

MANUFACTURING RECOMMENDATIONS

DEFINITIVE 74

DIAMOND TOOLING

Rough Tool Radius	0.30 - 0.50 mm
Fine Tool Radius	0.20 - 0.50 mm (0.25 recommended)

MACHINING RECOMMENDATIONS

Back rough cut amount	0.3 - 0.5 mm
Back rough feed rate	3 - 4 in per min
Back rough spindle speed	7000 - 9000 rpm
Back rough cut amount (last pass)	0.05 - 0.15 mm
Back rough feed rate (last pass)	1.5 - 2.5 in per min
Back rough spindle speed (last pass)	7000 - 9000 rpm
Back final feed rate	1.5 - 2.5 in per min
Back final spindle speed	6500 - 8000 rpm
Back final cut amount	0.02 - 0.06 mm
Front rough cut amount	0.2 - 0.4 mm
Front rough feed rate	2 - 4 in per min
Front rough spindle speed	7000 - 9000 rpm
Front rough cut amount (clean up pass)	0.05 - 0.15 mm
Front rough feed rate (clean up pass)	1.5 - 2.5 in per min
Front rough spindle speed (clean up pass)	7000 - 9000 rpm
Front final feed rate	1.5 - 2.5 in per min
Front final spindle speed	7000 - 9000 rpm
Front final cut amount	0.02 - 0.10 mm

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

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Environment Control

For best manufacturing conditions Contamac recommends 21°C (± 2) with a relative humidity of 45% - 60%.

Polishing

The recommended polishing compound is Contapol 2 with a spindle speed of 3500 rpm and minimal weight. With the above machining recommendations polishing should require a maximum of 30 seconds.

Blocking

Use low temperature blocking wax with an operational temperature of 60°C such as Contamac Low Melt Wax.

De-Blocking

We recommend the use of Isopar E, Petroleum Ether or equivalent in an ultrasonic bath for dissolving blocking wax and cleaning the lens.

Hydratation, Sterilisation and Storage

The choice of saline for the hydration, sterilisation and storage of lenses can have an impact on the stability of the finished lens parameters. We recommend a commercially available, non-buffered saline solution, such as those used for irrigation during surgical procedures. The pH of the saline can be adjusted to the range of 7.00 - 7.40 if required by the addition of analytical grade anhydrous sodium carbonate. Such adjustment should be closely monitored and this can be achieved with the use of a calibrated pH meter at a controlled temperature.

Experience has shown that performing initial hydration in saline at 2 - 5°C can be advantageous. To enable wet checking of lenses prior to autoclave it is recommended that they are then held at 45°C (± 5) overnight to ensure complete hydration. Either the glass vial containing the lens can be put into an appropriate incubator or the lens can be placed in a basket and put in a heated saline bath.

Once the lens is fully hydrated and has reached ambient temperature, digitally clean with a standard soft lens cleaning solution and inspect wet parameters at room temperature 19 - 21°C.

Alternatively if the wet parameters do not require checking then the 45°C hydration step is not essential, as autoclaving will complete the hydration process. For autoclaving, the lens should be placed in fresh non-buffered saline solution as described above and it should be ensured that no alcohol based cleaners are used throughout the process.

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It is recommended that manufacturers keep the heat treatment of Definitive material to a minimum. For best results, exposure at the internationally recommended temperature of 121°C for sterilisation should not exceed 30 minutes. Ramp up and cool down cycles should be kept to a minimum. Validation of the autoclave using Definitive and in the recommended parameters suggested above is required by the FDA and ISO requirements.

Reference

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