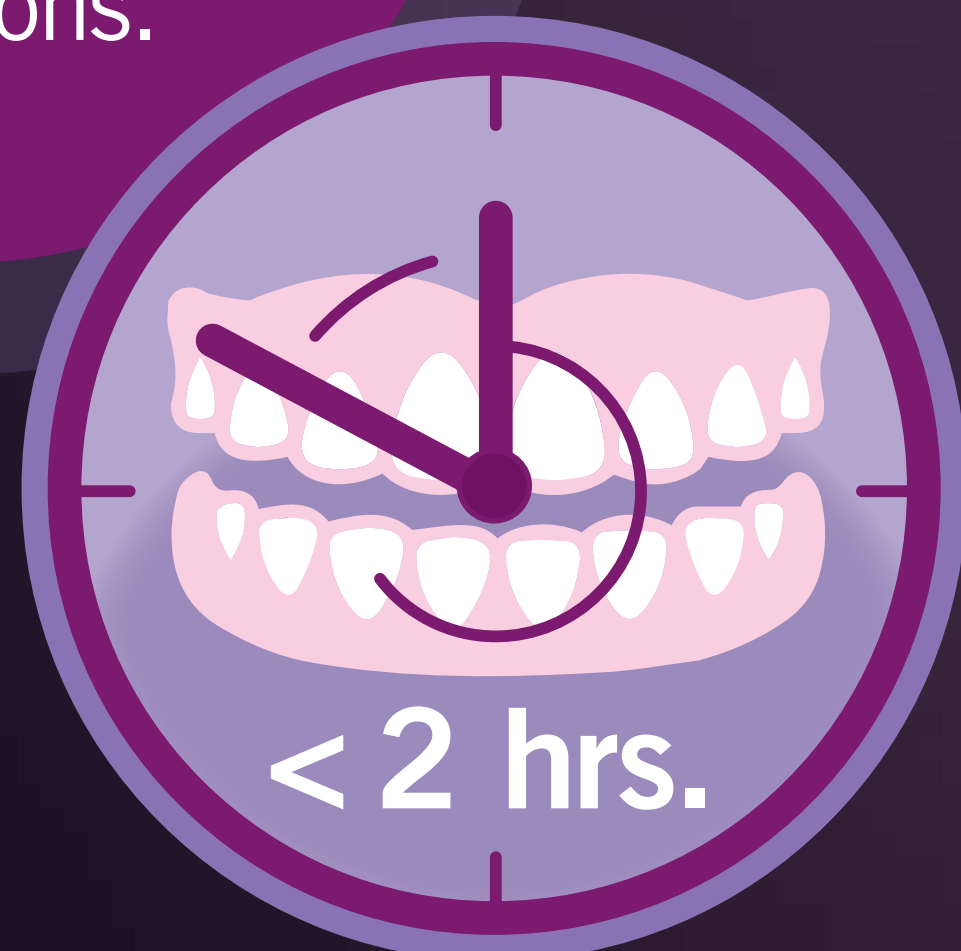




Create your best workflow and optimize production with **cara** Digital Solutions.



## Pala Digital Dentures Workflow 2.0

Pala 3D-printed Denture: powered by cara Digital Solutions & dima Print Materials.

Giving a hand to oral health.



**KULZER**  
MITSUI CHEMICALS GROUP

# The evolution of Pala Digital Dentures

Your one-stop-shop for 3D-printed dentures.

The Pala Digital Dentures 2.0 workflow is now powered by cara Digital Solutions and dima Print Materials. Incorporating 3D scanning, design, and printing technologies, you can create beautiful, perfectly fitting dentures.

Get consistent, precise results every time, as well as increased cost savings and efficiency: **you can nest, print, clean, cure, bond, polish and deliver the Pala 3D-printed denture in under 2 hours!**



# Workflow Overview

Pala Digital Dentures 2.0 gives you freedom to create your best workflow.

**STEP 1: SCAN**  
USE IMPRESSIONS, OR  
MODELS AND BITE RIMS

**STEP 2: DESIGN**  
PALA DESIGN STUDIO,  
KULZER TOOTH LIBRARY

**STEP 3: PRINT**  
CARA PRINT 4.0,  
DIMA PRINT MATERIALS

**STEP 4: WASH**  
CARA PRINT CLEAN

**STEP 5: CURE**  
HILITE POWER 3D

**STEP 6: FINISH**  
PALA POLISH,  
PALA CRE-ACTIVE



powered by cara and dima

NEW dima teeth & base materials are FDA cleared for long-term use in the mouth.



