Prima Digital Milling Tools

The forgotten step in your digital workflow

PRIMA DIGITAL

Why compromise?

Prima Digital

The Tool Of Choice

Prima Digital designs and engineers coated and uncoated milling tools for digital dental labs around the world.

Our patent-pending tool range, designed and engineered specially for Zirconia, outperforms the market leaders - making them the tools of choice for the industry's most renowned CAD/CAM dental milling machines; including Roland, Wieland, Armann Girrbach and vhf.

Our tools, designed specifically for each machine type, boast a patent pending, multi flute design which offers a more efficient milling process.

PRIMA DIGITAL

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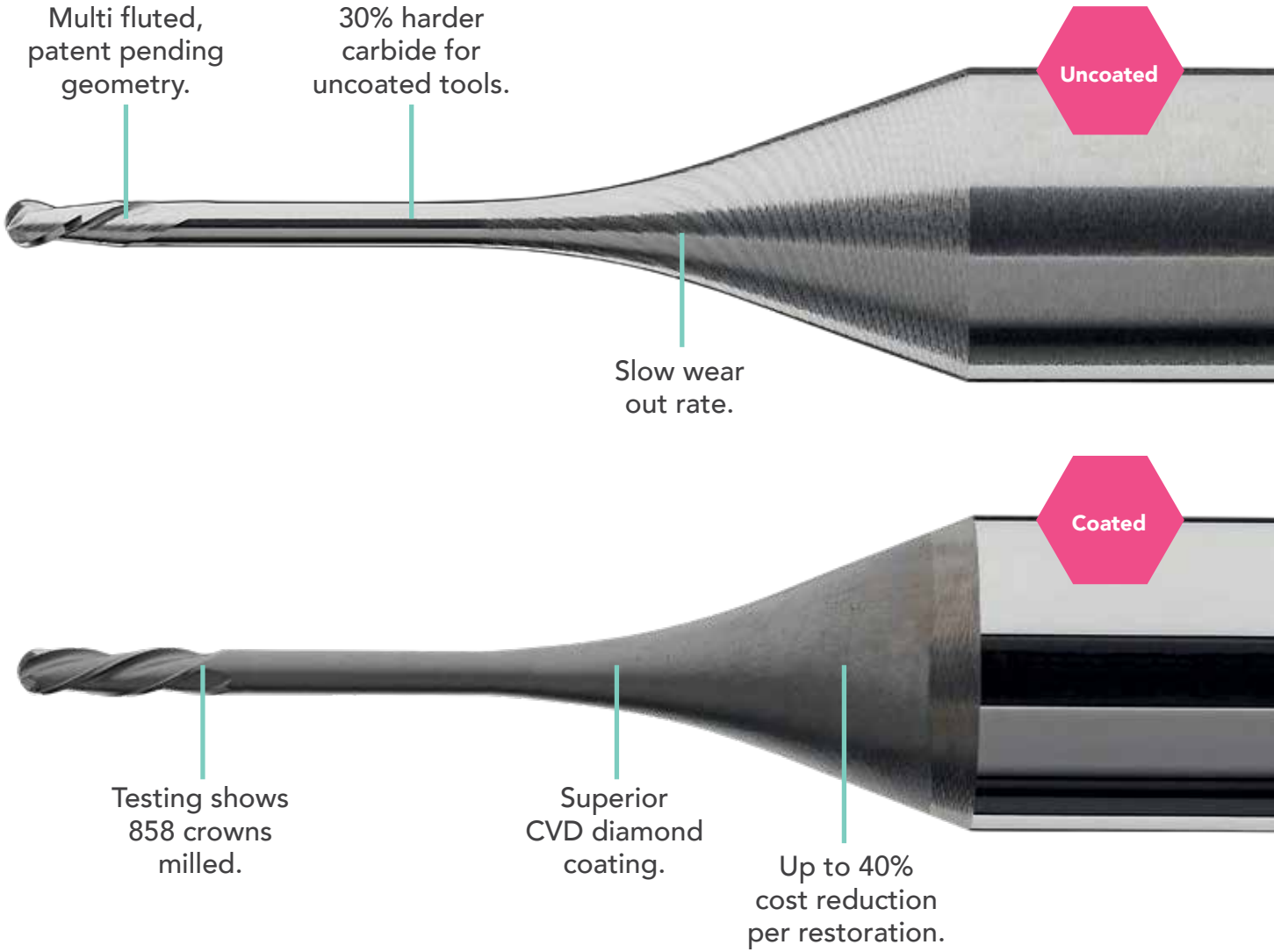
The Tool Of Choice

Quality is assured thanks to a robust testing and independent verification process, working with a leading UK Dental University.

