

Mediprene® 500M

Transparent TPE Series



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INTRODUCTION

The Mediprene 500M range of TPEs for medical applications includes several transparent grades. These compounds were developed in response to an increasing interest in transparent compounds from the medical market.

Mediprene TPE materials are PVC, silicone and latex free, making them allergen free and a viable alternative to PVC based compounds. They offer hardnesses from 30 to 90 Shore A, allowing a wide degree of design freedom.

The right TPE formulation is the key to a safe and successful medical product. When a standard formulation does not meet the needs of a unique application, we will apply our expertise in formulating a custom solution. In this guide we show typical properties for our most common grades, these tables do not list all available properties and materials.

Please use this guide as an introduction to our Mediprene 500M transparent series and [contact us](#) to discuss your specific requirements.

KEY PROPERTIES

- Good transparency
- PVC, silicone and latex free
- Soft-touch appeal
- 30 to 90 Shore A
- Coloured, transparent grades
- Production site accredited to ISO 13485
- Sterilizable with gamma, ethylene oxide (EtO) and steam
- Flexibility over a broad temperature range
- Excellent sealing and adhesion

REGULATORY COMPLIANCE

All Mediprene Transparent TPE Series compounds fulfil a strict raw material selection policy. The raw materials are food contact compliant (FDA 21CFR and Commission Regulation (EU) No 10/2011) and have a proven level of biocompatibility:

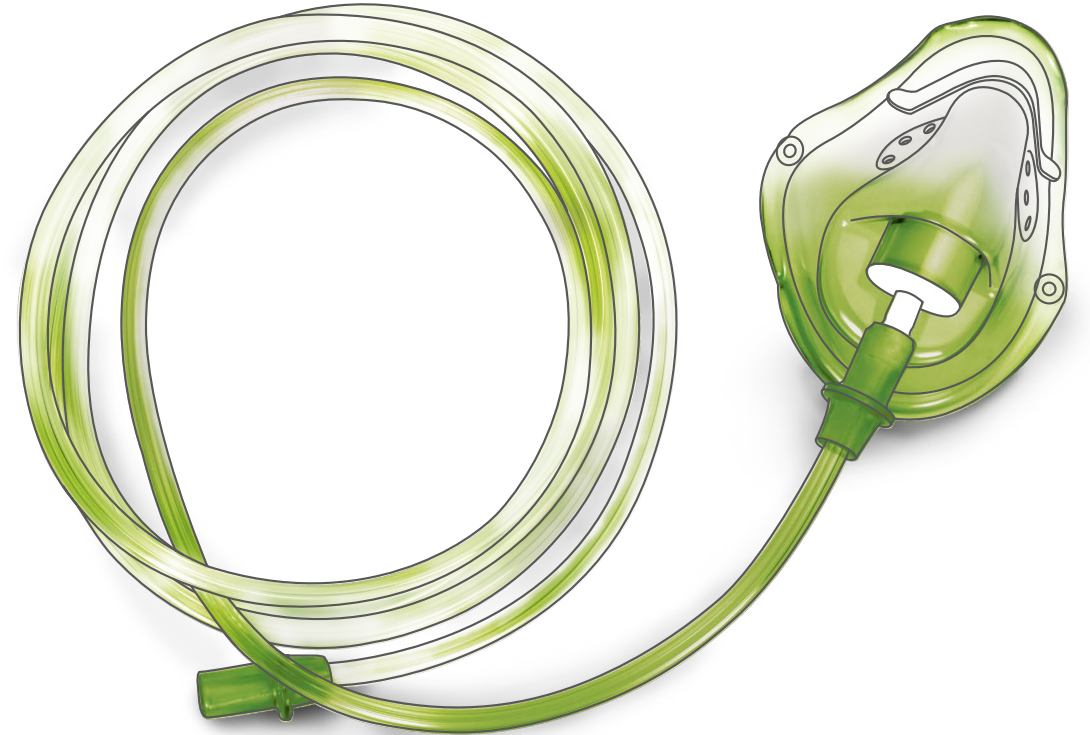
- The styrenic block copolymer has passed USP Class VI
- The paraffinic oil is a medicinal white oil complying with the EP for liquid paraffin and USP 24 for mineral oils
- The polypropylene has passed the USP Class VI tests and meets the requirements in the EP Monograph 3.1.3 Polyolefins

Note: Mediprene grades are not to be used in any devices or materials intended for implantation in the human body.

TYPICAL APPLICATIONS

The ability to clearly see through a product to monitor the patient is an important feature for many medical applications such as face masks.

Mediprene Transparent TPEs can also be used in tubing and dental applications.



COLOURED & TRANSPARENT COMPOUNDS

In medical devices and pharmaceutical packaging colour is also often used functionally for product identification; to differentiate products with different uses or sizes. The vibrant colours achievable with coloured Mediprene TPE compounds allow brand owners to add value to their products and create visual appeal.

