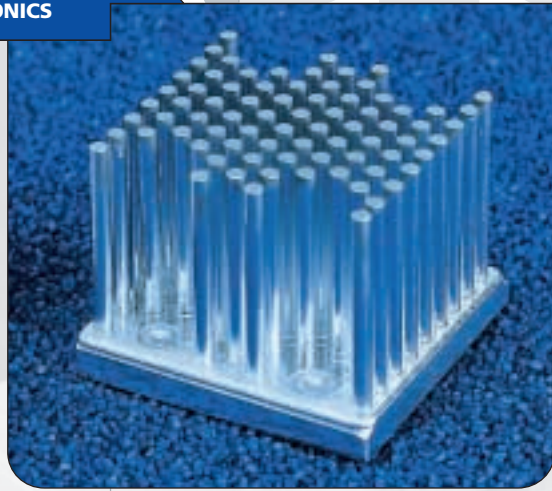
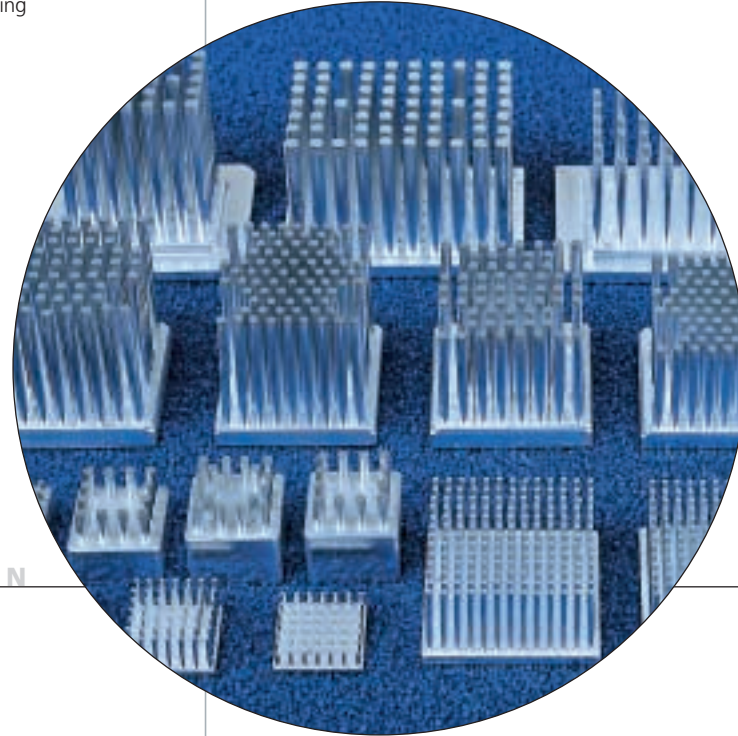


PINBLOC

THE ALTERNATIVE HEAT SINK TECHNIQUE FOR FUTURE ELECTRONICS



Highly integrated, modern chips and power electronic devices produce a lot of heat. They require significant heat dissipation as a result of a large power build-up in the integrated circuit. Electronic devices are getting smaller, faster and more efficient. The heat to be dissipated per cm² is increasing. The life span of the device is shortened because of increasing temperatures. A competitive cooling enables an optimal functioning and an increased life span of the device.



HEAT DISSIPATION

- The cooling is the more efficient
- the less the thermal difference between the device and the heat sink
- the higher the thermal conductivity of the fabricated material
- the faster the heat is transported to the dissipating surface
- the larger the dissipating surface of the heat sink
- the higher the cooling air stream passing by the heat sink's surface (e.g. fan)

HEAT SINK TECHNIQUE

PINBLOC is the alternative heat sink technique for modern microprocessors and power electronics.

PINBLOC suits the requirements of future electronic devices.

PINBLOC is designed for applications with a high power density and space-saving, small fittings.

PINBLOC heat sinks are faster, more efficient and have a higher performance than the conventional technologies.

INNOVATIVE

PINBLOC puts on a pure aluminium material with a thermal conductivity of 220 W/mK.

OUTSTANDING

PINBLOC is an improvement to the known cooling technologies by 30%.

EFFICIENT

PINBLOC shows a quick, homogenous and extensive heat dissipation.

