

Workflow Guide · dx nobreak

3D printing earmolds and shells – the dx nobreak.



This guide will lead you through the process of designing, manufacturing and finishing of earmolds and shells.

Workflow

1. Design



Time

Approx. 10 min



Design Parameter

Compatible with all types of design software (no additional settings required)



Wall Thickness

min. 0.5 mm

2. Create Print Job



Time

Approx. 5 min



Note

Use the validated parameter files for Medicalprint nobreak + COLOR.**

Support parameter settings belong to the available 3D printing system.

3. Printing Process



Time

Approx. 45 min



Note

Use a Detax-validated 3D printer.

Printing time belongs to the application and printing system.

4. Post Process

4.1. Cleaning



Time

- **Ultrasonic bath:**
2 x 3 min in isopropyl alcohol (purity $\geq 98\%$)
Please use two separate containers.
- **Software controlled device:**
Use the following settings: Medicalprint nobreak + COLOR**



Note

- **Between the two cycles and after the washing process, careful blow out with compressed air.**
- **Between the two cycles and after the washing process, careful blow out with compressed air.**

4.2. Post Curing



Time

	NK Optics Otoflash G171 N²	Rapidshape RScore	Dreve PCU LED
Depending on used device	2x 2000 flashes under inert gas, turn around components after 2000 flashes	Medicalprint nobreak + COLOR**	2:30 min with Nitrogen Light intensity 33%

** The placeholder **COLOR** shall be replaced by **beige, black, blue-transparent, brown, clear, dark brown, dark grey, green-opaque, light beige, light grey, medium brown, neon yellow, orange-transparent, purple, red-transparent, rose, rose-orange, skin or white**

5. Surface processing

5.1 Varnishing

Coat	Process
Medicalprint® coat / soft coat	<ol style="list-style-type: none"> 1. Roughen components (e. g. with sandpaper). 2. Clean components with isopropyl alcohol (max. 2 min.). 3. Dry components with compressed air (the surface must be free of remaining alcohol). 4. Varnishing of components: either apply lacquer with a brush or by immersing. Remove excess lacquer after immersion by shaking off (Attention: wear protective glasses / protective gloves). 5. Curing of the lacquer using the following post-curing devices: <ul style="list-style-type: none"> • Xenon flash device with nitrogen (e. g., Otofash G171 N2), exposure: 2 × 2000 flashes • PCU LED N2 with nitrogen, exposure: 6:30 minutes at 33% power. • After curing, thoroughly clean the earmold, sound channel drills, vents, etc. with a mixture of distilled water / isopropanol (mixing ratio 1:1) to remove potential residues.

5.2. Mechanical finishing

Polishing unit	Process
Otec ECO-Maxi wet	<ol style="list-style-type: none"> 1. Media: DZS 10/10 Ceramic grinding wheel, Compound: SC 15 Compound, Runtime: 90 min, Splitting system: Wet splitting, Speed: 280 U / min, Compound content: 3 %, Waterflow: 4 l / h 2. Media: KM 10 plastic abrasive media (70 %), PM 10 plastic abrasive media (30 %), Compound: SC 15 Compound, Runtime: 90 min, Splitting system: Wet splitting, Speed: 280 U / min, Compound content: 3 %, Waterflow: 4 l / h <ul style="list-style-type: none"> • Media: ZSP 4/5 Porcelain polishing body, Runtime: 60 min, Splitting system: Wet splitting, Speed: 260 U / min, Waterflow: 10 l / h