A blue or green colour is often used in medical transparent or translucent products to disguise the yellowing phenomena that can be caused by for example gamma sterilization.

The coloured transparent compounds are made from medical grade raw materials only. The colour masterbatch supplier has been selected with care, ensuring that not only the colorants and carriers are compliant with USP Class VI or corresponding parts of ISO 10993 but also that the masterbatches are manufactured under rigorous controls with regard to traceability, consistency and change control, thereby fitting the Mediprene concept at our ISO 13485 accredited facilities.

TYPICAL GRADES

Material	Hardness ASTM D2240 (4mm) Shore A	Colour	Density ASTM D792 g/cm ³	Tensile Strength ASTM D638 MPa	Stress at 100% Strain ASTM D638 MPa	Stress at 300% Strain ASTM D638 MPa	Elongation at Break ASTM D638 %	Tear Strength ASTM D627 N/mm	MFR 190°C/2.16kg ASTM D1238 g/10 min
Mediprene 500302M	30	Transparent	0.89	6	0.6	1.2	600	20	25
Mediprene 500352M	35	Transparent	0.89	6	0.8	1.4	700	22	23
Mediprene 500402M	40	Transparent	0.89	6	0.9	1.8	650	25	15
Mediprene 500422M	42	Transparent	0.89	7	0.7	1.5	650	40	14
Mediprene 500452M	45	Transparent	0.89	6	1.1	2.2	550	26	20
Mediprene 500502M	50	Transparent	0.89	6	1.4	2.5	650	28	12
Mediprene 500552M	55	Transparent	0.89	7	1.4	2.8	600	29	12
Mediprene 500602M	60	Transparent	0.89	7	2.0	3.4	600	35	10
Mediprene 500652M	65	Transparent	0.89	7	2.5	3.8	600	36	8
Mediprene 500702M	70	Transparent	0.89	8	3.0	4.8	600	42	5
Mediprene 500752M	75	Transparent	0.89	9	3.3	4.8	500	43	5
Mediprene 500802M	80	Transparent	0.89	10	4.1	5.9	550	48	4
Mediprene 500852M	85	Transparent	0.89	11	5.0	6.5	500	58	5
Mediprene 500902M	90	Transparent	0.89	15	8.0	9.0	600	75	2

PROCESSING

Mediprene 500M transparent series TPEs can be processed using standard thermoplastic processing methods, including injection moulding and extrusion.

Processing Temperatures

Extrusion 140 to 180°C

Injection Moulding 150 to 210°C

Mould 20 to 40°C

Service Temperature Range -50 to +100°C (unstressed material)

Adhesion to PP Excellent

Presentation Free flowing pellets that can be processed without predrying, when stored under normal conditions

Further TPE processing, sterilization & problem solving information is available to download from our website →

WANT TO LEARN MORE?

Email the medical team at
mediprene@hexpolTPE.com

or visit www.mediprene.com

[Other Mediprene Product Series →](#)

[Mediprene 500M : Standard Series](#)

[Mediprene 500M : Syringe Plunger Series](#)

[Mediprene Oil Free Series](#)

[Mediprene Sterilization Guide](#)

[Mediprene 2 Year Supply Guarantee](#)

ABOUT HEXPOL TPE



HEXPOL TPE is a global compounding group specialising in Thermoplastic Elastomers (TPE) for key industries such as consumer, medical, packaging, automotive and construction. We have a core belief in being the easiest company to do business with. That's why we invest in our operations, teams and technologies to offer our customers the most reliable, relevant and cost-effective TPE compounds, backed by highly responsive support, technical know-how and application expertise. Our teams work together, across boundaries, applying the knowledge, experience and talents we have all around the world to meet the needs of our customers.

All the information about chemical and physical properties consists of values measured in tests on injection moulded test specimens. We provide written and illustrated advice in good faith. This should only be regarded as being advisory and does not absolve the customers from doing their own full-scale tests to determine the suitability of the material for the intended applications. You assume all risk and liability arising from your use of the information and/or use or handling of any product. Figures are indicative and can vary depending on the specific grade selected and the production site. HEXPOL TPE makes no representations, guarantees, or warranties of any kind with respect to the information contained in this document about its accuracy, suitability for particular applications, or the results obtained or obtainable using the information. Some of the information arises from laboratory work with small-scale equipment which may not provide a reliable indication of performance or properties obtained or obtainable on larger-scale equipment. We retain the right to make changes without prior notice. HEXPOL TPE makes no warranties or guarantees, express or implied, respecting suitability of HEXPOL TPE's products for your process or end-use application. Mediprene® is a registered trademark, property of the HEXPOL TPE group of companies.