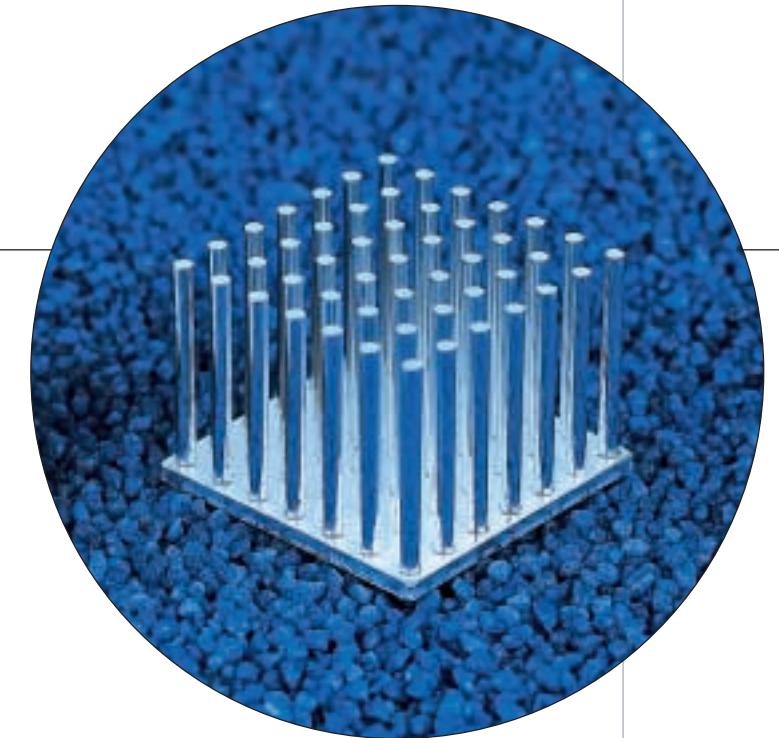
COMPETITIVE

PINBLOC has a thermal resistance under 0,4 K/W at 5 m/s (e.g. PINBLOC heat sink: 50x50 mm and 196 pins). To dissipate over 200 Watt in one bloc is possible with this technique.

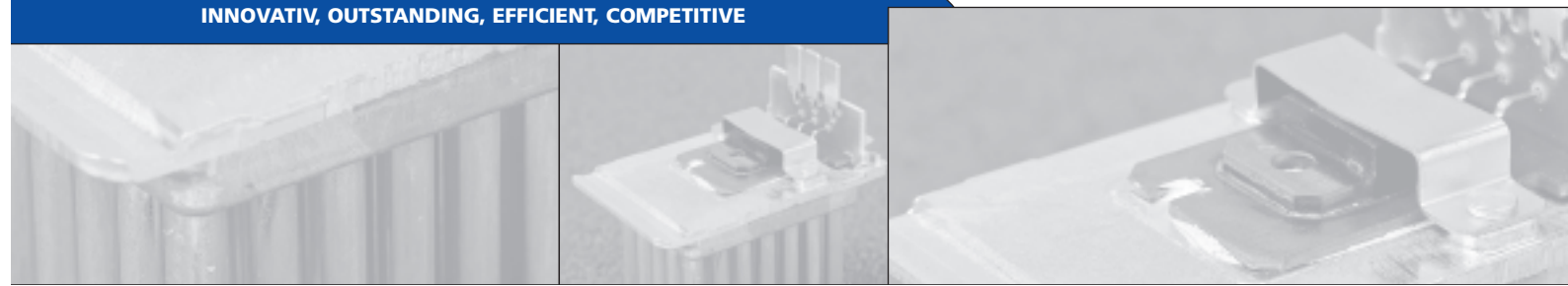
DIVERSE

PINBLOC offers a variety of forms and fixing possibilities.

is the alternative heat sink technique for modern microprocessors and power electronics. Innovative, outstanding, efficient, competitive, diverse and individual.



INNOVATIV, OUTSTANDING, EFFICIENT, COMPETITIVE



INDIVIDUAL

PINBLOC suits standard forms to your specific requirements.

