

DESCRIPTION

3Delta HEAR are light curing resins for additive manufacturing of hearing aid shells (**3Delta HEAR S, SE, SC**) and/or earmolds (**3Delta HEAR SE**). The materials are optimized for DLP®-systems in a wavelength range of 385/405 nm (see DELIVERY UNITS). We recommend the use of devices for which the material parameters are already stored in the system (e.g. rapidshape HA30, Rapid Shape GmbH). Please contact us for further consulting.

COMPOSITION

- > **3Delta HEAR S / SE:** Composition of acrylates and initiators.
- > **3Delta HEAR SC:** Composition of acrylates, initiators and fillers.

INDICATION

Additive manufacturing of:

- > Hearing aid shells: **3Delta HEAR S, 3Delta HEAR SE, 3Delta HEAR SC**
- > Earmolds: **3Delta HEAR SE**

Maximum wall thickness of hearing aid shells: 1,2 mm.

CONTRAINDICATIONS / INTERACTIONS

Patient and user: Products out of **3Delta HEAR** must not be used if an allergic reaction to any of the ingredients is known. No interactions have been observed.

SIDE EFFECTS

Patient and user: Product may cause allergic reaction.

User: Pay attention to warning notes. Unpolymerized material may cause skin irritation, serious eye irritation and irritation of the respiratory system.

WARNING NOTES

Please pay attention to the current safety data sheet!

3DeltaHEAR products contain acrylates and phosphine oxides.

User: Avoid breathing vapours, use extraction unit. Avoid contact respectively wear protective gloves, protective clothing, eye protection. If on skin: wash with plenty of water. If skin irritation occurs: Get medical advice. Uncured material is harmful to environment, avoid release to the environment

Advice on handling isopropanol during drying and cleaning process: Isopropanol is a hazardous good. You must use a suitable extraction system when working with isopropanol in order to prevent the creation of an explosive atmosphere. Otherwise, explosion-proof devices must be utilized. Consequently observe the valid safety data sheets as well as country-specific legal regulations when handling hazardous substances.

STORAGE INSTRUCTIONS

Protect uncured material from light. May polymerize spontaneously. Do not use after the expiration date. Store between 4°C and 25°C.

DELIVERY UNITS

Containers of 1000 g:

Product	Wavelength	Art.-No.
3Delta HEAR pink S	Typ 385/405	1620010
3Delta HEAR tan S	Typ 385/405	1620020
3Delta HEAR mocca S	Typ 385/405	1620030
3Delta HEAR beige S	Typ 385/405	1620040
3Delta HEAR cocoa S	Typ 385/405	1620050
3Delta HEAR brown S	Typ 385/405	1620060
3Delta HEAR blue S	Typ 385/405	1620070
3Delta HEAR red S	Typ 385/405	1620080
3Delta HEAR red SC	Typ 385/405	1620290
3Delta HEAR blue SC	Typ 385/405	1620300
3Delta HEAR clear SC	Typ 385	1620310
3Delta HEAR clear SE	Typ 385	1620370
3Delta HEAR rose SE	Typ 385	1620380
3Delta HEAR light-brown SE	Typ 385	1620390

MANUFACTURING PROCESS

- > Resin must be stirred thoroughly with a spatula in the container before pouring the material into the reservoir of the machine.
- > The manufacturing process has to be performed according to the machine manufacturer's specifications.
- > Chosen parameters have to ensure sufficient adhesion between the layers.

POST PROCESS

Observe the references in chapter „WARNING NOTES“ when using isopropanol.

- > Cleaning in isopropanol under pouring conditions in a separate beaker for max. 5 min. (no ultrasonic). Recommendation: Magnetic stirrer with bar or lab shaker. Clean and rinse vents separately.
- > Afterwards, blow dry the parts with compressed air and let them dry thoroughly in a heating cabinet for 30 mins at 37°C.
- > If necessary, remove support structure and allow the parts to cool down to room temperature.

> Post-cure parts with the device *Otoflash G171* (NK-Optik). Cure top and bottom of the object with 2000 flashes each (Σ 4000 flashes).

- > Devices with inert atmosphere prevent the creation of inhibition layer.
- > Afterwards, clean with isopropanol under pouring conditions in a separate beaker for max. 2 min. (no ultrasonic). Recommendation: Magnetic stirrer with bar or lab shaker. Clean and rinse vents separately.
- > Dry parts with compressed air.

OPTION 1

- > Polish surfaces with a handpiece or automatic polishing unit according to the manufacturer's instructions for use.
- > Post-cure parts afterwards with 1000 flashes in the *Otoflash G171* device.

OPTION 2

- > Coat parts. Use indicated lacquers only!
- > Cure lacquer according to the manufacturer's instructions for use.

DISPOSAL INSTRUCTIONS

Dispose of content / container in accordance with local regulations.

IMPORTANT INSTRUCTIONS

The final properties depend on the post process. The post curing is adjusted to the light curing unit *Otoflash G171* with/without inert atmosphere. Using an alternative light source could affect the final properties of the product. Please notice that the light sources need a routine maintenance following the manufacturer's instructions for use.

The product was developed for use in the hearing aid industry and must be used according to the instructions for use. The manufacturer does not accept any liability for damage caused by improper use of system and material. Furthermore, the user must independently check the material for its suitability and applicability for the intended purposes before using it, especially if he diverts from the process described in the instructions for use, or if his process is not described in the instructions for use.