## **CMT Materials METAPOR® HD 210 AL Air Permeable Material**

Category : Polymer , Thermoset , Epoxy , Epoxy, Cast, Metal Filled

## Material Notes:

METAPOR® is a composite material made of aluminum granules and epoxy resin. The material is air-permeable over the entire surface due to its micro-porous structure allowing for unique design considerations for prototype and production thermoform tools. In contrast to sintered materials, the pores do not close off after machining allowing excellent definition and surface quality.METAPHOR®-HD 210 AL is the high temperature grade of the product. It can be used with polymer sheet most commonly thermoformed today such as PS, ABS, PVC, PET and PE, but is also suitable polymers processing at higher temperatures such as polycarbonate and acrylic. Its upper operating temperature limit is 410°F (210°C).Information Provided by CMT Materials, Inc.

## Order this product through the following link: http://www.lookpolymers.com/polymer\_CMT-Materials-METAPOR-HD-210-AL-Air-Permeable-Material.php

| Physical Properties | Metric       | English                    | Comments                   |
|---------------------|--------------|----------------------------|----------------------------|
| Density             | 1.900 g/cc   | 0.06863 lb/in <sup>3</sup> |                            |
| Porosity            | 16 %         | 16 %                       | Total porosity (by volume) |
| Pore Size           | 12.7 microns | 0.500 mil                  | Mean pore diameter         |

| Mechanical Properties | Metric    | English  | Comments   |
|-----------------------|-----------|----------|--|
| Hardness, Shore D     | 82        | 82       |  |
| Flexural Strength     | 43.02 MPa | 6239 psi |  |
| Flexural Modulus      | 10.80 GPa | 1567 ksi |  |
| Impact                | 11        | 11       | Unspecified Impact Strength Test<br>(kJ/m <sup>2</sup> ) |

| Thermal Properties               | Metric                        | English                       | Comments                      |
|----------------------------------|-------------------------------|-------------------------------|-------------------------------|
| CTE, linear                      | 31.7 µm/m-°C                  | 17.6 µin/in-°F                |                               |
|                                  | @Temperature 25.0 -<br>125 °C | @Temperature 77.0 -<br>257 °F |                               |
| Thermal Conductivity             | 19.0 W/m-К                    | 132 BTU-in/hr-ft²-°F          |                               |
|                                  | @Temperature 100 °C           | @Temperature 212 °F           |                               |
| Maximum Service Temperature, Air | 210 °C                        | 410 °F                        | Martens Dimensional Stability |

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