



Medalist®

Medical-Grade TPE for Dropper Bulbs



Teknor Apex entered the dropper bulb industry several decades ago with Monprene® MP-2840E, a specially formulated thermoplastic elastomer (TPE) that could mimic the haptics and elasticity of rubber. Since then, Teknor Apex's portfolio of medical TPEs expanded under the Medalist® brand, and the MP-2840E evolved into Medalist MD-12344, a cleaner compound with fewer additives for even lower extractables. Teknor Apex now also offers a slightly higher durometer version of this compound, Medalist MD-12250, which offers different haptics.

The new Medalist grades are resistant to acids, bases, and solvents and are suitable for both glass and plastic pipettes. With low permeability and excellent resistance to UV, these materials allow dropper bulbs to better preserve the product's shelf life. Medalist TPEs are available in pellet form, in a light natural color or can be custom colored per your requirements.

Why use Medalist for Dropper Bulbs?

- » Sustainable alternative to natural rubber
- » Resistant to acids, bases, solvents and skin oils
- » Exceptional elastic recovery
- » High tear strength
- » Extended shelf life of product
- » Haptics consistent with natural rubber
- » Custom colors available
- » Odorless

Regulatory Compliance

- » Made with FDA compliant ingredients
- » Biocompatible
- » ISO 10993-5 compliant
- » REACH SVHC Compliant
- » Free of DEHP, phthalates, BPA and latex
- » Free of Animal Derived Materials (ADM)
- » Manufactured in an ISO-13485 certified facility

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Table 1: Typical Properties of Medalist TPEs for Dropper Bulbs

Typical Properties	ASTM Test Method	Units	MD-12344	MD-12250
Color*	---	---	Translucent	Translucent
Specific Gravity	D792	---	0.89	0.89
Hardness (5s delay)	D2240	Shore A	43	50
100% Modulus	D412	psi (MPa)	205 (1.4)	230 (1.6)
Tensile Strength	D412	psi (MPa)	980 (6.8)	1880 (13)
Elongation	D412	%	610	700
Tear Strength (Die C, 20 in/min)	D624	lbf/in (N/mm)	140 (24)	205 (36)
Compression Set 73°F (23°C), 22hr 158°F (70°C), 22hr	D395	% %	11% 28%	17% ---
Melt Flow Rate (200°C/5.0 kg)	D1238	g/10min	0.5	1.0

*Available in black, white or custom color

Medalist TPEs Offer Several Advantages Over Rubber

Medalist TPEs may look and feel like rubber, but they're processed like thermoplastics, using conventional injection molding equipment. This allows for a number of key benefits, including:

- » Shorter cycle times
- » Elimination of a post cure or finishing process
- » The ability to recycle scrap
- » Improved repeatability of part quality
- » Customized colors

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