

TECHNICAL DATA

Contaflex FDA

Special Attributes

Employing a novel polymerisation technique together with using the highest purity monomers produces the Contaflex range of FDA approved soft contact lens materials. This results in a range of soft lens materials with water contents from 38% to 55% that exhibit zero stress and excellent machinability. Each of the products has their own benefit, the lower water content materials have greater lens stability and higher tensile strength and suit daily wear applications. The mid water content materials offer a greater Dk that leads to more comfortable wearing characteristics and excellent clarity of vision.

Material Characteristics

PROPERTY	POLYMACON 38%	METHAFILCON 55%
Classification	Filcon 11	Filcon IV 2
USAN	Polymacon	Methafilcon
Ionic or Non-Ionic	Non-Ionic	Ionic
Swell Factor at 20°C	1.20	1.35
Water Content at 20°C	38 % by refractometer 40 % by weight	55 % by refractometer 55 % by weight
Light Transmission	>96 %	>94.8 %
Oxygen Permeability (ISO) at 35° (barrers)	7.9	19.5
Refractive Index	1.51 Dry 1.438 Hydrated	1.51 Dry 1.407 Hydrated
Density	1.27 g/cm ³ Dry 1.17 g/cm ³ Hydrated	1.28 g/cm ³ Dry 1.07 g/cm ³ Hydrated
Tensile Strength	0.44 MPa	0.47 MPa
Elongation to Break	136 %	140 %
Shore D Hardness	88	88
Specific Gravity	1.19	1.16
Handling Tints	Clear, Blue, Violet, Green	Clear, Blue
UV Blocker	On request	On request

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PROPERTY	POLYMACON 38%	METHAFILCON 55%
Diameter	12.70 mm	12.70 mm
Thickness	5.00 mm	5.00 mm

Please note: These are typical values. Always check the certificate of compliance supplied with the goods for the actual values of the batch.

Machining Recommendations

LATHE TYPE	RPM	BULK CUT	FINE CUT
Manual	7,000	0.5 mm	0.10 mm
CNC	8,000	0.5 mm	0.10 mm
Air Bearing	9,000	0.5 mm	0.10 mm

Diamond Tooling

TOOLING	RADIUS
Rough	0.50 mm
Fine	0.30 mm

Environment Control

For best manufacturing conditions Contamac recommends 19-23°C with a relative humidity of 45 % - 60%.

Polishing

The recommended polishing compound is Contapol 2 with a spindle speed of 3,500 rpm and weight of 320 gms. With the above machining recommendations polishing should require a maximum of 30 seconds.

Hydration

Hydration of the Polymacon and Hefilcon materials is best performed in buffered saline with a PH of 6.8 - 7.5.

To ensure complete hydration of lenses manufactured from our Methafilcon material, a two-step hydration process is required. Step 1: Place the dry finished lenses in a pH 8.2 isotonic saline solution for a minimum of 15 hours, in a controlled environment at 20°C +/- 2°C.

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Carbonate Buffered Saline pH 8.2 (1 litre)
NaCl (Sodium Chloride) 8.00 grams
NaHCO₃ (Sodium Bicarbonate) 1.50 grams

Step 2: Place the hydrated lenses into a pH 7.2 isotonic saline solution and store the lenses for at least 2 hours. The lenses will now have full total hydration and will be ready for final parameter measurement.

Borate Buffered Saline pH 7.2 (1 litre)
NaCl (Sodium Chloride) 8.00 grams
H₃B₃O₃ (Boric Acid) 2.47 grams
Na₂B₄O₇ · 10H₂O (Sodium Tetraborate decahydrate) 0.14 grams

Manufacturing Consumables

High melt blocking wax
High melt blocking beewax
Kemdent Blocking Wax
Water soluble wax
Contapol 1 polishing Compound
Contapol 2 polishing Compound
Cotton polishing cloth
Delrin polishing cup
Delrin polishing sponge
Roller sponges

Accessories

Tweezers
Hydratation baskets
Glass Vials
Stoppers
Aluminium top seals
Flip tear up seals
Shrink wrap sleeves
Double soft lens mailers
Net vial sleeves
DMV soft lens remover
Lens catch mat

Reference

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Version: 0 - 161219

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