HYTAC®– B1X

High durability thermoplastic syntactic for fine detail and rugged environments

HYTAC-B1X is the first plug assist material to combine the toughness of engineering thermoplastics with the low thermal conductivity of a syntactic foam. Plug assists made from HYTAC-B1X will resist the chips and dings associated with production abuse while reducing mark-off and sticking of difficult to process polymers. HYTAC-B1X maintains the high thermal stability required to process today's thermoformed polymers.

- **High Toughness and Durability**
  With high toughness, machine downtime due to damaged plugs is reduced. Less downtime = lower costs = more consistent quality.
- **Superb Machinability**
  No dust collection equipment or respirators are required due to the large, non-abrasive chips. No more complaints from your machinists.
- **Excellent Temperature Resistance**
  HYTAC–B1X is specially formulated for service up to 350°F with minimal loss in mechanical properties.
- **Variety of Shapes and Sizes**
  The material is provided in standard sized rods or sheets and may also be custom cut to meet your specific needs.

Typical Properties

Color	Light Blue
Density (ρ)	40-45 lb/ft^3 [640-721 kg/m^3]
Thermal Conductivity (*k*)	0.11 BTU/hr-ft-°F [0.18 W/m°K]
Coefficient of Thermal Expansion (CTE)	37.6 x 10^{-6} in/in/°F [67.7 x 10^{-6} m/m/°C]
Compressive Strength	7,100 psi [49.2 Mpa]
Service Temperature	350°F [176°C]
Flexural Toughness (ASTM D790)	11.6 Psi [80.0 kPa]

Use of this material for plug assist thermoforming may be covered under one or more of the following patents:

United States: US Patent No. 8,075,835
Australia: Australian Patent No. 2005-201493
Brazil: Carta Patente No. PI 0013183-0
France: Brevet No EP 1244733, S.g.d.g.
Germany: DP Nr. 60038463.2-08
Italy: Brevetto No. EP 1244733
Mexico: Mexico Patent No. 247302 DSM N.V.
Netherlands: Ned. Octroii No. EP 1244733
UK Patent No. EP 1244733



Applications

HYTAC-B1X is a top choice for complex, demanding geometries where clarity and/or material distribution are critical. Excellent where tight plug assist tolerances and plug durability are needed.

Recommended for use with PP, PE, APET, CPET, HIPS, OPS, PETG, PLA, PS, PVC and RPET.

Innovative Tooling Materials for Thermoforming

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Available in rod and sheet sizes. For details: www.cmtmaterials.com

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