To learn more, visit

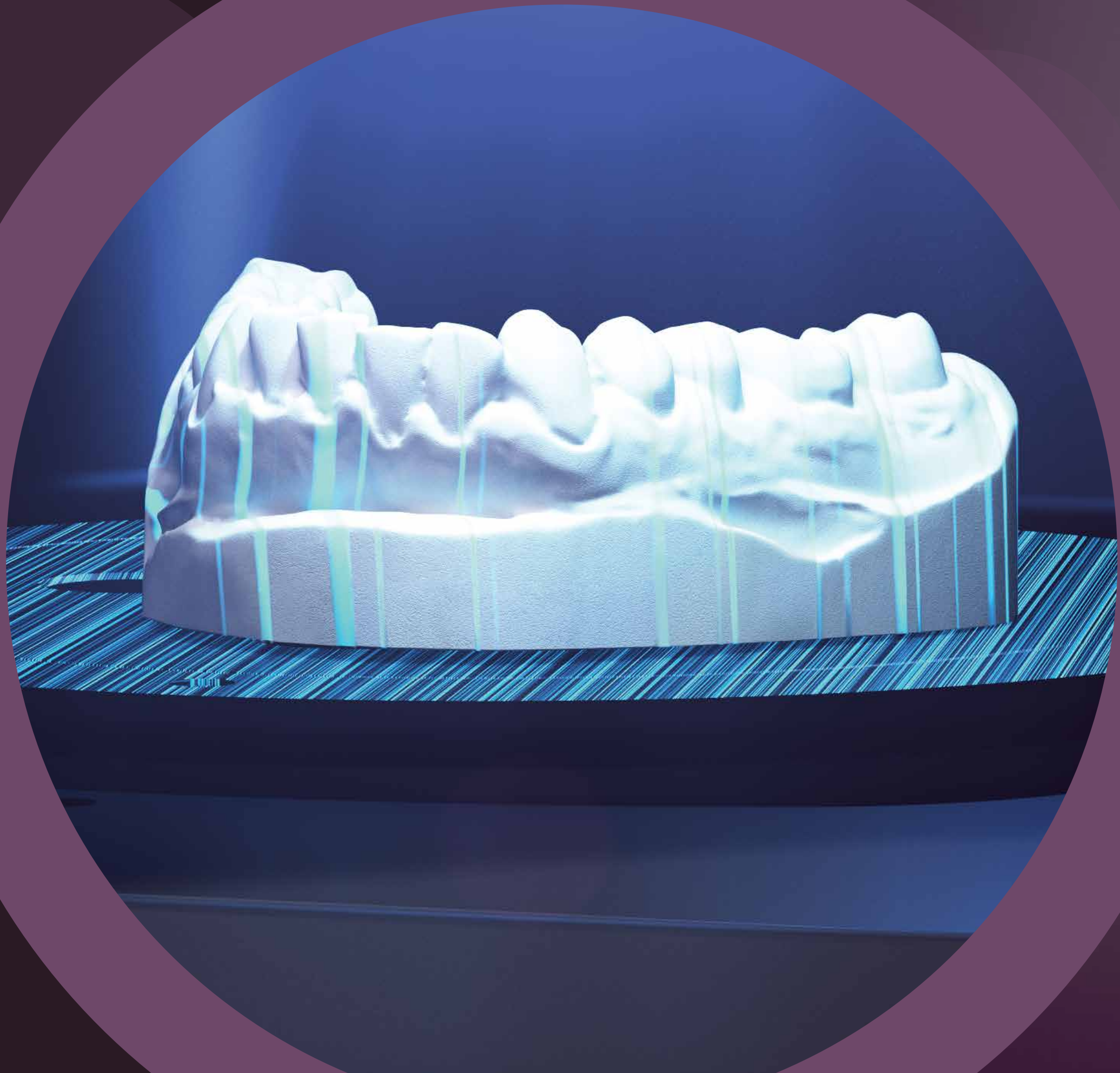
➔ [kulzerUS.com/3DPrintedDenture](http://kulzerUS.com/3DPrintedDenture)

# STEP 1: SCAN

USE IMPRESSIONS, OR MODELS AND BITE RIMS

## Equipment you'll need:

- **Scanner:** cara® Scan 4.0
- **Impressions:** Pala Digital Dentures impression trays
- **Models & Bite Rims:** if not scanning impressions



# STEP 2: DESIGN

CAD SOFTWARE, 3SHAPE KULZER TOOTH LIBRARY



## Equipment you'll need:

### ■ Pala Design Studio

Web-based CAD denture design software:  
[PalaDesignStudio.com](http://PalaDesignStudio.com)

**If using 3Shape® to design:** Purchase the Kulzer Tooth Library for your 3Shape dongle. This will allow you to print Pala denture teeth.



### Flexibility to use internal or external resources.

The Kulzer team can assist you in the design phases.

**Design** The Kulzer Design Team can work from your model scan to create the STL files needed for printing a prototype or final denture.

# Introducing Pala® Design Studio

The world's first web-based denture design solution.