Prima Digital, part of the world's fastest growing dental bur manufacturer. Prima Dental Group.



PRIMA DIGITAL

Prima Digital
£1 million of Investment and Development

Dr. Marilyn Goh Head of Research & Innovation

Dr. Marilyn Goh is the world's foremost leading expert in the field of Carbide and tooling design.

She has a **PhD** in The Application of Artificial Intelligence in Manufacturing Control.

She has over **15 years** of experience working with internationally recognized companies including Sandvik, Airbus, and leading universities.

Dr. Marilyn Goh is published in over **12** international papers and is the principle inventor of **3** patents on cutting tools.

PRIMA DIGITAL

Prima Digital

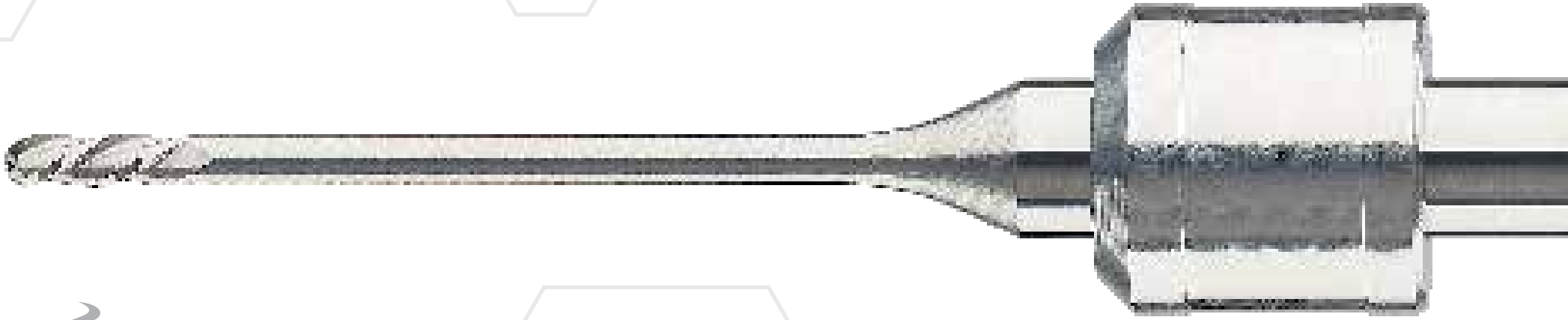
£1 million of Investment and Development

Two years of research, innovation and development; £1 million of investment;

the reassignment of Prima Dental expert engineers and the appointment of Carbide Tool Expert Dr Marilyn Goh (PhD) has resulted in a **product and service that outperforms the market leaders**.

This is the journey that we have taken, and will repeat as we bring more milling tools to market.

- understand the marketplace
- understand the value Prima can bring, partner with experts
- evaluate carbide substrates
- develop unique tool geometry
- analyse tool coatings
- interrogate all findings
- manufacture to high precision
- listen to the market and grow



PRIMA DIGITAL

Prima Digital
Independent Research from a Leading UK University

This independent report shows Prima Digital tools are more precise and more consistent than the market leader.

1.0 Aim of the study

To evaluate the quality of milled crowns using topography analysis. Crowns from a Digital Model were milled using three set of tools Ø2mm, Ø1mm, Ø0.6mm made by three manufacturers. Volumes of the Outer Surface and the Inner Surface of milled crowns were measured and compared with the Digital Model.

