stomdevice

HARZ Labs
MATERIALS FOR 3D PRINTING

# HARZ Labs Dental RO

Material Technical Data Sheet (TDS)

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# SECTION 1: DESCRIPTION AND APPLICATION

X-ray contrast polymer designed for printing CT patterns to facilitate subsequent alignment of the scanned jaw and CT scan.

# SECTION 2: MATERIAL PROPERTIES

## 2.1 Characteristics of liquid

| Tested property | Standard/Method | Result (Metric) | Result (Imperial) |
|---|---|---|---|
| Color | - | Yellow (opaque) | |
| Odor | - | Odorless | |
| Density | ASTM D1298 | 1.4 g/cm$^3$ | 0.0505 lb/in$^3$ |
| Viscosity (20 °C) | ASTM D2393 | 1.0 Pa·s | 0.672 lb/ft·s |

## 2.2 Mechanical properties

| Tested property | Standard/Method | Result (Metric) | Result (Imperial) |
|---|---|---|---|
| Flexural Strength | ASTM D790 | 65.6 ± 4.7 MPa | 9,5 ± 0.7 ksi |
| Flexural Modulus | ASTM D790 | 2010 ± 192 MPa | 292 ± 28 ksi |
| Ultimate Tensile Strength | ASTM D638 | 41.7 ± 4.1 MPa | 6.1 ± 0.6 ksi |
| Elongation at Break | ASTM D638 | 6.1 ± 2.1 % | |
| Hardness | ASTM D2240 | 80 ± 2, Shore D | |
| IZOD Impact (Unnotched) | ASTM D4812 | 5.2 ± 0.2 kJ/m$^2$ | 2.5 ± 0.1 ft-lb/in$^2$ |

## 2.3 Special parameters

| Tested property | Standard/Method | Result |
|---|---|---|
| Solubility (24h) | ASTM D3132 | ≤ 0.01 % |
| Sorption (24h) | ASTM D570 | ≤ 0.47 % |
| Free Monomer Extraction | ISO 10993 | Passed |
| Cytotoxicity | ISO 10993 | Passed |
| Irritation | ISO 10993 | Passed |
| Sensitization | ISO 10993 | Passed |
| Radiopacity | Internal | Passed |

The information above is believed to be accurate and represents the best information currently available to us. The Imperial values are converted from Metric measurements and are for reference only. All test specimens were printed, cleaned, and post-processed per instructions provided by HARZ Labs company. Results provided here are representative of these processes and may vary if these established protocols are not followed. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall HARZ Labs LLC (ООО «ХАРЦ Лабс») be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if HARZ Labs LLC (ООО «ХАРЦ Лабс») has been advised of the possibility of such damages.

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