keyprint®
by keystone industries

Item# 4220201/ 4220200

KeyGuard™ Technical Data Sheet

Indications for Use: KeyPrint® KeyGuard™ is a biocompatible photopolymer resin for the fabrication of custom-made athletic mouth guards.

Product Description: KeyGuard™ is designed for additive manufacturing in vat polymerization 3D printers utilizing wavelengths between 385nm-405nm. KeyGuard™ is for the fabrication of custom-made athletic mouth guards. KeyGuard™ is intended to be used within a computer-aided design and manufacturing (CAD/CAM) system that includes a 3D scanner, design software, 3D printer, and post-cure unit.

CHARACTERISTICS	
Color	Black, White
Viscosity	900 cP

	TESTED PROPERTY	STANDARD/METHOD	RESULT
ASTM	Tear Strength	ASTM D624-00	30 kN/m
	Hardness	ASTM D2240-00, 25C @ 0 sec	75-90 A
	Water Sorption	ASTM D570 @ 3hr	5.7%
	Elongation at break (strain)	ASTM D638	130%
ISO	Biocompatibility	ISO 10993-5, Cytotoxicity	PASS
		ISO 10993-10, Sensitization	PASS
		ISO 10993-23, Irritation	PASS
	Impact Strength	ISO 179-1	27.5 kJ/m2
	Impact Resistance	ISO 179-1	220 j/m
INTERNAL	Tensile Cyclic Hysteresis	Energy returned @ 25C	27%
		Energy lost @ 25C	73%

These data represent typical values and were determined through testing on Vat Polymerization printers that are validated for use with KeyPrint® products. Mechanical properties may vary depending on the machine, part orientation, machine type, machine power, post-curing of printed parts, and cleaning. Please refer to the product guide for post-processing procedures and best practices. Failure to follow the product guide may result in variations in color and mechanical properties. This product is suitable for manufacturing flexible athletic mouthguards. Keystone Industries reserves the right to modify material characteristics and formulation without prior notification.

Composition: methacrylate, photo-initiator, inhibitor, and pigments

Validations: See Keystone's website for validated printers and post cure units

This data was determined in accordance with ISO and ASTM standards and are pursuant to Keystone Industries quality system. This document is valid without signature.

keystone® industries

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