2.0 Results – The Outer Surface

Fig. 1 – Outer Surface of the Digital Model

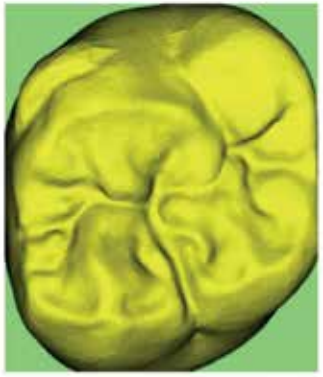


Fig. 2 – Scan of Prima Digital milled Crown

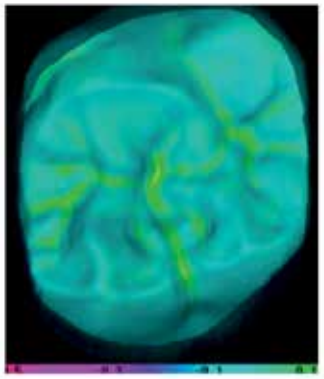
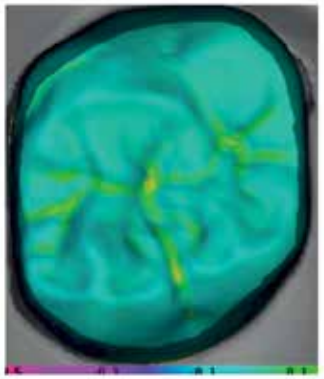


Fig. 3 – Scan of Competitor 1 milled Crown

Fig. 4 – Scan of Competitor 2 milled Crown



This table summarises the results for the Outer Surface. Prima tools have been found to generate the least deviation from the digital model.

	Outer Surface	Mean Volume Deviation (mm^3)	Total Volume Deviation (mm^3)	Observations
Prima Digital	Disc 1	0.067	0.01	Deviation of milled crown volume to the Digital Model remains consistent throughout the life of the tools.
	Disc 4	0.06		
	Disc 9	0.07		
Competitor 1	Disc 1	0.02	0.13	Deviation of milled crown volume to the Digital Model increases when tools wear out.
	Disc 4	0.15		
	Disc 7	0.12		
Competitor 2	Disc 1	-0.14	0.16	Milled crown volume tends to be smaller than the Digital Model. Even though a small deviation of 0.02 is observed at Disc 7, chipped margin at crowns will still cause crowns to be rejected.
	Disc 4	-0.12		
	Disc 7	0.02		

PRIMA DIGITAL

Prima Digital
Independent Research from a Leading UK University

This independent report shows Prima Digital tools are more precise and more consistent than the market leader.

"Based on the findings of a leading UK University of Medicine and Dentistry's independent testing the Prima Digital tool set has proven to mill a more accurate restoration when compared to competitor tools used in this test."
Dr Marilyn Goh (Phd)

PRIMA DIGITAL

3.0 Results – The Inner Surface

Fig. 5 – Inner Surface of the Digital Model

Fig. 6 – Scan of Prima Digital milled Crown

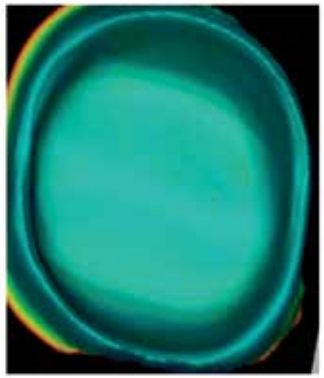


Fig. 7 – Scan of Competitor 1 milled Crown

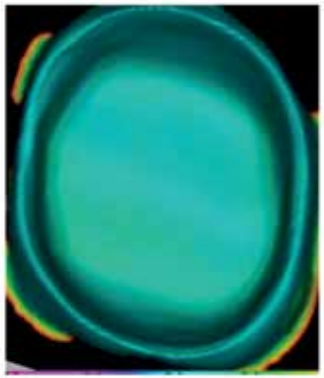


Fig. 8 – Scan of Competitor 2 milled Crown

This table summarises the results for the Inner Surface. Prima tools have been found to generate the least deviation from the digital model.

