POLYURETHANE INFORMATION

Standard Colors: *Clear & Black*
These are our most popular bumpers. Every bumper is available in Clear and Black. The crystal clear bumper is nearly invisible when used for pigmented or transparent applications.

Additional Colors: *White, Brown & Gray*
Most bumpers are stocked in every color and are ready for shipment. However, colors are inventoried based on popularity. Please call to confirm availability of white, brown and gray. There is no additional charge for clear or pigmented bumpers.

Custom Shapes & Colors
We are the only company that provides full engineering support to help you design a bumper to meet your particular needs. Our staff will thoroughly work with your company through the completion of your project. A one-time charge (this differs with size) for tooling and set-up applies. Your final cost/m (m=thousand) will be consistent with our existing line of bumpers. Additional factors in pricing include the volume of polyurethane required for custom shapes, difficulty of manufacturing, and normal and customary waste. You can be assured we are dedicated to providing you with the most competitive prices in the global marketplace.

Special Die-Cut Pads
Available die-cut in strips or smaller pads for a minimal cost/m and a one-time tool charge.

NEW Soft Durometer for Sound Dampening
Please call for the availability of profiles that are offered in SD. (The -SD suffix designates the softer durometer.) Not for load-bearing applications.

Polyurethane
The results of the physical test performed on Bumper Specialties' polyurethane material are summarized in the table below. Please note, these tests were performed on hand mixed samples and the values are averaged. Values obtained from machine mixed samples would be better due to improved mixing and reduction or elimination of entrapped air.

TEST METHOD	STANDARD DUROMETER	SOFT DUROMETER
Tensile Strength, psi (g/cm^2)	627 (44,082)	750 (52,730)
Elongation, %	192	607
Tear Strength, pli (g/cm)	214 (38,216)	127 (22,680)
Hardness, Shore A	60 — 70	45 — 55
Bashore Rebound, %	27	35
Abrasion Resistance, g/1000 cycles Tabor H18, 1kg	0.016	0.010
QUV (500 hours)	Slight Yellowing	Slight Yellowing
Dynamic Material Analysis, Material Flow	165°C or 329°F	165°C or 329°F
Thermal Gravimetric Analysis, Degradation	287°C or 536°F	287°C or 536°F

UL-94 HBF TESTING:	PASSES:
Self-extinguishing time, seconds	66.6 not heat aged — 72.0 heat aged
Self-extinguishing length, inches	0.62 not heat aged — 0.52 heat aged
Burn rate, inches per minute	0.02 not heat aged — no data available

This data is based on laboratory flammability tests and should not be used to predict performance under actual fire conditions. Due to the many varying applications for our products, we recommend performing suitability tests on the original materials before use in each case. Our applications engineering service is available for you to consult.

Notice to Purchaser
Information and specifications contained herein are believed to be reliable, but no assurance is given as to the accuracy or completeness of technical information or recommendations. The Sellers or Manufacturers sole undertaking with respect to the product in lieu of all warranties of any kind is to replace any of the product that is proved to be defective. Neither Seller nor Manufacturer makes any warranty or representation the product is suitable for any specific purpose, nor shall Seller or Manufacturer be liable for any incidental or consequential damages for breach of any expressed or implied warranty. No person is authorized to assume for Seller or Manufacturer any liability or obligation in regard to this product other than as expressly set forth in this paragraph. *Materials used by Bumper Specialties Inc. are in full compliance with the European Standard for RoHS.*

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