- **Fast and efficient.**

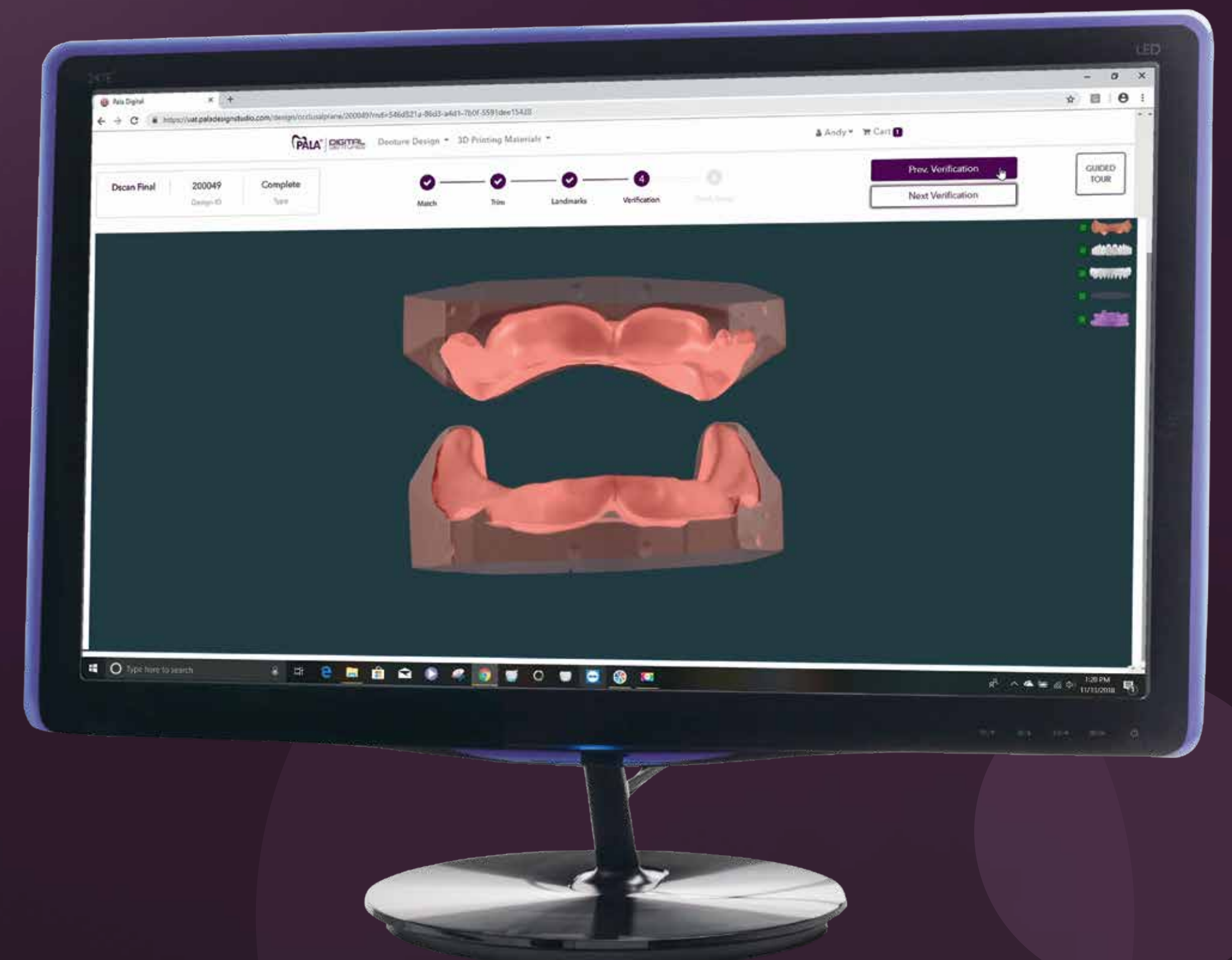
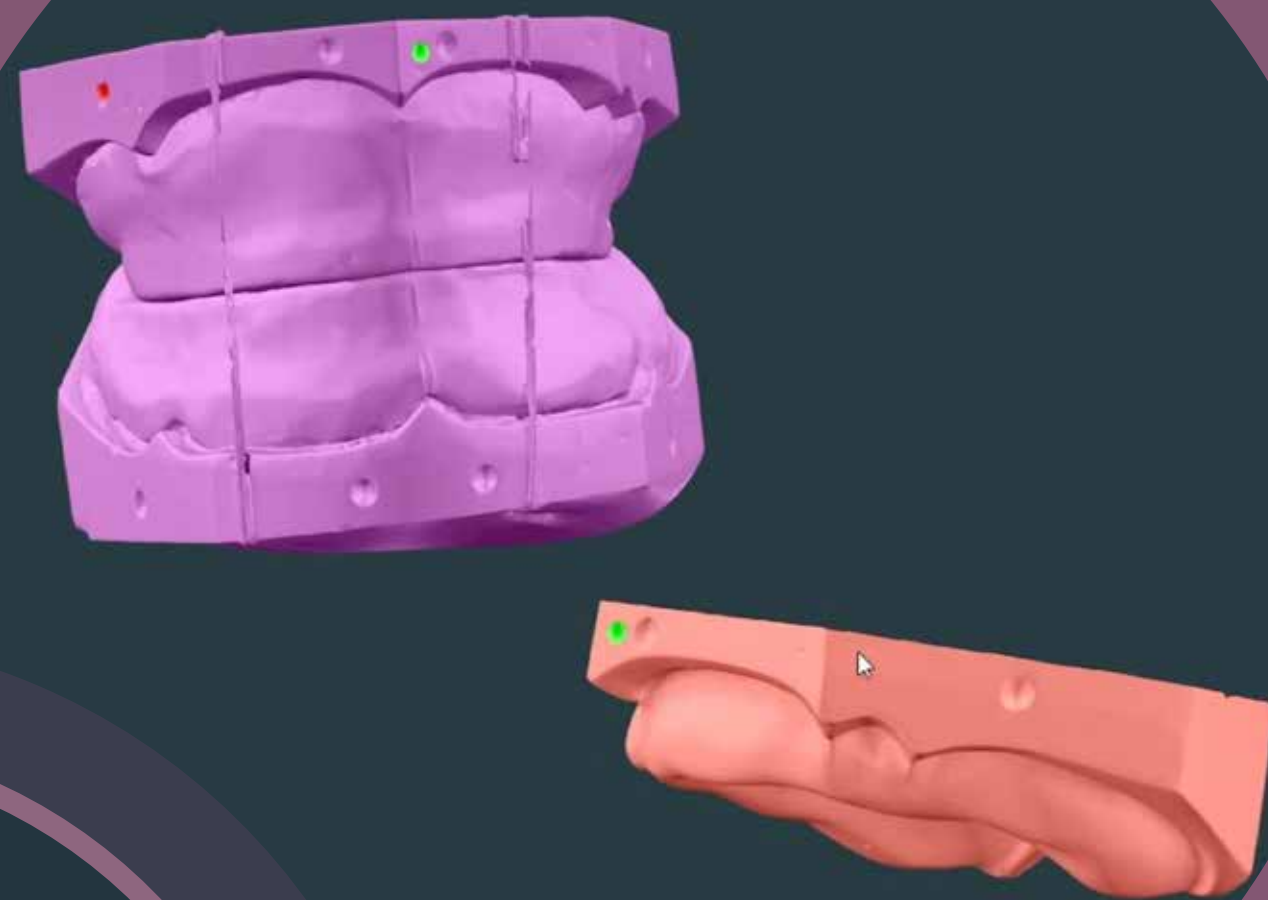
Design denture cases online in 10 to 20 minutes!