	Inner Surface	Mean Volume Deviation (mm^3)	Total Volume Deviation (mm^3)	Observations
Prima Digital	Disc 1	-0.19	0.3	Deviation of milled crown volume to the Digital Model increases as tools wear out. But total deviation value is the smallest among all tools.
	Disc 4	0.05		
	Disc 9	0.11		
Competitor 1	Disc 1	-0.24	1.2	Deviation of milled crown volume to the Digital Model increases as tools wear out. And, the total deviation value is the largest among all tools.
	Disc 4	0.66		
	Disc 7	0.96		
Competitor 2	Disc 1	-0.82	1.67	There is inconsistency in crown volume deviation from the Digital Model.
	Disc 4	0.85		
	Disc 7	-0.04		

4.0 Conclusion

Prima tool set has proven to be able to produce a more accurate restoration as compared to tools used in this test.

Prima Digital

Uncoated Carbide Tool Delivers 29% more restorations

Tool Substrate

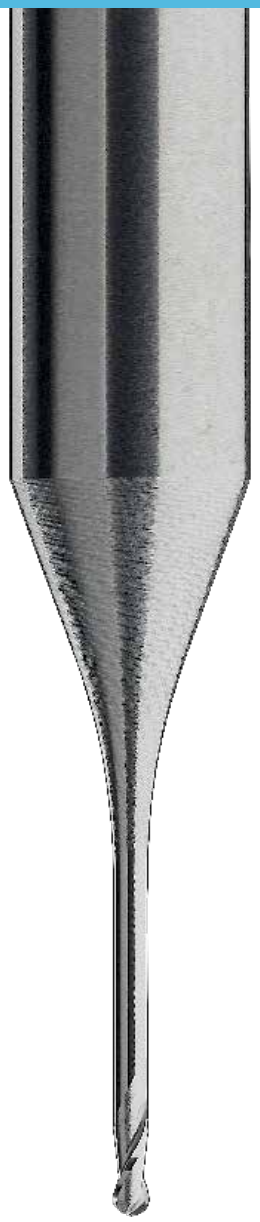
30% harder carbide substrate than other dental tools

Tool Geometry

Tools with **optimised** features such as rake angle, relief angle, number of flutes, etc.

Tool Manufacturing

Comply to **ISO** GPS tolerance of h6 on shank and h8 on head diameter. These are excellent tolerance values in the tool



Tool Performance

Mill **29%** more restorations than other dental tools

Mill restorations more accurately than other dental tools

What does this mean to you?

Lower cost per restoration

More precise restorations lead to less adjustment during fitting

PRIMA DIGITAL

Prima Digital

Coated Tool Delivers 33% more restorations

Tool Coating

It has the **same hardness** as the hardest material known to mankind - The **Natural Diamond**!

Tool Substrate

A carbide grade excellent for diamond adhesion

Tool Geometry & Manufacturing

Same as the uncoated tools

Tool Coating

Chemical Vapour Deposition

Diamond Coating

Hardness of 10,000 HV 0.05

Tool Performance

Mill **33%** more restorations than other dental tools

What does this mean to you?

Even lower cost per restoration

PRIMA DIGITAL

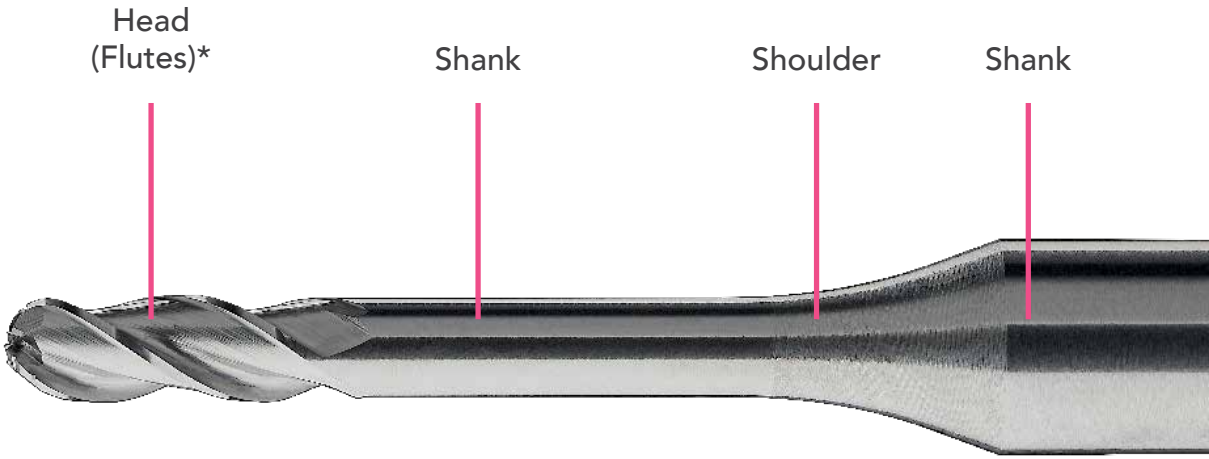
Prima Digital
Our Product Range

The uniqueness of our dental milling tools:

