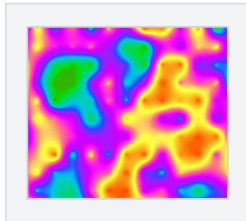


Thermal Intelligence™

technology



www.megabay.com

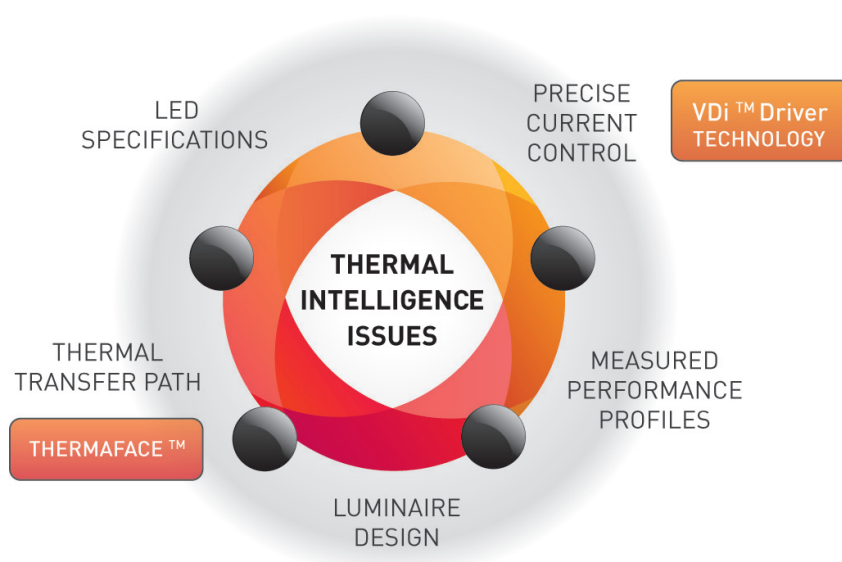


Thermal Intelligence™ technology

Thermal management of LEDs is crucial as their light output; efficacy, spectral distribution and lumen maintenance are severely affected by heat. Our luminaires are engineered for higher ambient temperatures with the electronic intelligence to ensure specifications aren't exceeded. This performance safety net ensures long-term reliability within every installation scenario.

The key aspects of thermal management.

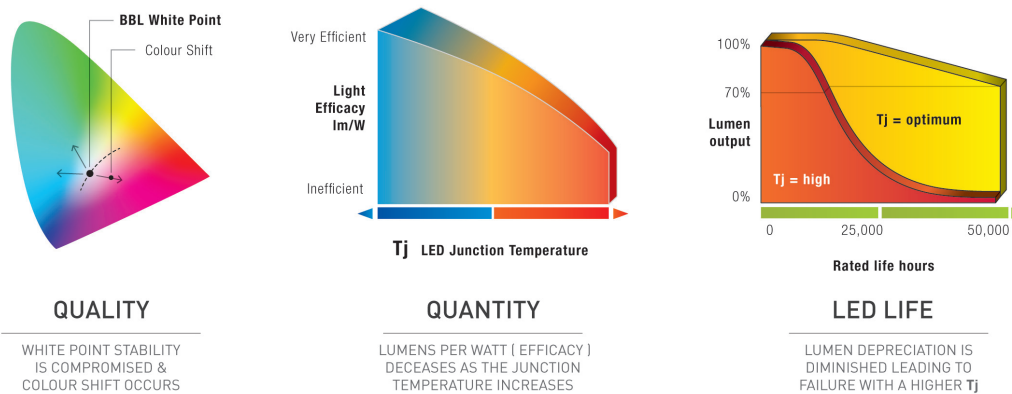
Thermal intelligence™ is a collective understanding of the issues related to high powered LEDs and the knowledge to effectively address them. Minimising LED junction temperatures is of paramount importance to achieve true performance over time.



Research and testing can't foresee issues arising from unforeseen circumstances that may occur during an installation or change of climate. Thermal intelligence™ electronically monitors LED junction temperatures to ensure specifications aren't exceeded, your defence in the protection of your investment.

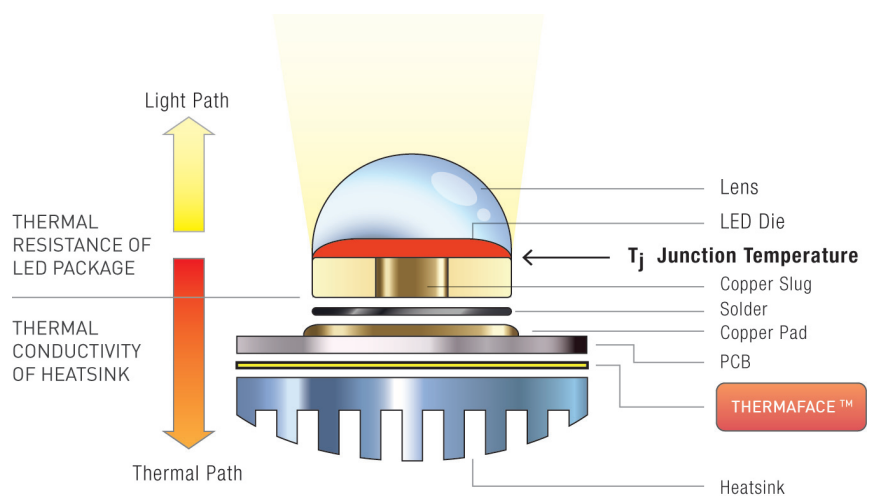
How does heat affect LED lighting ?