- **Exceptional precision.**

Dentures produced with the technology powering Pala Design Studio are more accurate than those created conventionally.

- **Revolutionary workflow.**

When integrated with the Pala Digital Dentures workflow, you'll be able to create beautiful, perfectly-fitted 3D printed dentures in under 2 hours.\*



Watch the Guided Tour videos to learn more:

**PalaDesignStudio.com**

\*Two hours does not include scanning or design time.

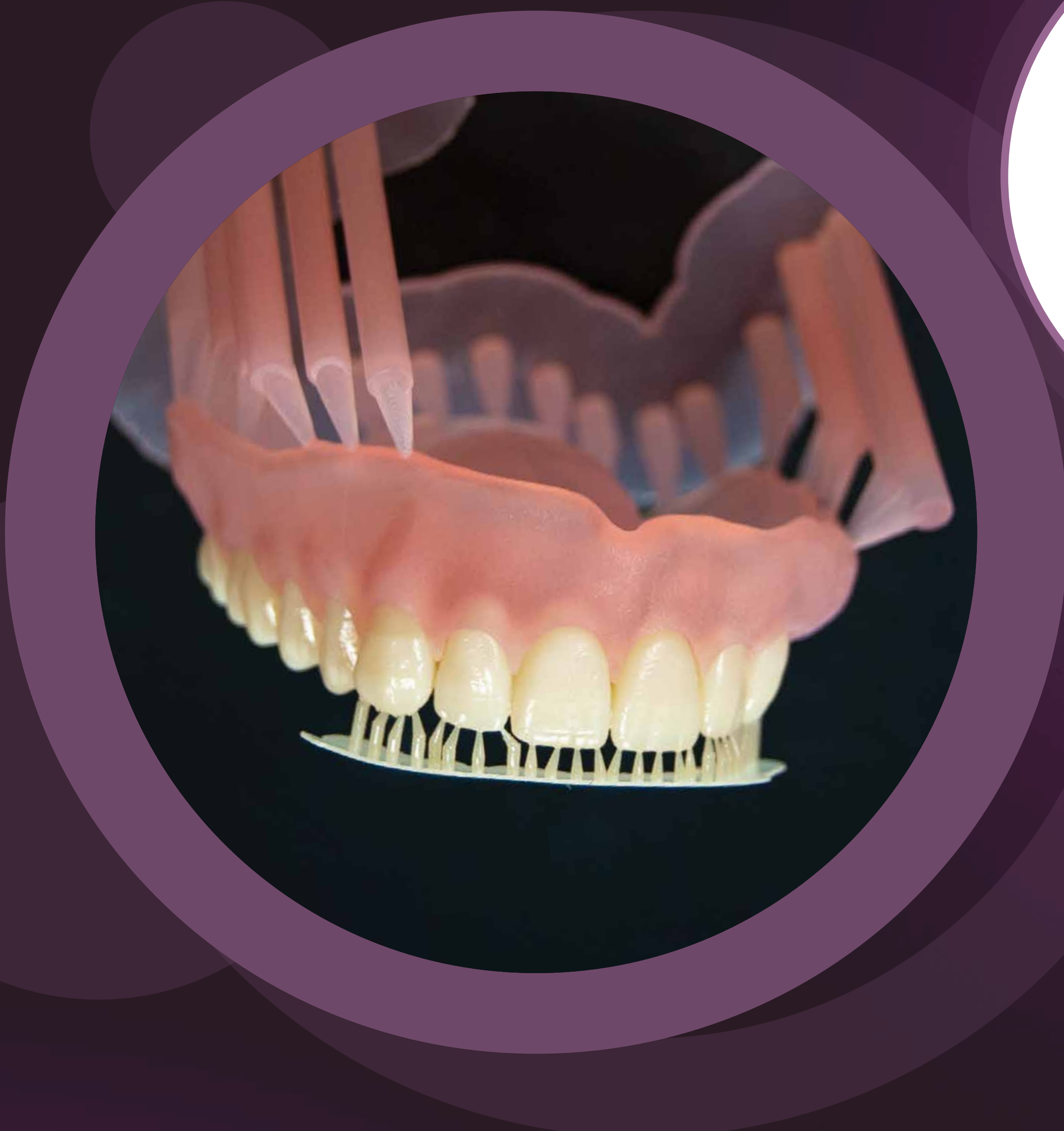
# STEP 3: PRINT

CARA PRINT 4.0, DIMA PRINT, DIMA PRINT MATERIALS



## Equipment you'll need:

- 3D printer: cara Print 4.0
- Nesting Software: cara CAM
- Print resins: dima Print
- Post curing unit: HiLite power 3D
- Tooth cutting jig\*



## Prototype Options



1. **All-white printed prototype**  
with dima Print Denture Base Try-in (white)



2. **Printed base prototype**  
with dima Print Denture Base material and Mondial i® teeth waxed in sockets.