One
Substrate

Two
Geometry

Three
Manufacturing Capability



Carbide Uncoated

CVD Diamond Coated (long life)

PRIMA DIGITAL

Prima Digital
Our Product Range

Roland

Head Diameter	Ø0.6mm	Ø1mm	Ø2mm	Ø0.6mm	Ø1mm	Ø2mm
Finish	Coated	Coated	Coated	Uncoated	Uncoated	Uncoated
Shank Diameter	Ø4mm	Ø4mm	Ø4mm	Ø4mm	Ø4mm	Ø4mm
Head Length	7mm	10mm	15mm	7mm	10mm	15mm
Head and Neck Length	13mm	15.5mm	19.5mm	13mm	15.5mm	19.5mm
Overall Length	50mm	50mm	50mm	50mm	50mm	50mm

Amann Girrbach

Head Diameter	Ø0.6mm	Ø1mm	Ø2.5mm	Ø0.6mm	Ø1mm	Ø2.5mm
Finish	Coated	Coated	Coated	Uncoated	Uncoated	Uncoated
Shank Diameter	Ø3mm	Ø3mm	Ø3mm	Ø3mm	Ø3mm	Ø3mm
Head Length	10mm	16mm	17.5mm	10mm	16mm	17.5mm
Head and Neck Length	13mm	19mm	19mm	13mm	19mm	19mm
Overall Length	47mm	47mm	47mm	47mm	47mm	47mm

vhf

CirClip present on all Milling Tools

Head Diameter	Ø0.6mm	Ø1mm	Ø2mm	Ø0.6mm	Ø1mm	Ø2mm
Finish	Coated	Coated	Coated	Uncoated	Uncoated	Uncoated
Shank Diameter	Ø3mm	Ø3mm	Ø3mm	Ø3mm	Ø3mm	Ø3mm
Head Length	3mm	16mm	16mm	3mm	16mm	16mm
Head and Neck Length	9.5mm	18mm	18mm	9.5mm	18mm	18mm
Overall Length	40mm	40mm	40mm	40mm	40mm	40mm

Wieland

CirClip present on all Milling Tools

Head Diameter	Ø0.6mm	Ø0.7mm	Ø1mm	Ø2.5mm	Ø0.6mm	Ø0.7mm	Ø1mm	Ø2.5mm
Finish	Coated	Coated	Coated	Coated	Uncoated	Uncoated	Uncoated	Uncoated
Shank Diameter	Ø3mm	Ø3mm	Ø3mm	Ø3mm	Ø3mm	Ø3mm	Ø3mm	Ø3mm
Head Length	3mm	3mm	16mm	20mm	3mm	3mm	16mm	20mm
Head and Neck Length	9.5mm	9.5mm	18mm	20.75mm	9.5mm	9.5mm	18mm	20.75mm
Overall Length	40mm	40mm	40mm	40mm	40mm	40mm	40mm	40mm

Circlip
(vhf and Wieland)

Ringstop
(Amann Girrbach)

PRIMA DIGITAL

Prima Digital
Don't just take our word for it...

"Showing zero sign of chipping at thin margins... which is awesome!"

US Lab

"Normally we would be changing burs more regularly... maybe every two weeks... we're approaching a month on these now!"

US Milling Centre

"These are definitely better than the ones we buy from [Competitor]."

US Milling Centre

"The surface texture looks better too."

US Milling Centre

"Uncoated tooling **outperforms** some coated tooling on the market"

Ryan Faufau
Director of Research & Digital Technology

CUSTOM MILLING CENTER

PRIMA DIGITAL

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Would you like a specialist visit to learn more?

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Or find us at LMT Lab Day Chicago

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