

Syntac® 450

# High performance syntactic material

**With an advanced range of thermoforming plug assist materials designed to increase your productivity, reduce downtime and maintain high product quality, Trelleborg Applied Technologies strives to perform at every level.**

Syntac® 450 syntactic foam is the high temperature 450°F / 232 °C member of the Syntac® product family. A rigid, high strength composite of epoxy resin and hollow glass microspheres, Syntac® 450 maintains its hardness right up to the maximum running temperature and exhibits excellent abrasion resistance.

Syntac® 450 is easily machined using standard shop tools and offers a lightweight, durable and cost effective alternative to wood, felt and aluminum.

#### Features & Benefits:

- High temperature 450 °F / 232 °C
- Improved clarity - elimination of swirl and chill marks
- Increased strength compared to other epoxy syntactic material
- Available in a wide range of block, rods and sheets



#### Machining:

There are no special tools required to machine this material, however we do recommend the use of carbide tools.

- Speeds 3,000 - 3,500 rpm
- Cut Size 0.25 inches / 6 mm maximum
- Feed 15 - 20 inches / 381 - 508 mm per min
- Tooling: Carbide or high speed steel, maintain sharp edge with slight chip breaker
- Flutes 2 - 3 for optimum performance

#### Polishing:

Syntac® 450 materials can be polished to achieve an extremely smooth surface finish. Please follow the tips below to achieve the desired surface quality of the finished plug and to guarantee the consistency in the plug performance.

- Tooling: Sandpaper (wet or dry)
- Speeds: Rub in random motion
- Grits: Start with a 220 - 600 grit and then progressively go to finer grits until you reach the desired finish

## Advisory

Trelleborg Applied Technologies operates a strict quality control process, but we realise that it is not possible to completely remove internal voids in our rods and sheets. We guarantee that there will be no internal voids larger than 1/8" (3.18 mm) and no more than 2 per linear foot between 1/6" (1.58 mm) and 1/8" (3.18 mm). Surface color may vary due to; sunlight exposure, frequent handling or rod/sheet thickness. The color does not impact the performance of the material.

## Contact Us

Trelleborg's Applied Technologies division is an industry expert in delivering innovative and reliable solutions that maximize performance for our customers. Our vast range of specialized, customizable materials ensure peace of mind at every stage of your project. With reliable and efficient project management and manufacturing we endeavor to take performance to new levels by achieving your goals safely, on time and within scope.

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TYPICAL PROPERTIES		
Syntac® 450	Imperial	Metric
Color	Blue	Blue
Density	46 lb/ft <sup>3</sup>	736 kg/m <sup>3</sup>
Service Temperature	450 °F	232 °C
Thermal Conductivity	0.09 BTU/hr-ft-°F	0.15 W/m°K
Specific Heat	0.50 BTU/lb°F	2090 J/kg°K
Coefficient of Thermal Expansion	17x10 <sup>-6</sup> in/in/°F	31x10 <sup>-6</sup> cm/cm/°C
Compressive Strength	7,400 psi	51 MPa
Compressive Modulus	341,000 psi	2357 MPa
Shore D Hardness	55 °D @ 450 °F	55 °D @ 232 °C