3. **Fully printed denture (base & teeth)**  
with choice of dima Print Denture Base and Denture Teeth shades



**Flexibility to use internal or external resources.**  
The Kulzer team can assist you with design.

# STEP 4: WASH

CARA PRINT CLEAN: A UNIVERSAL WASH UNIT



## Equipment you'll need:

- **Wash unit:** cara Print Clean

1.3 to 2 Liters

cara Print Clean uses **75% less isopropyl alcohol** than other wash units on the market.

50 Uses

Per IPA refill with regular use.



**5 minutes**

**in 2 cycles\***

Approximate clean time with fresh isopropyl alcohol.

\*1st wash in Isopropanol for 3 mins, 2nd wash in fresh Isopropanol for 2 minutes.

Simply transfer printed parts directly from cara Print 4.0, or any other printer to cara Print Clean while still on the build table, or wash loose models on the part tray.



To learn more, visit

➔ [kulzerUS.com/caraprintclean](https://kulzerUS.com/caraprintclean)



# STEP 5: CURE

HILITE POWER 3D



■ **Curing unit:** Signum HiLite Power 3D

## Includes

1. HiLite Power Lamp module with flashlamp and chip card
2. Filter
3. Pot-shaped reflector
4. Object holder
5. Mains cable Europe, US/JP
6. (2 x) model tray

## Technical Features

- Wide range of light from 320 – 540 nm.
- Short polymerisation times.
- More efficient heat management.
- One unit for all country-specific mains supplies.
- Error surveillance and documentation by chip card.

The light-curing unit with a user-friendly design, reliable and strong flashlamp, and the choice of three light-curing times of 6, 90, and 180 seconds.



To learn more, visit [kulzerUS.com](http://kulzerUS.com)

# STEP 6: FINISH

## PALA 3D PRINTED DENTURE, PALA TEETH & ACCESSORIES

Print complete, high quality final dentures quickly, accurately, and economically with the cara Print 4.0 3D DLP printer and FDA cleared dima Print materials.

Please note:

The final steps of finishing and processing must be completed by the customer.

Option1

Pala Fully Printed Denture, powered by cara and dima



Option2

Printed Denture Base with Mondial Teeth



Polish your dentures with PALA Polish

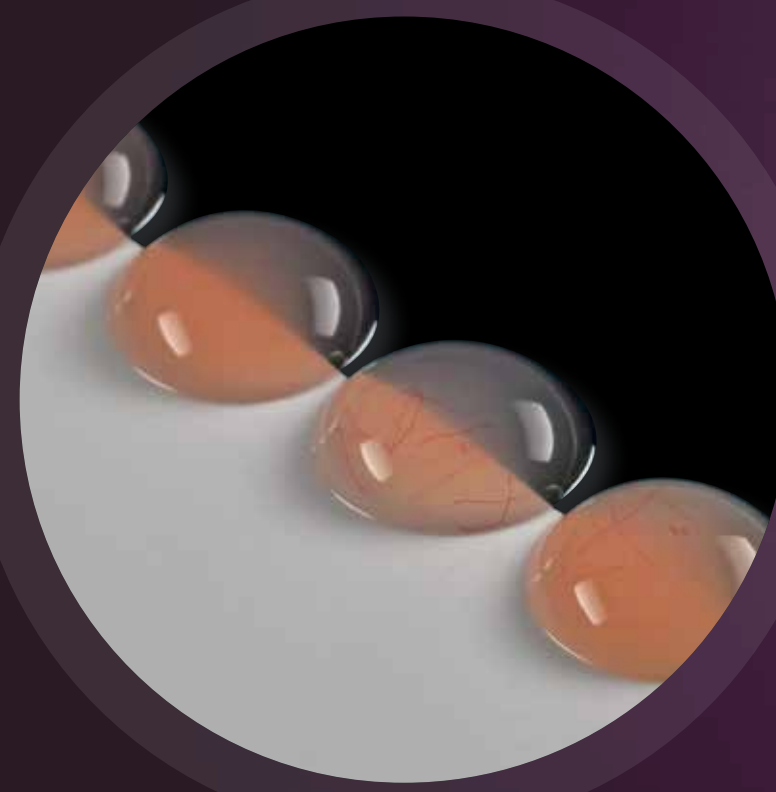


BEFORE | AFTER



for a high shine while removing scratches.

# Characterize your Digital Dentures



PALA®

cre-active®

- DE Lichthärtendes Colorfluid-System zum Charakterisieren von Prothesen
- GB Lightcuring colorfluid system for characterizing dentures

KULZER  
MITSUI CHEMICALS GROUP



## Pala cre-active®

For custom denture characterization.

Once you've fabricated your printed denture, you can use Pala cre-active® to achieve an even more personalized, life-like look that will really wow your customers.

Available as a set or in refills, the Pala cre-active light-curing color fluid system offers 12 colors in various consistencies. The cre-active system is universally manageable due to the structural viscosity of the liquid stains, and can be used to individualize conventional, digital, and hybrid dentures.

Giving a hand to oral health.



**KULZER**  
MITSUI CHEMICALS GROUP

# Beautiful, perfectly fitted dentures

IN UNDER TWO HOURS.\*

## Quick, precise, economical

In addition to the high-quality aesthetics you can achieve with a printed denture solution, it's important to consider the time and cost savings you'll gain with cara Print 4.0 and dima Print resins. With an average print time of 53 minutes for a denture base, and 25 minutes for teeth, you could make a fully printed denture in under two hours!



