm	1200	1200
Total Width	mm	600	600
Heating Width	mm	470	470
Amps per board	A	0,75 +/- 10%	1,04 +/- 10%
AC Voltage	V	240	240
Resistance per Board	Ω	320	230
Weight (Board)	kg	6,6	6,6
Thickness	mm	12,5	12,5
Max. No. of panels per 16A supply (one zone)	Pieces	17	12

The POWERBOARD-S has been developed by our engineers to easily incorporate into our 'plug and play' cable system reducing on-site installation time and allowing for greater market penetration.



In compliance with: High Potential Test IEC-60355 | EN 6035-2-17:2013 | EMF (2104/30/EU): DIN EN 62233:2008 | WEEE2/2012/19/EU - Simple electric device without obligations for registration | D2.2.310 - Heating and cooling surfaces on walls, ceilings and floors. Manufactured in a ISO9001, ISO14001 facility. EN60335-1:2012A11,A13,A1,A2,A14: EN60335-2-30:2009+A11,A1A12The product complies with the standard(s)