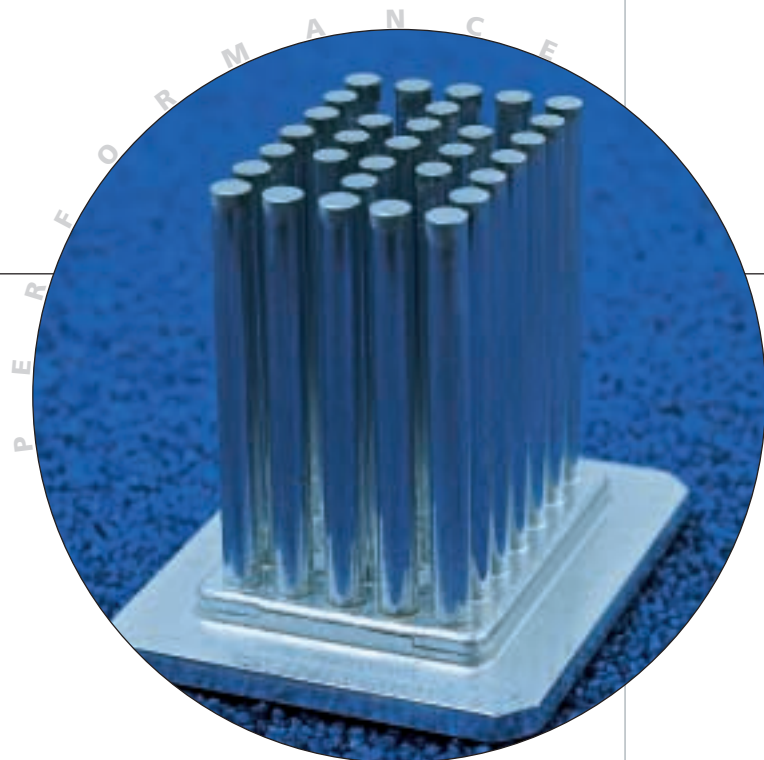
PINBLOC offers

- ❖ a low thermal impedance in the contact area by means of a high flatness and low surface roughness under $< 8 R_z$
- ❖ a material of pure aluminium with a thermal conductivity over 220 W/mK and a highly condensed micro-structure
- ❖ a large dissipating surface with a pin structure
- ❖ an improved cooling performance through round pins
- ❖ an optimal cooling result also for natural or a low convection
- ❖ an excellent thermal resistance
- ❖ a variety of forms (pins, pin order, bottom, length)

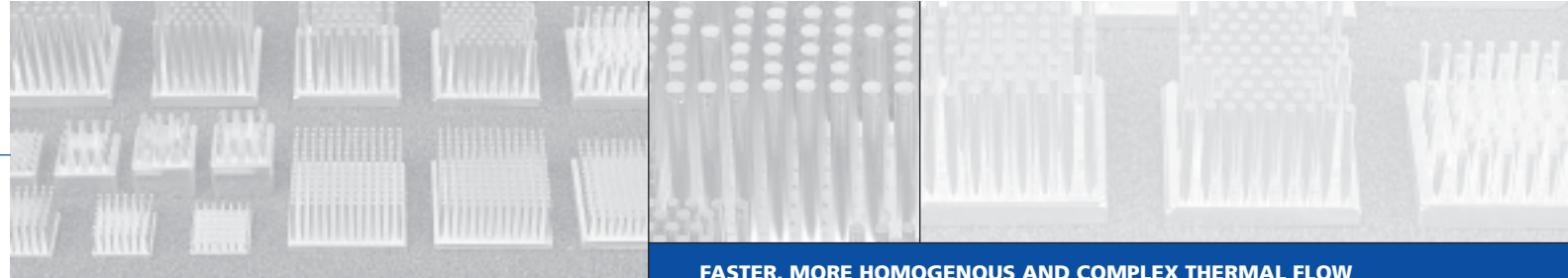
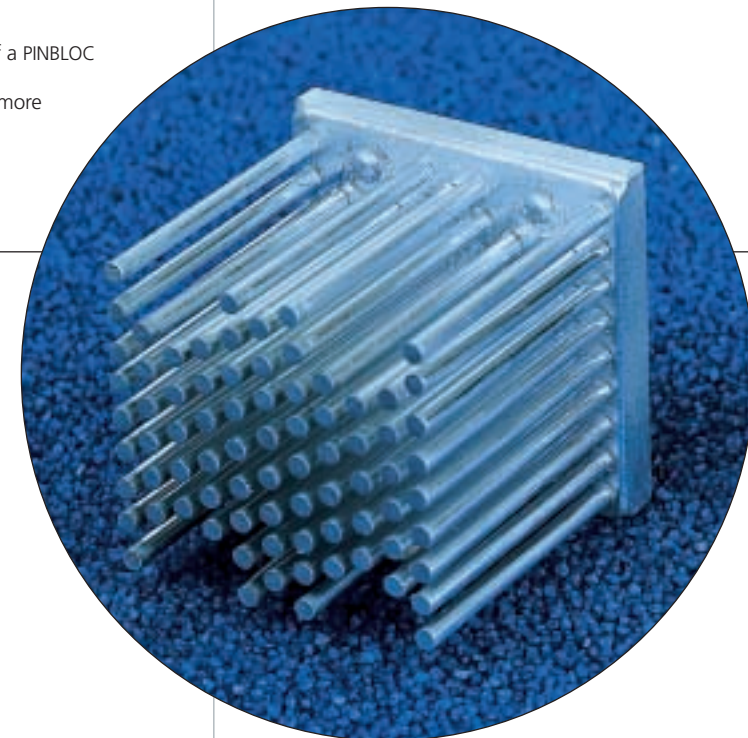
In a varied air stream a PINBLOC solution is by 35% more efficient than the known heat sink designs. Thus PINBLOC heat sinks can be designed smaller, lighter and more cost efficient. PINBLOC offers a variety of possibilities in respect to an individual length, order and form like no other heat sink technology.