\*Two hours does not include scanning or design time.



LEARN MORE AT:

➔ [KulzerUS.com/PalaDigitalDentures](https://KulzerUS.com/PalaDigitalDentures)

PalaDigital@kulzer-dental.com 1-800-343-5336 ext. 5473



# cara<sup>©</sup> Print 4.0

The 3D-DLP printer from Kulzer.

Quick, precise, economical: The perfect fit.



<b>Polymerization technology:</b>	Digital Light Projection (HD DLP @ 405nm)
<b>Building area:</b>	103 x 58 x 130mm
<b>Resolution (X &amp; Y axes):</b>	53.6µm
<b>Layer thickness:</b>	30-150µm*
<b>Average build speed:</b>	50 mm/hour (@ 50µm)
<b>Connectivity:</b>	WIFI, Ethernet or USB
<b>Input format:</b>	open STL
<b>CAM software:</b>	cara Print CAM, included with printer
<b>Printer dimensions:</b>	267 x 420 x 593mm
<b>Printer weight:</b>	21kg

\*Layer thickness varies by indication & speed vs. resolution needs

# dima® Print Materials

## dima Print materials: fine-tuned 3D printing resins

Kulzer combined its longstanding materials expertise with deep knowledge of 3D printing to develop dima Print materials, so that you can rely on perfect results, time after time.



dima Print Denture Base (4 shades)



dima Print Denture Teeth (6 Shades)

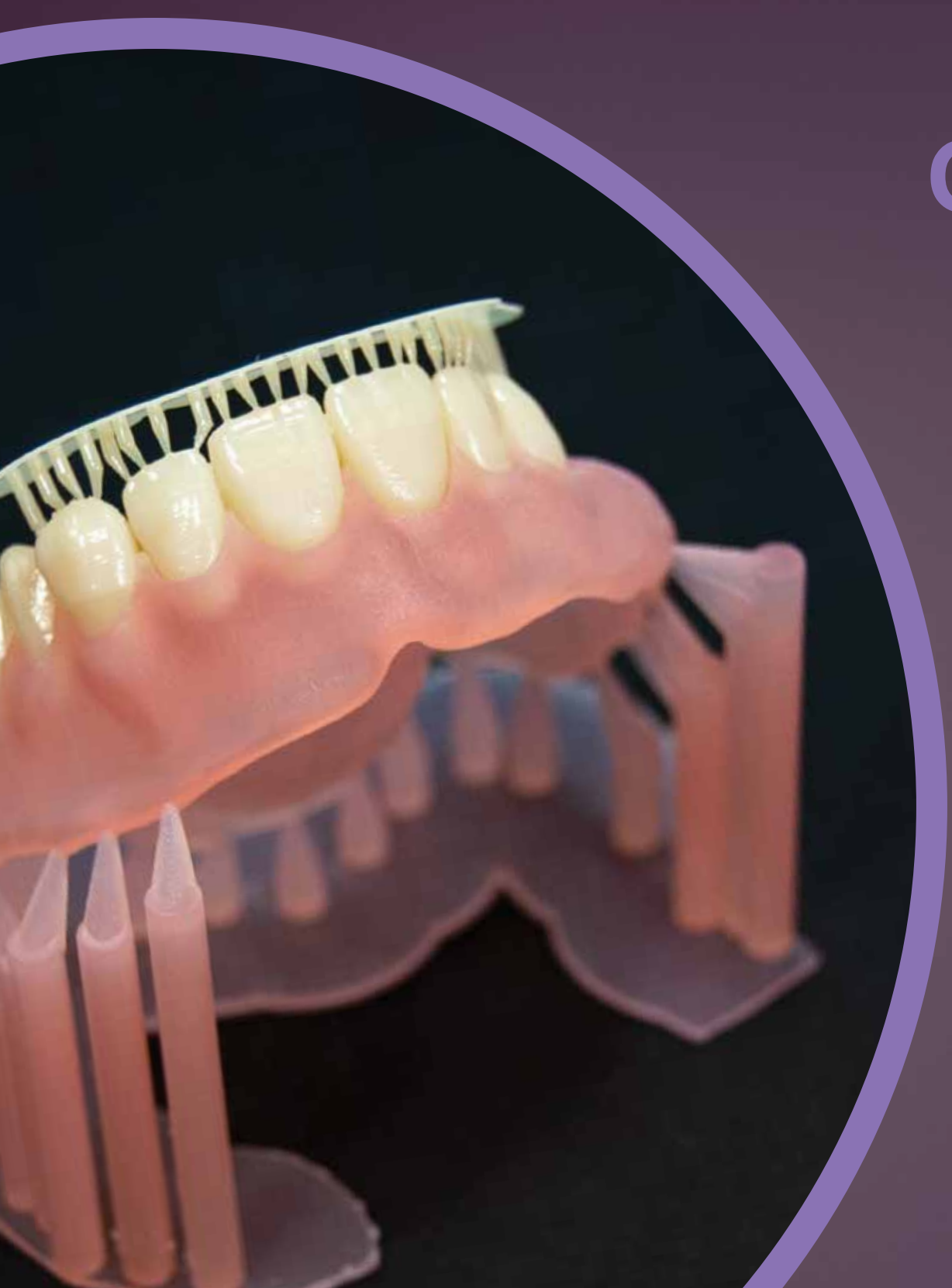


dima Print Denture Base Try-in (pink)



dima Print Denture Base Try-in (white)

## Other dima Print materials available:



dima Print Guide



dima Print Impression



dima Print Model



dima Print Cast



dima Print Ortho



dima Print Splint, Clear

(dima Print splint clear, base, and teeth materials are available in the US only.)

