

TECHNICAL DATA

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

PROPERTY	CONTAFLEX GM ADVANCE 49%	CONTAFLE GM ADVANCE 58%
Classification	Filcon I 2	Filcon II 2
USAN	Acofilcon B	Acofilcon A
Ionic or Non-Ionic	Non-Ionic	Non-Ionic
Swell Factor at 20°C	1.28	1.36
Water Content at 20°C	50 % by refractometer 49 % by weight	60 % by refractometer 59 % by weight
Refractive Index Hydrated	1.417 at 20°C 1.419 at 35°C	1.400 at 20°C 1.398 at 35°C
Refractive Index Dry	1.515 at 20°C	1.515 at 20°C
Light Transmission	>94 %	>94 %
Oxygen Permeability (ISO) at 35° (barrers)	16	26
Tensile Strength	0.35 MPa	0.14 MPa
Elongation to Break	210 %	140 %
Modulus	0.36 MPa	0.16 MPa
Shore D Hardness	86	83
Handling Tints	Clear, Blue	Clera, Blue

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PROPERTY	CONTAFLEX GM ADVANCE 49%	CONTAFLE GM ADVANCE 58%
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	8,000 - 10,000	0.50 mm	0.05 mm
CNC	8,000 - 10,000	0.50 mm	0.05 mm
Air Bearing	10,000	0.50 mm	0.05 mm

Diamond Tooling

TOOLING	RADIUS
Rough	0.30 - 0.50 mm
Fine	0.30 - 0.50 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 240 gms. 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.

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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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Contamac Ltd

Carlton House, Shire Hill
Saffron Walden, Essex
CB11 3AU

T. +44 [0]1799 51480
E. sales@contamac.co.uk
www.contamac.com