CONTAFLEX

TECHNICAL DATA

Contaflex soft lens materials consist of a range of water contents between 38% and 77%. All of our soft lens materials exhibit zero stress and excellent machinability. Some materials in our range are FDA-cleared. Please check individual material datasheets for more information.

Please Note: Regulatory requirements and standards vary from country to country, and are constantly evolving. As a global company we want to be sure we provide you with detailed technical information, specific to your market, where appropriate, rather than using the condensed and simplified technical information on the website. If you need to use technical data for quality paperwork, or for a regulatory submission, please contact your account manager to obtain this precise and detailed information to support your regulatory requirements, we will be happy to help.

Material Characteristics

PROPERTY	38%*	55%*	67%	77%
Oxygen Permeability (ISO) at 35°C (Barrer)	8	23	37	46
Water Content at 20°C by Weight (%)	38	55	67	77
Swell Factor at 20°C	1.20	1.35	1.47	1.66
Refractive Index at 20°C - Hydrated	1.44	1.41	1.39	1.38
Refractive Index at 20°C - Dry	1.51	1.51	1.52	1.53
Modulus - Elasticity (MPa)	0.79	0.71	0.56	0.46
Tensile Strength (MPa)	1.09	0.99	0.60	1.16
Elongation to Break (%)	272	220	169	259
UV Blocker	Available	Available	Available	Standard
Classification (ANSI)	Filcon I 1	Methafilcon A IV 2	N/A	N/A
Classification (ISO)	Filcon 1 (8) [38%]	Methafilcon A 4 (20) [55%]	Filcon 2 (37) [67%]	Filcon 2 (46) [77%]
USAN	Polymacon	Methafilcon A	N/A	N/A

Please note: Some values may have been rounded for presentation purposes. Please contact your account manager for further details.

**Contamac offers several variants of this material. Material properties may vary from the indicative values quoted above. Please contact your account manager for further details.*

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Material and Lathing Recommendations - 38%

LATHE FUNCTION	DAC INCHES/MINUTE	REM µ/SECOND	OPTOFORM mm/MINUTE
Rough Cut Amount (mm)	0.50 (0.30 - 0.50)	0.50 (0.30 - 0.50)	0.50 (0.30 - 0.50)
Rough Feed Rate	3 (2 - 4)	1250 (833 - 1666)	75 (50 - 100)
Rough Spindle Speed	8500 (7000 - 9000)	8500 (7000 - 9000)	8500 (7000 - 9000)
Rough Cut Amount (mm) (Last Pass)	0.15 (0.10 - 0.20)	0.15 (0.10 - 0.20)	0.15 (0.10 - 0.20)
Rough Feed Rate (Last Pass)	1.5 (1 - 2)	666 (500 - 833)	40 (30 - 50)
Rough Spindle Speed (Last Pass)	8000 (7000 - 9000)	8000 (7000 - 9000)	8000 (7000 - 9000)
Final Feed Rate	0.60 (0.40 - 1)	250 (166 - 500)	15 (10 - 30)
Final Spindle Speed	8000 (7000 - 9000)	8000 (7000 - 9000)	8000 (7000 - 9000)
Final Cut Amount (mm)	0.05 (0.05 - 0.10)	0.05 (0.05 - 0.10)	0.05 (0.05 - 0.10)

Material and Lathing Recommendations - 55%

LATHE FUNCTION	DAC INCHES/MINUTE	REM µ/SECOND	OPTOFORM mm/MINUTE
Rough Cut Amount (mm)	0.40 (0.30 - 0.50)	0.40 (0.30 - 0.50)	0.40 (0.30 - 0.50)
Rough Feed Rate	2.5 (2 - 4)	1050 (833 - 1666)	63 (50 - 100)
Rough Spindle Speed	8500 (7000 - 9000)	8500 (7000 - 9000)	8500 (7000 - 9000)
Rough Cut Amount (mm) (Last Pass)	0.15 (0.10 - 0.20)	0.15 (0.10 - 0.20)	0.15 (0.10 - 0.20)
Rough Feed Rate (Last Pass)	1 (0.80 - 1.5)	416 (333 - 633)	25 (20 - 38)
Rough Spindle Speed (Last Pass)	8000 (7000 - 9000)	8000 (7000 - 9000)	8000 (7000 - 9000)
Final Feed Rate	0.60 (0.50 - 0.80)	250 (166 - 333)	15 (10 - 20)
Final Spindle Speed	8000 (7000 - 9000)	8000 (7000 - 9000)	8000 (7000 - 9000)
Final Cut Amount (mm)	0.05 (0.05 - 0.10)	0.05 (0.05 - 0.10)	0.05 (0.05 - 0.10)

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Material and Lathing Recommendations - 67% & 77%

LATHE FUNCTION	DAC INCHES/MINUTE	REM µ/SECOND	OPTOFORM mm/MINUTE
Rough Cut Amount (mm)	0.50 (0.30 - 0.50)	0.50 (0.30 - 0.50)	0.50 (0.30 - 0.50)
Rough Feed Rate	4 (2 - 5)	1666 (1250 - 2083)	100 (75 - 125)
Rough Spindle Speed	8000 (7000 - 9000)	8000 (7000 - 9000)	8000 (7000 - 9000)
Rough Cut Amount (mm) (Last Pass)	0.10 (0.10 - 0.20)	0.10 (0.10 - 0.20)	0.10 (0.10 - 0.20)
Rough Feed Rate (Last Pass)	2 (1.5 - 2.5)	833 (666 - 1083)	50 (40 - 65)
Rough Spindle Speed (Last Pass)	8000 (6500 - 9000)	8000 (6500 - 9000)	8000 (6500 - 9000)
Final Feed Rate	1.5 (1 - 2)	666 (416 - 833)	40 (25 - 50)
Final Spindle Speed	7500 (6500 - 9000)	7500 (6500 - 9000)	8000 (6500 - 9000)
Final Cut Amount (mm)	0.05 (0.05 - 0.10)	0.05 (0.05 - 0.10)	0.05 (0.05 - 0.10)

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

Hydration

Hydration of these 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 55%** 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)
NaC1 (Sodium Chloride) 8.00 grams
NaHC03 (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
H3B03 (Boric Acid) 2.47 grams
Na2B407. 1 0H20 (Sodium Tetraborate decahydrate) 0.14 grams

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