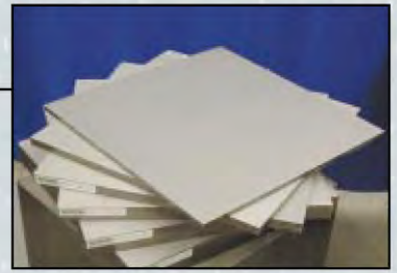
Machinability

The machining properties of METAPOR are similar to hard wood, so it machines faster than aluminum using standard milling machines or routers. METAPOR must be machined without any coolant using sharp carbide or high speed steel (HSS) tools.

Availability

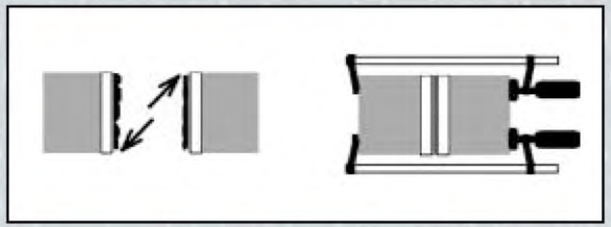
METAPOR is sold in slabs of 500mm x 500mm with thickness ranging from 10mm to 400mm. Slab sizes larger than 500mm x 500mm are available upon request.

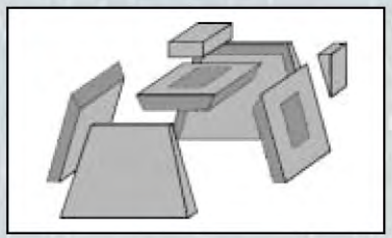


Adhesive System for METAPOR

Plates larger than 500mm x 500mm are easily constructed by joining multiple slabs of METAPOR together using Ciba Araldite 2014 heat and chemical resistant adhesive.

The adhesive is also used to attach METAPOR inserts to aluminum, as well as to combine "left-over" pieces of METAPOR in order to minimize waste.





For large & deep draw molds, hollow constructions are created by assembling multiple plates together.

Tooling Technology, LLC

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METAPOR®

Breathable Mold Material For Thermoforming

METAPOR micro-porous, air-permeable aluminum delivers advanced solutions for many thermoforming applications.

METAPOR eliminates the need to drill vacuum holes, expanding technical capabilities of the thermoforming process at a lower cost.

METAPOR material has consistent porosity which offers unparalleled design flexibility and new ways to optimize performance of thermoform tooling.

Tooling Technology, LLC

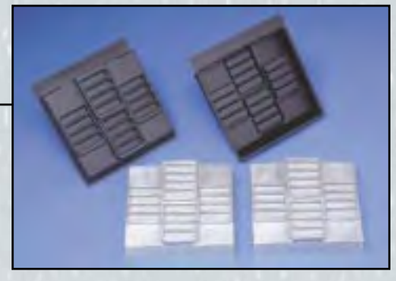
Advantages & Applications

Unlimited design intricacy

Highly detailed molds, engraved inserts, and other intricate features are quickly produced with METAPOR, since there is no need to drill vacuum holes.

High definition & accuracy

Even porosity on all surfaces of METAPOR results in extremely sharp definition and accuracy of formed components ***without deformation****.*



Flat surfaces

METAPOR is often used for large flat surfaces and bottom inserts to eliminate trapped air and related waviness.

Surface quality

Absence of drilled vacuum holes, eliminates surface imperfections on transparent and highly cosmetic parts.

Faster air evacuation

Rapid ***and even*** *air evacuation assures that the plastic remains within its temperature formability window resulting in reduction of stresses and better mechanical properties.*

Prototype & Production Tooling

Quick prototype tooling with METAPOR accelerates product development and minimizes costly production problems. For high production applications, METAPOR cavities & inserts are often used in conjunction with water-cooled aluminum bases.

Product Selection Table

Product	Description	Main Applications	Density (oz/inch^3)	Maximum mold temperature (^{o}F)	Flexural strength (PSI)	E-module (KPSI)	Average pore diameter (inch)	Total porosity (%)
BF 100 AL	Standard	PS, ABS, PVC, PET, PE	1.04	226	8,000	1,300	0.0006	15
HD 100 AL	High Density	Transparent, twin-sheet, acrylics, PVC	1.10	226	6,200	1,350	0.0005	16
BF 210 AL	High Temperature	PVC, PE, PC	1.04	410	6,500	1,500	0.0006	15