



GROUP CHAT

Visit facebook.com/groups/KeyPrint to join a growing group of providers who are passionate about 3D printing using the KeyPrint line of precision 3D resins.

KEYSTONE INDUSTRIES

KeySplint Hard

Biocompatible 3D printing resin offers the ideal combination of rigidity and durability needed for hard splint applications

As dental 3D printing continues to evolve, 3D printing resins must evolve, too. According to Chris Kabot, Vice President of Technology, Research, and Development at Core3dcentres North America, the lifespan of a 3D-printed splint or night guard has not always been on par with that of a milled appliance, in part due to the brittleness of most 3D resins on the market.

But that all changed when Keystone Industries launched its game-changing splint resins like KeySplint Soft and the new KeySplint Hard. KeySplint Soft's unique chemistries provide a durable and comfortable night guard that resolves the problem of brittleness arising with prior materials, while the new KeySplint Hard resin provides an extremely abrasion-resistant, rigid splint that out-performs competitive materials.

"Finally, after years of 3D printing splints at scale, we have a material that truly meets the mark," said Kabot. "From an engineering perspective, KeySplint Hard has some very unique properties for a material in its class, including the ideal blend of rigidity and stability that should prove to be successful in the oral cavity for years."

Rigidity Meets Durability

KeySplint Hard is perfect for applications where tooth immobilization is critical, such as retainers and post-trauma splints. Its rigidity also allows for finer details and thinner segments in more complex devices, broadening the range of dental 3D applications that can be achieved. Kabot noted that this new resin prints in finer details due to its stability during the printing process. "We are using KeySplint Hard to create innovative sleep and breathing appliances that we were not able to do with predicate materials," he said.

Most notably, KeySplint Hard has the wear resistance needed to combat severe bruxism cases. "I've seen firsthand that some folks can grind Grand Canyon



"We've been receiving great feedback from dentists that KeySplint Hard is surviving even the most severe bruxers."

—Chris Kabot, Core3dcentres North America

sized holes in their nightguards. We've been receiving great feedback from dentists that KeySplint Hard is surviving even the most severe bruxers," said Kabot.

Keystone's innovative KeyPrint 3D resins are also making their mark in other oral applications. Core3dcentres has used Keystone resins to create highly durable intraoral communications devices for emergency workers and military personnel. Additionally, after receiving Emergency Use Authorization from the FDA, over 100,000 nasal swabs were 3D printed using KeySplint Soft during the height of the COVID-19 pandemic. As Kabot notes, "3D printing is truly the next generation of how we will make everything."

FOR MORE INFORMATION:

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