Scanning spray for digital production

Scantist 3D spray forms a fine, homogeneous matte coating on shiny, reflective dental objects. At Handrich Dental Laboratory, this dental spray is used daily.

The Handrich Group, comprising five dental laboratories and its production centre, fabricates the entire spectrum of dental restoration products. Handrich always embraces the latest technology, so the production of models is increasingly digital. In fact, the group has been using digital technology since the 1990s and was one of the first laboratories with a 3D scanner.

Today, it has a good dozen scanners from 3Shape, and that number is likely to increase. Around 80% of dental products are produced digitally at Handrich. In the field of dental implants, that figure rises to 95%. Quality has always come first for Handrich. In 2001, the company was certified under the Medical Devices Act, making Handrich a forerunner in manufacturing following the European directive on implantable medical devices.

Handrich's recipe for success involves always trying out materials as well as testing and implementing new technologies.

"We are always looking for new ways to optimise what we do," said Rolf Ebert, managing director at Handrich.

That does not only apply to production technologies and processes. Recently, the entire company group changed to a new dental spray for scanning objects.

MARKS AND PUDDLES

In recent years, Handrich has tried many different scanning sprays. The biggest problem in the past was that the sprays did not provide reproducible results.

Uniform application of the spray coating was seldom achieved, and each spraying process would lead to a different result. Some sprays would leave behind marks, while others formed puddles. The coating was thick and uneven, which affected the results.

Especially in telescopic technology, for which every micrometre is vital for the accuracy of fit, the quality of the scanning spray used can have a significant impact. With conventional sprays, a considerable amount of time was required to obtain reliable data.

PIGMENT DUST SETTLES EVERYWHERE

With many conventional sprays, the objects have to be cleaned again after the scan. The spray coating often adheres stubbornly to the surfaces. Since the pigment dust also spreads to the surrounding area, the cleaning process is very time-consuming.

Although the extraction system installed in Handrich Dental Laboratory was able to capture most of the pigment dust, the white dust settled everywhere in the room. If the dust is not removed, it "bakes" into all surfaces, including printers, keyboards and furnishings. The health aspect is also very concerning. In particular, titanium dioxide, which most conventional sprays contain, is said to have carcinogenic effects.

Ebert shared: "With previous sprays, the work was very complicated and time-consuming. The captured scan data were not reliable. There was no repeatability. A colleague told me about the new dental spray, so I tested Scantist 3D and was immediately impressed."

INNOVATIVE DENTAL SPRAY

Scantist 3D dental spray can be applied very evenly. It forms a fine and homogeneous layer that offers the best conditions for scanning. The measurements are reproducible. The repeat measurements carried out by Handrich employees yielded consistent results. After testing it successfully, all five laboratories are now using the new spray.

Scantist 3D was developed to make transparent and reflective parts matte in a few seconds. It has been on the market since 2021 and has already become established in many dental laboratories, including at Handrich. The spray forms a thin, homogeneous layer, so the scanners can capture accurate surface data. The reliable data quality enables the precise fabrication of dental restorations. Moreover, Scantist 3D adheres to all surfaces and is dry to the touch, making it particularly easy to use.

Another advantage is that the spray evaporates by itself, so time-consuming cleaning is eliminated. An entire work step is saved. In addition, the fact that the spray coating completely disappears after approximately 20 minutes makes the whole process very hygienic.

"We just feel better working with a spray that is pigment-free and thus harmless to health," explained Ebert. "We're pleased that we discovered Scantist 3D, and we immediately stocked up with a year's supply." DA