Surveys of two independent research instituts have confirmed the outstanding performance of PINBLOC heat sinks against other fabricated heat sinks.

Approximate figures for the performance of PINBLOC heat sinks were ascertained in comparison to alternative fabrication techniques



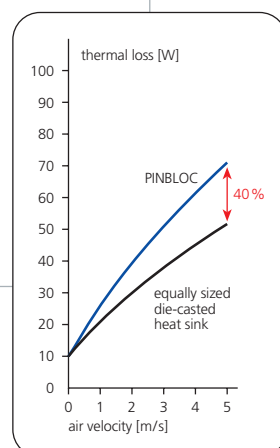
The thermal flow of a PINBLOC heat sinks is faster, more homogenous and complex.



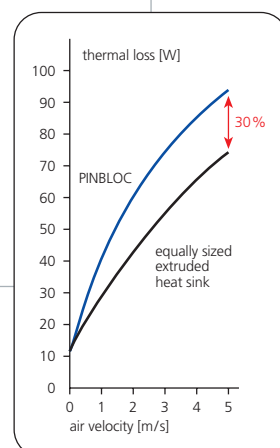
FASTER, MORE HOMOGENOUS AND COMPLEX THERMAL FLOW

PINBLOC heat sinks can dissipate more than 200 Watts of emissive power. For a PINBLOC heat sink of 50x50 mm with 196 pins a thermal resistance under 0,4 K/W with an air velocity of 5 m/s can be taken as a guideline.

PINBLOC shows a 40% higher performance than a die-casted heat sink.

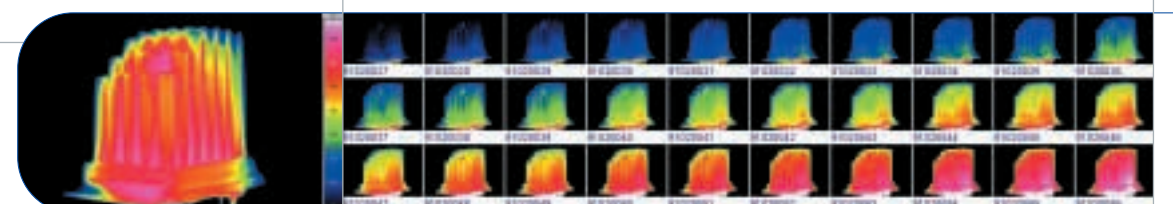


PINBLOC shows a 30% higher performance than an extruded heat sink.



The heat is spread over the whole heat sink and it uses the complete material volume to dissipate the heat.

Within 12 seconds the whole heat sink is heated up from 0 to 70°C. A cooling power that might be of importance for dissipating great and impulsively arising heat.



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