

incise™ – the process to precision™

Smile...



# ...first impressions last



Renishaw's incise™ ceramic restorations are produced by a revolutionary dental system that focuses on accuracy at every stage of the process – beginning with the first impression taken by the dentist. The result is a crown or bridge that not only looks great, but also demonstrates an exceptional fit.

Superior accuracy is provided by Renishaw's renowned measurement and manufacturing technology, backed by pioneering research into clinical and laboratory processes. The incise™ guidelines are an additional aid to help both dentist and technician to achieve the most accurately fitting restoration

incise™ offers:

- Accurate fit and marginal adaptation, aiding good gingival health and minimising micro leakage.
- A restoration that exceeds clinical strength requirements.
- Excellent aesthetics using zirconia frameworks unlike porcelain fused to metal (PFM) crowns.
- Greater longevity of restoration as a result of material stability and good marginal fit.



Members of Investors in people  
BS EN ISO 9001:2000 approved  
BS EN ISO 13485:2003 approved  
Members of BDTA and DLA

# Background

Renishaw's **incise™** is a simple and precise dental CAD/CAM framework production system.

**incise™** draws upon Renishaw's 30+ year metrology and machining experience, and its 20 years of experience in the reverse manufacturing/reverse engineering field.

Dental CAD/CAM now comes in many forms but the basic objective remains the same: to produce strong dental prostheses with great aesthetics, biocompatibility, superb fit and excellent longevity.

**incise™** uses zirconia, which is processed in a unique way, eliminating errors that can occur through material shrinkage during the firing process.

Particular attention is paid to the choice of impression and die stone materials. Using a scientifically validated process, the dentist and dental laboratory can be sure the model with which they are working, accurately represents the actual clinical situation.



Bridge framework in zirconia material



Renishaw plc headquarters - New Mills, Gloucestershire, UK



Visit [www.renishaw.info/incise](http://www.renishaw.info/incise)  
for further information

# ...first impressions matter

The introduction of CAD/CAM techniques to crown and bridge dentistry has enabled the use of hard, strong, biocompatible materials, such as zirconia. The popularity of these ceramic materials is apparent from a recent growth rate, compared to PFM (metal bonded) crowns.



incise™ benefits to the laboratory:

- End-to-end process minimising loss of accuracy at each stage.
- All incise™ frameworks are supplied with a certificate demonstrating marginal fit back to the model.
- Superb strength from the zirconia material allows for thinner copings and connectors.
- Close conformance to shoulder of preparation gives extra space for porcelain where aesthetics are crucial.
- Contact scanning offers superior accuracy over non-contact scanning as it is not affected by optical characteristics of the die stone.
- The incise™ scanner offers automatic compensation for undercuts, eliminating time consuming tasks such as blocking out and re-scanning.
- Full UK technical support from the manufacturer's headquarters in Gloucestershire.



# ...first impressions count

Fitting a poorly designed or manufactured crown can lead to gingival disease, loss of tooth vitality, secondary caries, fractured coping and/or fractured porcelain, de-bonding of cement and/or porcelain, or an unsightly restoration.

incise® benefits to the dentist:

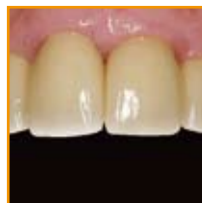
- End-to-end process minimising errors at every stage, beginning with the dentist's impression.
- All incise® frameworks are supplied with accuracy certificates demonstrating marginal fit back to the model.
- Superb strength from the zirconia material allows for thinner copings and connectors enabling more conservative tooth preparation and better aesthetics.
- Excellent aesthetics can be achieved using zirconia – a benefit of metal-free restorations.
- Excellent marginal fit first time, leading to reduced chair time.
- Reduced micro leakage, restoration longevity and superb aesthetic results.
- The zirconia material offers excellent biocompatibility - reduced biological response and improvement in gingival health.
- Full UK clinical support from the manufacturer's headquarters in Gloucestershire.



# How does the incise™ system work?



BEFORE fitting incise.  
crowns showing receding  
gum line



AFTER fitting incise. crowns  
showing healthy pink gums



The **incise™** process for manufacturing restorations is unique in that it is the only CAD/CAM technology that delivers an accuracy certificate with the manufactured coping. As such, it is important that strict procedures are followed to ensure best results. You can be confident that these procedures and recommended materials are backed up by stringent scientific evaluation. Following these guidelines will ensure that you receive the best possible coping. The laboratory process involves communication with the dentist and the Renishaw milling centre.

DENTIST	<p>1. First appointment: consultation and diagnosis</p> <p>Refer to <b>incise</b>™ indications</p> <p>2. Second appointment: preparation</p> <p>Prepare teeth</p> <p>Register occlusal relationship</p> <p>Make temporary crown/bridge</p> <p>Retract gingiva</p> <p>Take impression</p> <p>Fit temporary crown</p> <p><i>Send disinfected impressions, bite registration and prescription to laboratory</i></p>
LABORATORY	<p>3. Model preparation and coping design</p> <p>Pour stone models from impressions</p> <p>Section model and ditch margins</p> <p>Scan preparations and define margins using <b>incise</b>™ software</p> <p><i>Raise order and send to Renishaw</i></p>
RENISHAW MILLING CENTRE	<p>4. Coping manufacture</p> <p>Manufacture coping</p> <p>Accuracy analysis</p> <p><i>Send coping to laboratory</i></p>
LABORATORY	<p>5. Restoration completion</p> <p>Porcelain build-up and glaze</p> <p><i>Return final restoration, and accuracy certificate, along with the impressions and models, to the dentist</i></p>
DENTIST	<p>6. Third appointment: fitting</p> <p>Remove temporary restoration</p> <p>Try <b>incise</b>™ restoration to check colour, fit and occlusion</p> <p>Permanently cement restoration</p> <p>7. Fourth appointment: check-up and follow ups</p>





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Renishaw designs, develops and manufactures products which conform to ISO 9001 standards

Renishaw provides innovative solutions using the following products:

- Probe systems for inspection on CMMs (co-ordinate measuring machines).
- Systems for job set-up, tool setting and inspection on machine tools.
- Scanning, digitising and dental systems.
- Laser and automated ballbar systems for performance measurement and calibration of machines.
- Encoder systems for high accuracy position feedback.
- Spectroscopy systems for non-destructive material analysis in laboratory and process environments.
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- Customised solutions for your applications.

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