As the junction temperature (T_j) of an LED increases, multiple performance parameters are compromised. **QUALITY** of light is affected through colour shift and white point instability. **QUANTITY** of light is lowered whilst using the same power, decreasing the energy efficiency. **LIFE** is also decreased through accelerated lumen depreciation generating poor return on your investment in LED technology.



The thermal path.

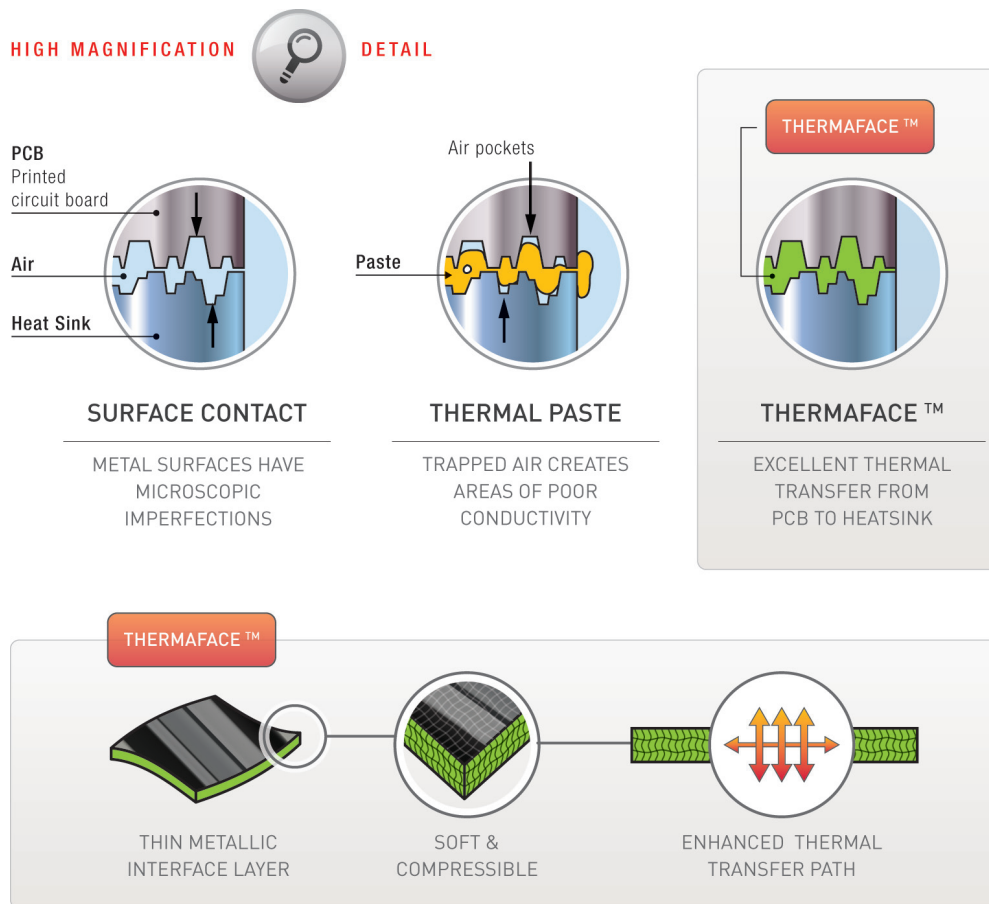
Although LEDs do not transmit heat within the light beam, there is substantial heat generated within the LED junction (T_j). Any deficiencies in the thermal path can diminish performance as the LED junction temperature increases. It is crucial that each component of the thermal path is accounted for in the design as the weakest link will jeopardise the LEDs.



EXAMPLE OF LED THERMAL PATH

Thermaface™ - thermal interface material.

Traditionally thermal paste has been used as the thermal interface between PCB and heatsink however if not applied correctly, trapped air creates areas of poor conductivity. Over time paste may harden which not only decreases conductivity but renders it virtually impossible to service LED modules. Thermaface™ is a soft metallic film which creates an efficient thermal transfer path by filling microscopic imperfections of surface finishes. It will not change over time and also allows for on site removal of the LED modules, future proofing Megabay's LED luminaires.



Our intelligence is your insurance.

Megabay has identified multiple issues surrounding thermal management in high powered LEDs. Our understanding, knowledge and success with implementing thermal technologies will ensure Megabay luminaires operate to their optimum. The guarantee we offer to clients is that LED specifications aren't exceeded, providing you with the confidence of reaching the expectations of LED technology.

**MEGABAY
THERMAL
INTELLIGENCE**

