

**Indications for Use:** The KeyPrint<sup>®</sup> KeySplint Hard<sup>®</sup> device is indicated for the fabrication of orthodontic and dental appliances such as bite planes, mouthguards, nightguards, snoring appliances\*, splints and repositioners.

**Product Description:** KeyPrint<sup>®</sup> KeySplint Hard<sup>®</sup> is a light-curing resin for the 3D printing of flexible biocompatible dental devices for use with DLP printers (385-405nm).

| CHARACTERISTICS  |   |
|------------------|---|
| <b>Color</b>     | Light Violet, Translucent<br>Clear, Translucent |
| <b>Density</b>   | 1.0–1.15 g/cm <sup>3</sup>                      |
| <b>Viscosity</b> | 400–500 cP                                      |

|                  | TESTED PROPERTY            | STANDARD/METHOD | PASSING CRITERIA        | RESULT                 |
|------------------|----------------------------|-----------------|-------------------------|------------------------|
| ASTM             | Flexural Strength          | ASTM D790       | > 50 MPa**              | 100-110 MPa            |
|                  | Flexural Modulus           | ASTM D790       | > 1500 MPa**            | 2300-2400 MPa          |
|                  | Elongation at Break        | ASTM D638       | > 8-20%**               | 9%                     |
|                  | Shore D Hardness           | ASTM D2240      | > 80D                   | 89D                    |
|                  | IZOD Impact (Notched)      | ASTM D256       | N/A                     | 29 J/m                 |
| ISO              | Ultimate Flexural Strength | ISO 20795-2     | > 50 MPa**              | 60-65 MPa              |
|                  | Flexural Modulus           | ISO 20795-2     | > 1500 MPa**            | 1510-1600 MPa          |
|                  | Sorption                   | ISO 20795-2     | < 32 ug/mm <sup>3</sup> | 18 ug/mm <sup>3</sup>  |
|                  | Solubility                 | ISO 20795-2     | < 5 ug/mm <sup>3</sup>  | 0.1 ug/mm <sup>3</sup> |
|                  | Free Monomer Extraction    | ISO 20795-2     | < 2.2%                  | PASS                   |
| BIOCOMPATIBILITY | Cytotoxicity               | ISO 10993       | PASS                    |                        |
|                  | Irritation                 | ISO 10993       | PASS                    |                        |
|                  | Sensitization              | ISO 10993       | PASS                    |                        |

\* Not indicated for snoring appliances in the United States

\*\*Denotes Keystone determined passing criteria based on design requirements

These data are typical values and were determined through testing on VAT Polymerization printers which are validated for use with KeyPrint<sup>®</sup> products. Mechanical properties will vary based on machine, part orientation, machine type, machine power, post curing of the printed parts, and cleaning. See product guide for post-processing procedure and best practices. Improper use or failure to adhere to the product guide may result in variations of color and mechanical properties. This product is suitable for the manufacturing of flexible dental appliances such as splints, mouthguards, and nightguards. Keystone Industries reserves the right to change material characteristics, and formulation without prior notification.

**Composition:** methacrylate, photo-initiator, inhibitor, and pigment

These data were determined in accordance with ISO and ASTM standards and are pursuant to Keystone Industries Quality System. This document is valid without signature.