

## CASE STUDY - DENTAL INDUSTRY



### DENTAL MODEL FOR ALIGNER THERMOFORMING

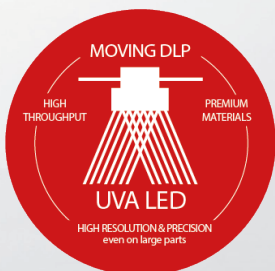
#### DENTOSMILE - (BIOTECH DENTAL)

Dentosmile, a subsidiary of Biotech Dental, is a French leader in dental implants and orthodontics treatment which manufactures aligners. While traditional teeth straightening treatments employ the use of fixed braces, Dentosmile proposes removable aligners which results in more comfortable, accurate and personalized teeth straightening for its customers.

#### CHALLENGE

Traditional fixed braces used for teeth straightening are less attractive and uncomfortable because of the use of wires or brackets (often made of metal). Additionally, fixed braces can only be removed by professionals, meaning they cannot be temporarily removed for important occasions or photographs.

Dentosmile offers a new invisible realignment technique through the use of a system of clear, scalable, custom aligners made using digital modeling software and thermoforming. Thus, unlike traditional orthodontic methods – particularly unsightly metal dental braces – this method is invisible, comfortable, and more acceptable, especially for adult patients.



#### TECHNOLOGY

MOVINGLight® - Photopolymerization

#### MATERIALS

PLASTCure Model 300 - Curable resin



# DENTAL MODEL FOR ALIGNER THERMOFORMING



## SOLUTION DEPLOYED

MOVINGLight®: A PROPRIETARY TECHNOLOGY FOR DENTAL PRODUCTION

The revolutionary MOVINGLight® DLP technology, patented by Prodways, is a photopolymerization process for producing dental models with high resolution and at high speeds by polymerizing the photosensitive resins with moving DLP (Digital Light Processing) UV rays. The Prodways exclusive MOVINGLight® technology delivers:



- Premium quality of dental models for prosthetic/orthodontics work – including implant models: ultra-high accuracy (up to 32 microns) and superior surface quality
- Maximum productivity: unparalleled speed, ensuring perfect quality on large production platforms through the use of exclusive MOVINGLight® technology
- Cost-per-unit among the most competitive: MOVINGLight® printers achieve production costs among the lowest in the market

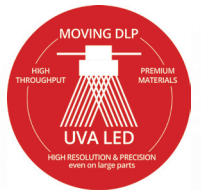
ProMaker D35: PERFECT COMBINATION OF PRECISION & PRODUCTIVITY

The ProMaker D35 simultaneously meets requirements for high productivity and superior product quality. It ensures high performance in terms of fine detail, precision and surface quality over the entire build platform with impressive speed.

PLASTCure Model 300: DESIGNED FOR THERMOFORMING MODELS

PLASTCure Model 300 is a resin that was specially designed for thermoforming model applications. It is able to withstand high temperatures (Tg 130°) and results in no material deposition on thermoformed plate. High strength (flexural modulus of 2400 mPa) makes this resin perfectly suited for aligners thermoforming.

## MOVINGLight®



## BENEFITS

Thanks to the high speed of ProMaker D35, coupled with the high-quality & PLASTCure Model 300 resin, well-suited for thermoforming, Dentosmile is able to:

- Produce customized, high-quality aligners: with a daily wearing time of 22 hours and changed every three weeks, the Dentosmile aligners will gradually and smoothly straighten teeth, taking between 6 and 18 months to achieve perfect alignment.
- Increase production capacity: the ProMaker D35 offers a total capacity of 54 models in approx 6 hours, which means a total capacity of 432 dental models per day with the 2 machines installed in Dentosmile facilities
- Optimize precision and quality: with a native resolution of 32µm, combined with a layer thickness of 25µm, Dentosmile achieves optimal precision and quality in the production of its thermoforming models



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