# dima Print Materials Overview

Dima Print Materials								
Material	Indication	MDD class	Color(s)	Flexural Strength [MPa]	Flexural Modulus [MPa]	Printing time per part	Material consumption (incl. supports) / Costs	
	dima Print Denture Base Try-in	Denture base try-in	II	White	85.2	2152.2	45 - 60 min (50µm)	25 – 33g / \$9.75 - \$12.87
	dima Print Denture Base Try-in	Denture base try-in	II	Pink	90.8	2147	45 - 60 min (50µm)	25 – 33g / \$9.75 - \$12.87
	dima Print Denture Base	Denture Base	II	Light reddish pink, light pink, original pink, dark pink	76.0 - 82.7	2328 - 2533	50 - 56 min (100µm)	22 – 24g / \$8.26 - \$9.30
	dima Print Denture Teeth	Denture Teeth	II	Shades A1, A2, A3, A3.5, B1, B2	>50 mPa	n/a	22 - 28 min (50µm)	8 – 12g / \$4.89 - \$5.50
	dima Print Ortho	Splints/nightguards	I	Transparent light blue	75	1800	15 min (70µm in z, 3 parts)	6 – 10g / \$1.80 - \$3.00
	dima Print Splint Clear	Splints/nightguards	I	Transparent clear	110.9	2461	34 min (50µm in z, 2 parts)	6 – 10g / \$1.81- \$3.05
	dima Print Impression	Impression trays	I	Opaque blue, Opaque pink	80	2000	45 min (100µm in z, 2 parts)	15 – 20g / \$4.37-\$5.83
	dima Print Guide	Surgical drilling guides	I	Transparent light orange	80	2000	13 min (70µm in z, 4 parts)	5 – 15g / \$1.46 - \$4.38 + metal sleeves
	dima Print Model	Models	Not needed	Opaque beige	40	1000	40 min (50µm in z, 2 parts)	30 – 50g / \$4.90 - \$8.17
	dima Print Cast	For casting	Not needed	Purple	75	1800	24 min (70µm in z, 3 parts)	3 – 10g / \$0.75 - \$2.50

\*Note that multiple indications can be printed at the same time. dima Print splint clear, base, and teeth materials are available in the US only.

# Online Resources

## Articles & Videos

Find Pala Digital Dentures articles, forms, product information, and more in the downloads section at [KulzerUS.com/PalaDigitalDentures](http://KulzerUS.com/PalaDigitalDentures).

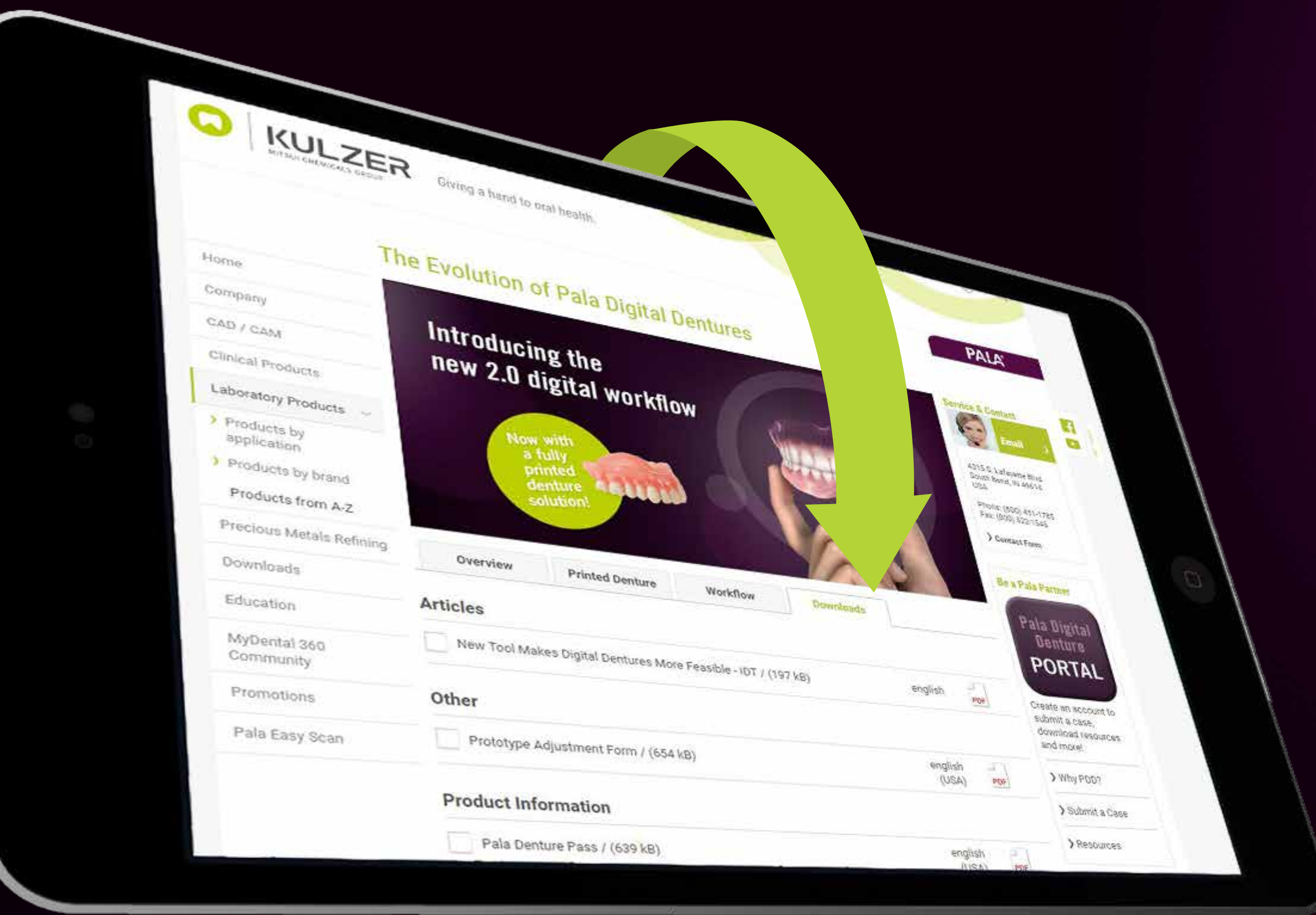
You can also find video resources on our YouTube Channel, [youtube.com/KulzerNorthAmerica](http://youtube.com/KulzerNorthAmerica).

