

Contaflex

FDA Approved Soft Lens Material

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% | Hefilcon 45% | Methafilcon 55% |
|-----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|
| Classification | Filcon I1 | Filcon I1 | Filcon IV 1 |
| USAN | Polymacon | Hefilcon | Methafilcon |
| Ionic or non-ionic | Non-Ionic | Non-Ionic | Ionic |
| Swell Factor | 1.20 at 20°C | 1.27 at 20°C | 1.35 at 20°C |
| Water Content | 38% at 20°C by refractometer 40% by weight | 48% at 20°C by refractometer 46% by weight | 57% at 20°C by refractometer 57% by weight |
| Refractive Index | 1.51 Dry 1.438 Hydrated | 1.52 Dry 1.42 Hydrated | 1.51 Dry 1.40 Hydrated |
| Light Transmission | >96% | >95% | >94.8% |
| Density | 1.27g/cm ³ Dry 1.17g/cm ³ Hydrated | 1.25g/cm ³ Dry 1.13g/cm ³ Hydrated | 1.28g/cm ³ Dry 1.07g/cm ³ Hydrated |
| Oxygen Permeability (ISO) X10 ⁻¹¹ (cm ² /sec) [mLO ₂ /(ml x mmHg)] | 7.9 | 13.8 | 19.5 |
| Tensile Strength | 0.44MPa | 0.26MPa | 0.47MPa |
| Elongation to break | 136% | 165% | 140% |
| Hardness (Shore D) | 88 | 88 | 82 |
| Handling tints | Blue/Green | Blue | Blue |
| UV blocker | None | None | None |
| Diameter | 12.70mm | 12.70mm | 12.70mm |
| Thickness | 5.00mm | 5.00mm | 5.00mm |

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



Diamond Tooling

| Tooling | Radius (mm) |
|---------|-------------|
| Rough | 0.30mm |
| Fine | 0.30mm |

Machining Recommendations

| Lathe type | RPM | Bulk Cut | Fine Cut |
|-------------|-------|----------|----------|
| Manual | 6,000 | 0.25mm | 0.10mm |
| CNC | 6,500 | 0.30mm | 0.10mm |
| Air Bearing | 9,500 | 0.30mm | 0.10mm |

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 320gms. 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.

Carbonate Buffered Saline pH 8.2 (1 litre)
NaCl (Sodium Chloride) 8.00 grams
NaHCO₃ (Sodium Bicarbonate) 1.25 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
H₃BO₃ (Boric Acid) 2.47 grams
Na₂B₄O₇ · 10H₂O (Sodium Tetraborate decahydrate) 0.14 grams

Manufacturing Consumables

- Contapol 2 polishing Compound
- C-15 White Blocking Wax
- Kement Blocking Wax
- C-18B White Brushed Cotton
- C-18C Beige Microfibre Cloth

Accessories

- Glass Vials
- Silicone Bungs
- Flip Tear Crimp Top Seals
- Horseshoe Crimp Top Seals
- Steel Hand Crimper
- Plastic Tweezers
- Shrink Wrap Sleeves

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