

Thermoplastic Elastomers for Dog Toys

Trusted by major consumer brand owners and processors alike, Monprene® thermoplastic elastomers (TPEs) allow designers more flexibility and give manufacturers peace of mind. The Monprene product line is constantly expanding to reflect market requirements, and you can always rely on Teknor Apex for high quality, consistent materials, backed by best-in-class customer service and technical support.

The Monprene CP-16500 series was designed specifically for dog chew toys and offers an extensive range of performance and aesthetic characteristics, including enhanced bite and tear resistance, and varying gloss levels and opacity. Formulated only with carefully selected, FDA listed ingredients, these TPEs are manufactured under strict quality standards.

Monprene CP-16500 Series

- Tough and durable TPEs for dog toys
- Sustainable/recyclable alternative to thermoset rubber
- Broad hardness range: 25 to 65 Shore A
- Appearance: clear, translucent, and opaque grades
- Gloss level: low, medium, and high
- Excellent colorability
- Molds with ease with excellent flow characteristics



Safety for Pets

- Formulated only with FDA-listed ingredients
- Meets relevant requirements of European Directives for Food Contact, EU 1935/2004 and PIM10/2011
- Not formulated with PVC, BPA, Latex, phthalates, or metals
- Not formulated to contain REACH SVHC or Prop 65 listed substances
- Manufactured in ISO-9001 certified facilities in the USA, Singapore, and Germany to serve local markets
- Manufactured under the same quality standards globally, with strict formulation control and traceability
- Suitable for use in pet and children's toys per regulatory standards CPSIA, EN 71 and ASTM F963

Sustainable Alternative to Thermoset Rubber

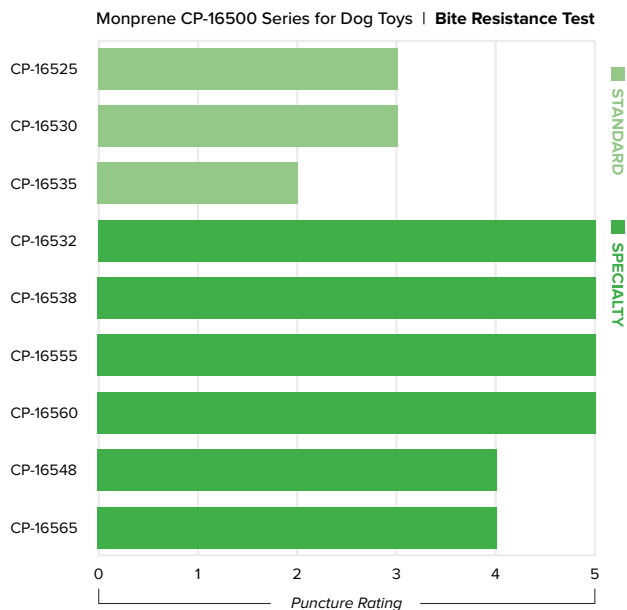
Unlike thermoset rubber used in the manufacture of many chew toys, Monprene TPE is recyclable. Scrap recovered from any step in the manufacturing process can be re-introduced into the process or used in the production of new parts. Additionally, used chew toys can be recovered, shredded, and recycled into new ones.

Monprene CP-16530 Series for Dog Toys | Typical Properties

Typical Properties	ASTM Test Method	Units	Standard Grades			Specialty Grades					
			General Purpose			Soft & Tough		Tough		Tough & Glossy	
			CP-16525	CP-16530	CP-16535	CP-16532	CP-16538	CP-16555	CP-16560	CP-16548	CP-16565
Hardness (5 Sec Delay)	D2240	Shore A	24	38	35	31	35	55	61	46	63
Specific Gravity	D792	g/cm3	0.89	0.89	0.91	0.89	0.89	0.89	0.89	0.93	0.93
Tensile Strength	D412	psi	1044	1117	886	1391	1178	1129	1286	1178	1445
100% Modulus	D412	psi	55	66	71	84	110	236	323	140	145
Elongation	D412	%	914	868	1011	799	734	669	639	852	735
Tear Strength	D624	pli	126	145	139	223	224	205	257	234	219
Melt Index (190°C/2.16kg)	D1238	g/10 min	7.8	5.1	21	1.7	2.8	0.66 <small>(0.4 g/10 min at 200°C/5kg)</small>	11	46	59
Gloss Rating	D523	—	Medium	Medium	High	Medium	Low	Low	Medium	High	High
Appearance	—	—	Clear	Clear	Opaque	Translucent	Translucent	Opaque	Translucent	Opaque	Opaque
Features	—	—	<ul style="list-style-type: none"> Best balance of economics and performance Medium to high gloss levels Clear and opaque grades 			<ul style="list-style-type: none"> Superior puncture resistance Superior resistance to tear propagation Excellent tear strength Low to medium gloss levels 		<ul style="list-style-type: none"> Superior puncture resistance Excellent tear strength Low to medium gloss levels 		<ul style="list-style-type: none"> Excellent puncture resistance Excellent tear strength High gloss levels 	

Bite Resistance

In order to help compare the durability of different materials, Teknor Apex designed a laboratory test to simulate the action of a dog biting a toy. Based on the ASTM test method F1306 for flexible films, the Teknor Apex Bite Resistance test measures the puncture resistance, or the force required to penetrate a material, using an injection molded specimen. A “Puncture Rating” is assigned to each material based on this force, and uses a scale of 1 to 5, with 5 having the greatest resistance. The figure below shows that the Monprene CP-16500 specialty grades exhibit excellent bite resistance.



Email:
TPE@teknorapex.com

Americas:
+1 401 725 8000

Europe:
+49 9861 97497 0

Asia:
+65 6265 2544

www.teknorapex.com

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