



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
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

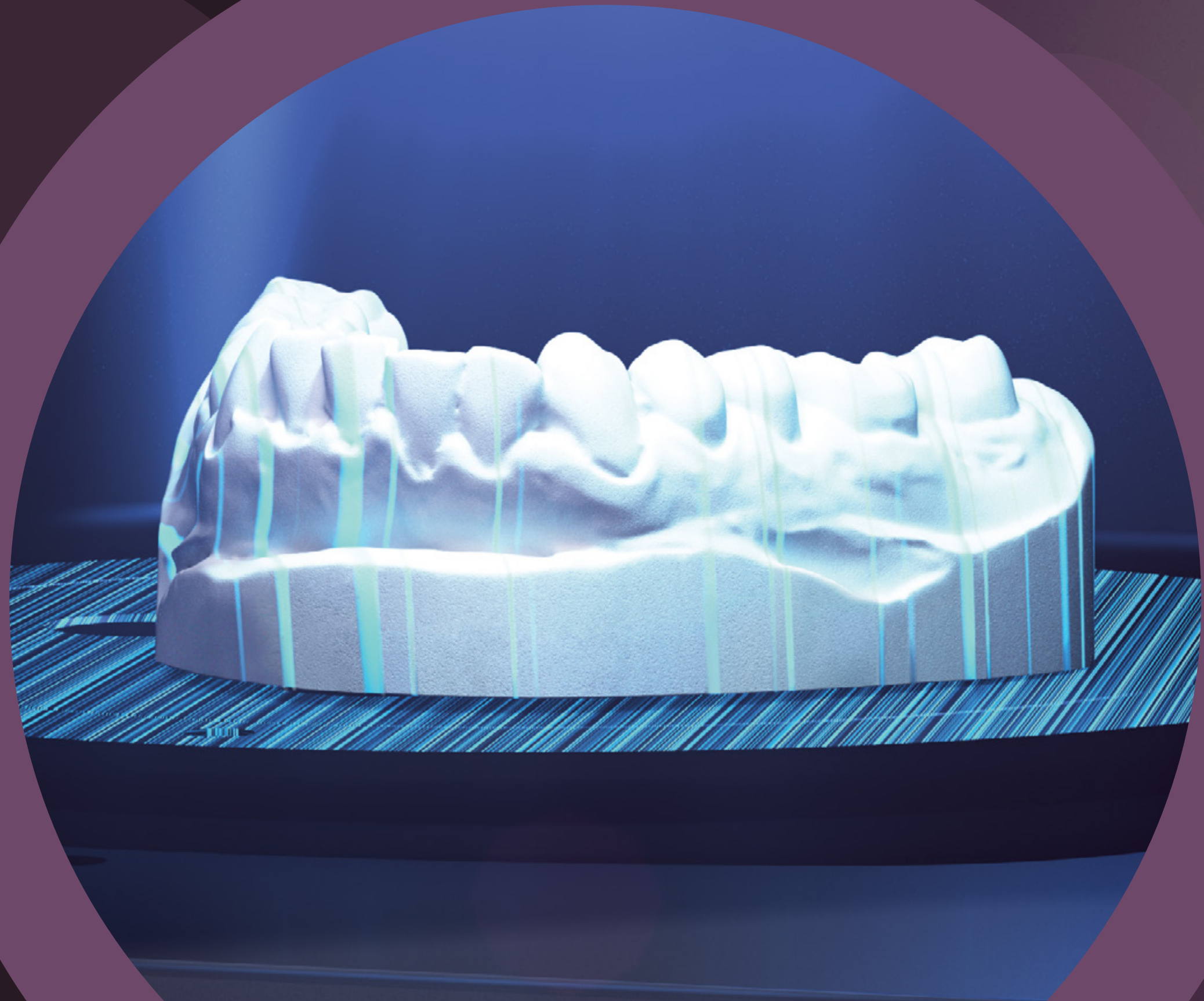
➔ kulzerUS.com/3DPrintedDenture

STEP 1: SCAN

USE IMPRESSIONS, OR MODELS AND BITE RIMS

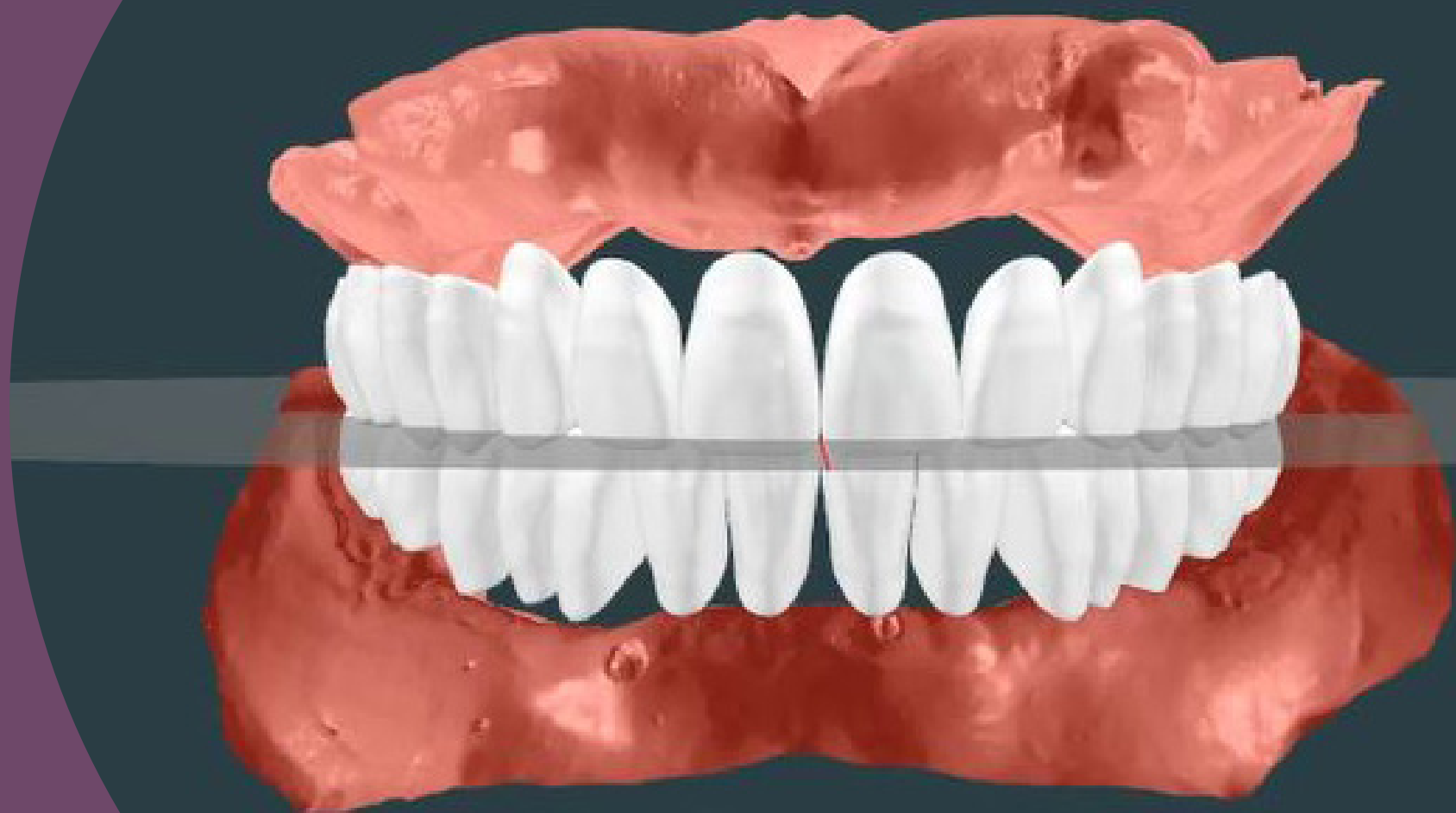
Equipment you'll need:

- **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:

- CAD denture design software

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.

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

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



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®

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.

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

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



cara[©] Print 4.0

The 3D-DLP printer from Kulzer.

