

Technical Data Sheet

CONTAFLEX GM ADVANCE

Special Attributes:

Nature: Highly water retentive terpolymer based on glycerol methacrylate

The GM Advance material is the latest in soft lens material innovation. This material is provided in 49% and 58% water contents both offering lower modulus figures and therefore greater flexibility when machined to a finished soft contact lens. This quality is matched by the correct blend of tensile strength and elongation characteristics ensuring low levels of lens breakage and greater durability. Water loss from

a soft lens causes dimensional change that will usually result in base curve steepening. GM Advance is more dimensionally stable than other GMA based materials and much more stable than other soft lens materials. The slower a material dehydrates in the atmosphere, the more likely it is to retain water in the eye. Similarly, a fast hydrating material is also likely to be of benefit, as it will be able to replenish itself more rapidly during the blink cycle. GM Advance resists dehydration longer and re-hydrates faster than comparable materials.

Material Characteristics:

Properties	Contaflex GM Advance 49%	Contaflex GM Advance 58%
Classification	Filcon I 1	Filcon II 1
USAN	Acofilcon B	Acofilcon A
Ionic or non-ionic	Non-Ionic	Non-Ionic
Swell Factor	1.28 at 20°C	1.36 at 20°C
Water Content	50% at 20°C by refractometer 49% at 20°C by weight	60% at 20°C by refractometer 59% at 20°C by weight
Refractive Index	1.417 at 20°C 1.419 at 35°C	1.400 at 20°C 1.403 at 35°C
Dry Refractive Index	1.510 at 20°C	1.510 at 20°C
Light Transmission	>94%	>94%
Oxygen Permeability (ISO) x10 ⁻¹¹ (cm ² /sec) [mLO ₂ /(ml x mmHg)]	16	26
Tensile Strength	0.35MPa	0.14MPa
Elongation to break	210%	140%
Modulus	0.36 MPa	0.16 MPa
Hardness (Shore D)	86	83
Handling tints	Blue	Blue
UV blocker	On request	On request
Diameter	12.70mm	12.70mm
Thickness	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	0.30 – 0.50mm
Fine	0.30 – 0.50mm

Machining Recommendations:

Lathe type	RPM	Bulk cut	Fine Cut
Manual	8-10,000	0.50mm	0.05mm
CNC	8-10,000	0.50mm	0.05mm
Air Bearing	10,000	0.50mm	0.05mm

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 240gms. With the above machining recommendations polishing should require a maximum of 30 seconds.

Hydration:

Hydration of GM Advance materials is best performed in buffered saline, with a PH of 6.8 – 7.5.

Manufacturing Consumables:

- Contapol 2 polishing Compound
- C-15 White Blocking Wax
- Kemdent 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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