➤ IDT Special Supplement Publication (full)

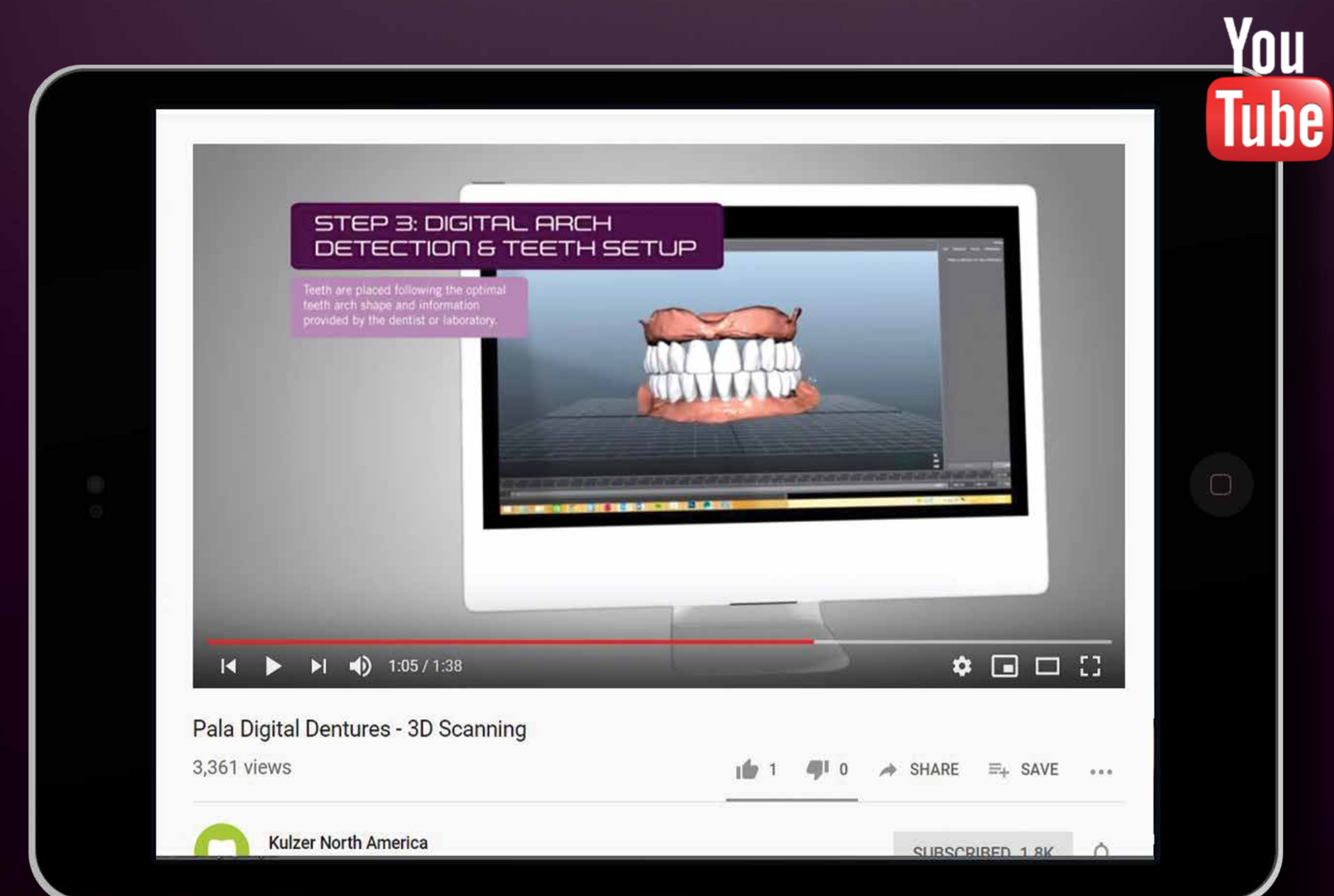
➤ Digital Denture Design Webinar

➤ The Future is Now: 3D Printed Denture Workflows for Dental Professionals and Patients webinar

➤ 5 Reasons to Buy: Pala 3D Printed Denture (Inside Dental Technology article)



➤ [KulzerUS.com/PalaDigitalDentures](http://KulzerUS.com/PalaDigitalDentures)



➤ [Youtube.com/KulzerNorthAmerica](http://Youtube.com/KulzerNorthAmerica)