Quick, precise, economical: The perfect fit.



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

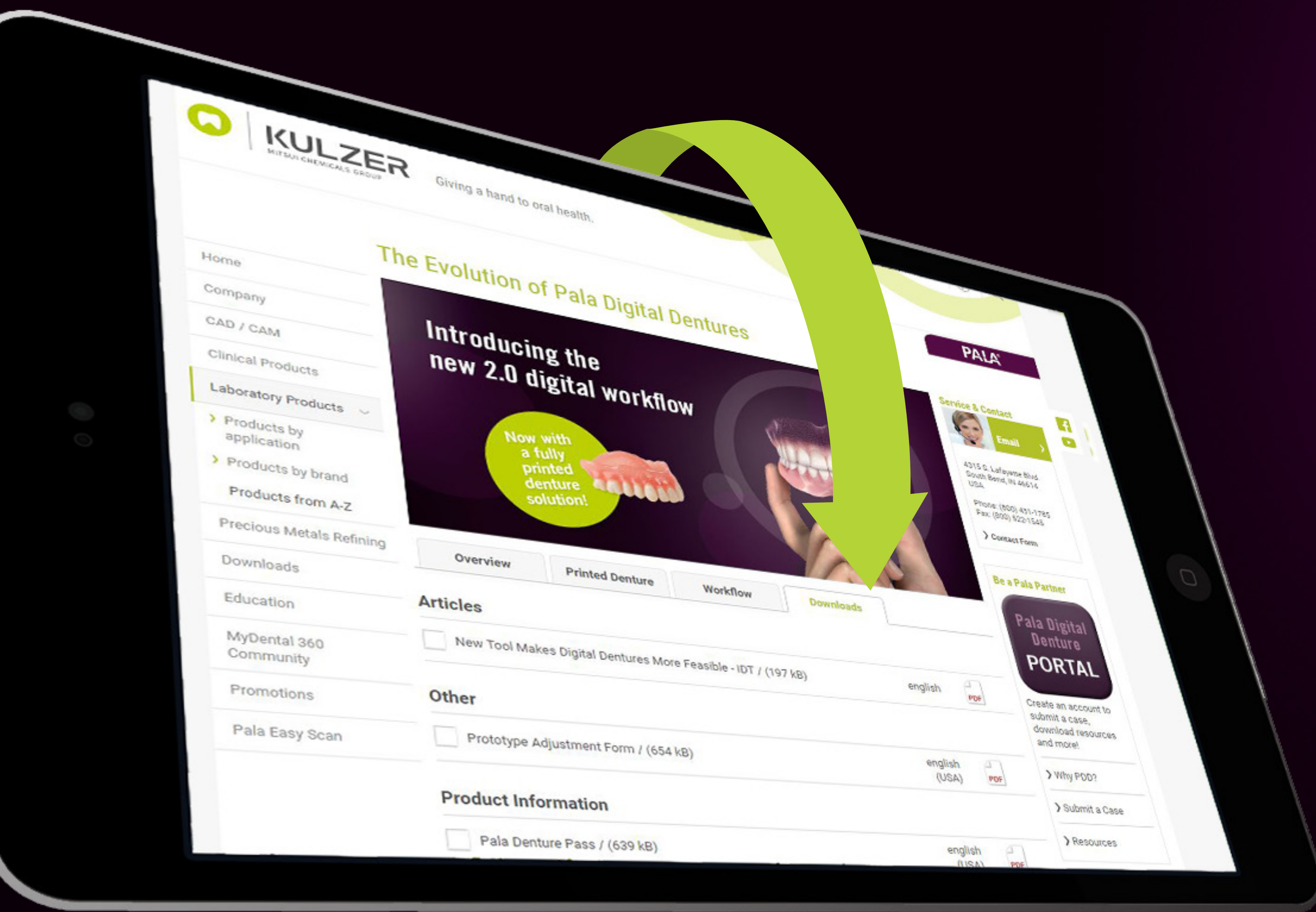
You can also find video resources on our YouTube Channel, youtube.com/KulzerNorthAmerica.

