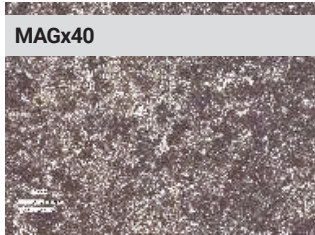
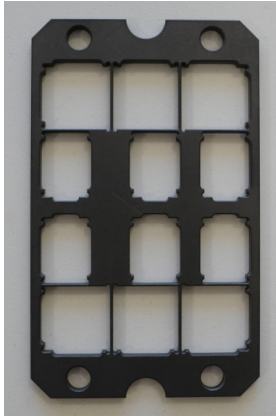


Microstructure

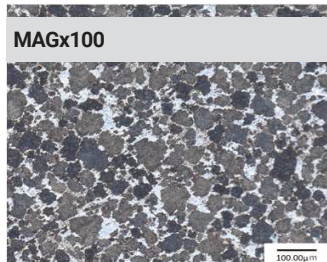
ACM-io



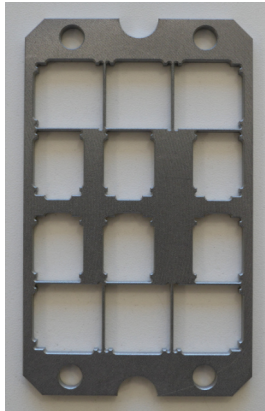
Graphite Reinforced
Aluminium Matrix
Composite



AC-Albolon



Ceramic Reinforced
Aluminium Matrix
Composite



Find out more



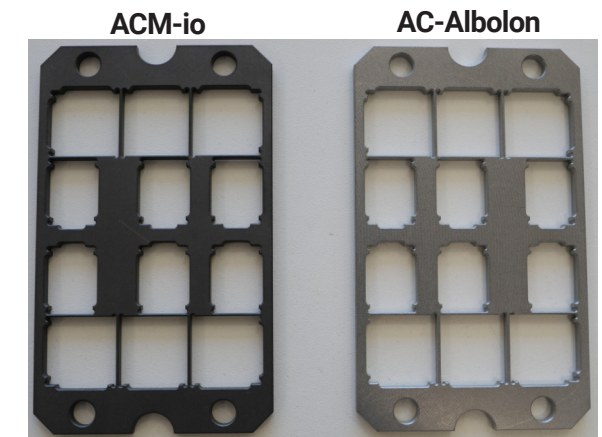
Contact us
tan@nagase.eu

NAGASE (EUROPA) GmbH
Werdener Strasse 4
40227 Düsseldorf
Germany

Tel: 0049 (0)211 86620 0
E-mail: tan@nagase.eu

Reflow Soldering Positioning Jigs for Power Modules

made of Metal Matrix Composites



ACM-io

Graphite-Reinforced
Aluminium Matrix Composite

Features

- » Low coefficient of thermal expansion
- » High thermal conductivity
- » Enhanced strength
- » Reduced brittleness (compared with graphite materials)

Advantages

- » Excellent heat cycle performance
- » Machining tolerance to thinner wall thickness
- » Decreased dust generation compared to carbon
- » Longer product life
- » Excellent alternative to graphite materials

AC-Albolon

Ceramic-Reinforced
Aluminium Matrix Composite

Features

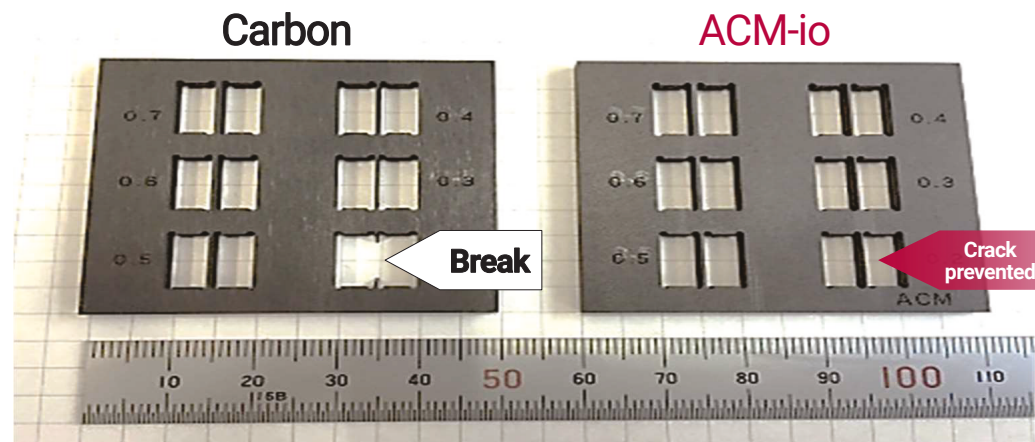
- » Tensile strength/young's modulus comparable to cast iron
- » Light weight equivalent to aluminium
- » Low coefficient of thermal expansion
- » Can be machined with carbide tools

Advantages

- » Improved positioning accuracy than aluminium
- » Faster tact times than steel materials
- » Longer product life than graphite materials

Fine Machining of ACM-io Jigs

- » Improved mechanical strength of materials allows thinner processing!



Properties

	ACM-io	AC-Albolon	Alu (A5052)	Carbon (CIP)	Cast Iron (FC250)
Matrix Material	Aluminium Alloy				
Reinforcement Material	Graphite	Aluminum Borate			
Density [g/cm ³]	2.1	2.8	2.7	1.8	7.3
Tensile Strength [MPa]	70	250	260	27	270
Young's Modulus [GPa]	16	120	68	11	120
Specific Heat [J/kg*K]	0.75	0.92	0.92	0.71	0.52
Thermal Conductivity [W/m*K]	164	81	137	128	50
CTE [ppm/K]	8	12	24	5	12
Standard Size [L x W x H, mm]	190x240x140 ^{*1,2}	200x200x80 ^{*1,2}			

^{*1} Other sizes are available upon request.

^{*2} Both materials are non-stick to most solder materials.