➤ [IDT Special Supplement Publication \(full\)](#)

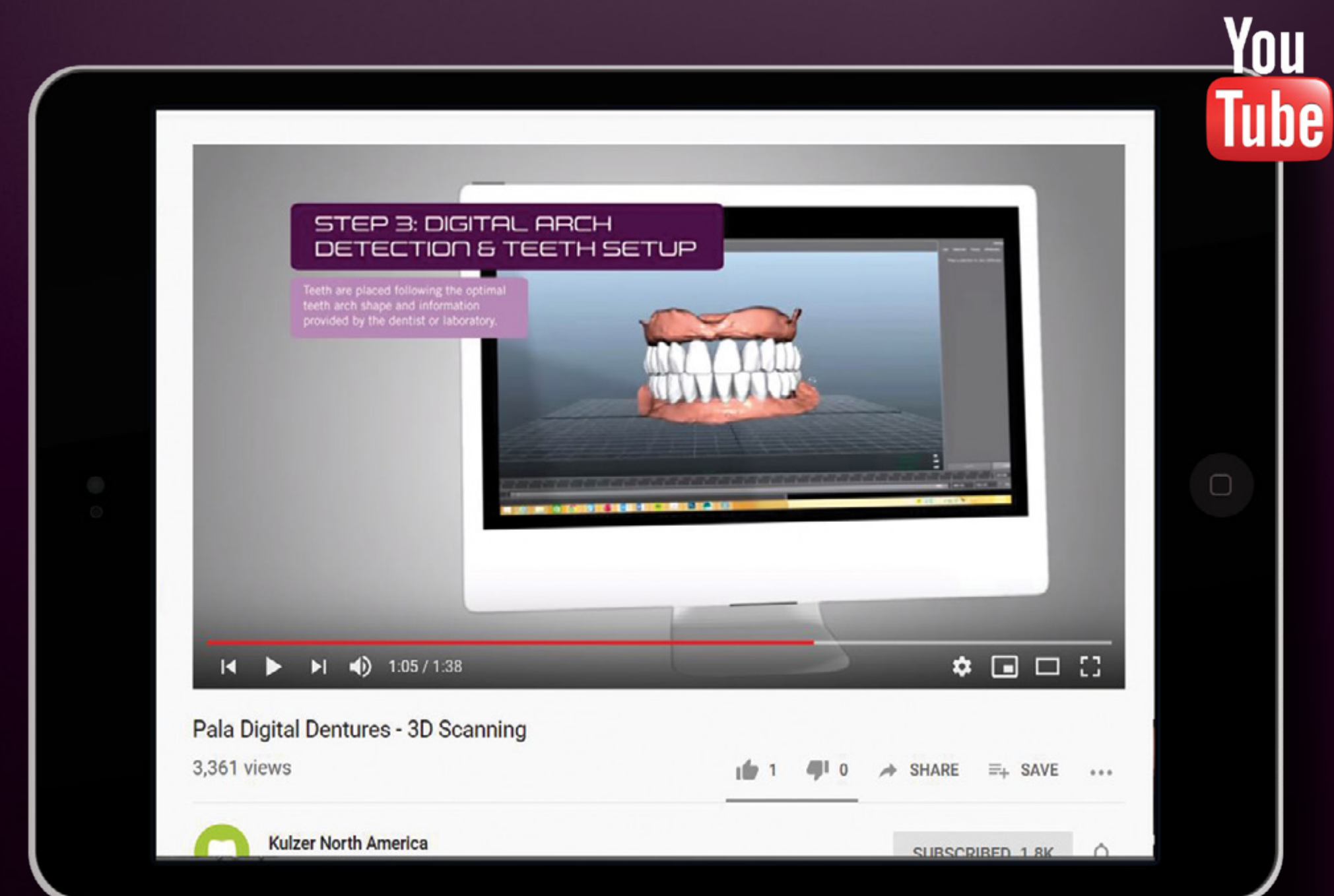
➤ [Digital Denture Design Webinar](#)

➤ [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



➤ Youtube.com/KulzerNorthAmerica