

Clinical guidelines – crown work

Smile...
first impressions
last



Overview

incise™ frameworks are produced as part of a precision process for restorative dentistry. The system design is supported by accurate measurement technology and dental industry research.

These guidelines will help you to use the incise™ system to create world class products offering:

- Accurate fit and marginal adaptation preserves gingival health and minimises micro leakage
- A restoration that exceeds clinical strength requirements
- Excellent aesthetics achieved by using zirconia
- Greater longevity of restoration as a result of material stability and good marginal fit.

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

We are so confident in our product that all incise™ frameworks are supplied with a certificate, showing an analysis of the coping fit.



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



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Design specifications

Material properties

Copings are machined from densely sintered medical grade YTZP zirconia

SPECIFICATION ISO 13356:1997

COMPOSITION Ytria Partially Stabilized Zirconia

COLOUR White

Typical material properties

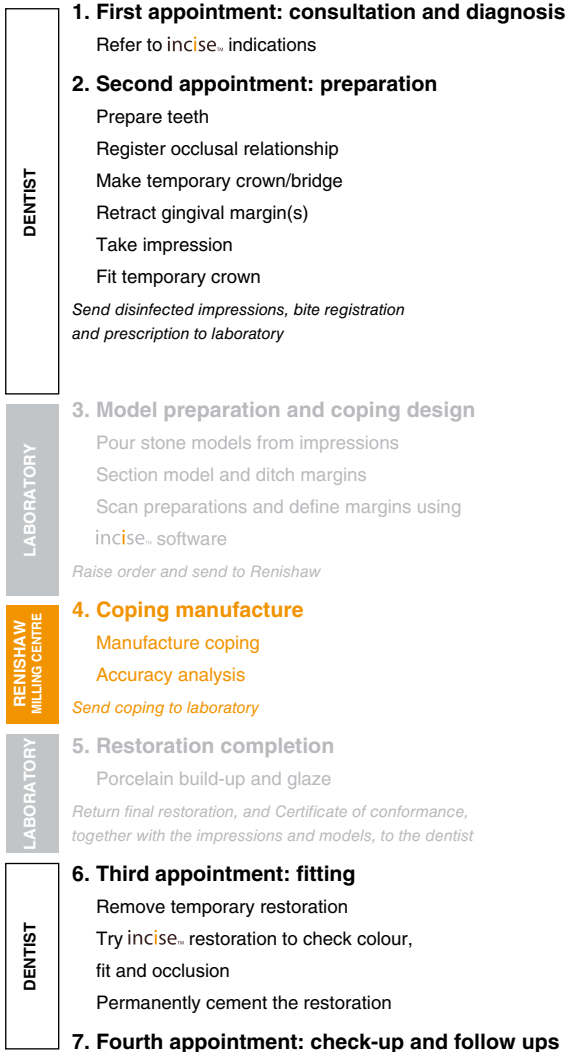
Property	Value	Test
Density	6.05 gcm ⁻³	ASTM-C20
Crystal size	1 μm	Thin-Section
Water absorption	0%	ASTM-373
Flexural strength (MOR, 20 °C)	1240 MPa	ASTM-C1161
Elastic modulus (20 °C)	210 GPa	ASTM-F417
Hardness	81	Rockwell 45 N
Fracture toughness K(Ic)	13 MPa m ^{1/2}	Notched beam
Coeff. of thermal expansion (25 °-100 °C)	10.3 x 10 ⁻⁶ / °C)	ASTM-C372

For the latest cement space specification please visit:

www.renishaw.info/incise

incise™ process overview

The incise™ process for manufacturing restorations is unique in that it is the only CAD-CAM technology that delivers a Certificate of conformance with the manufactured coping. As such, it is important that strict procedures are followed to obtain 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 framework.



Impression taking guidelines

Materials and accessories

We recommend using the following materials and accessories with the incise. process:-

IMPRESSION TRAYS	Perforated metal tray
TRAY MATERIAL	Renishaw incise. recommended product
IMPRESSION WASH	Renishaw incise. recommended product
PERMANENT CEMENT	Kuraray Panavia F cement



ALWAYS FOLLOW THE MATERIAL MANUFACTURER'S INSTRUCTIONS

Overview

The impression taking stage is often over-looked in modern CAD/CAM dental processes, however an accurate impression is vital to achieve good marginal adaptation of the crown.



ALWAYS FOLLOW THE MATERIAL MANUFACTURER'S INSTRUCTIONS



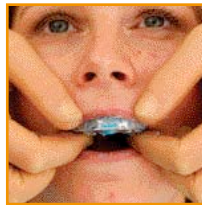
Impression technique



1. Dispense the tray material into a metal perforated impression tray. Ensure that the tray is filled until material flows through the holes to achieve maximum retention.



2. Simultaneously apply the wash material around the prepared teeth, completely covering the whole preparation area.



3. Seat the tray and hold stable until full set time for both materials is achieved (refer to manufacturer's instructions).



4. Check that the impression is free from drag marks and air blows.

An impression of the opposing jaw should also be taken.

All impressions and other materials which have been in contact with oral fluids must be appropriately sterilised prior to sending to the dental laboratory.

Preparation guidelines

Indications

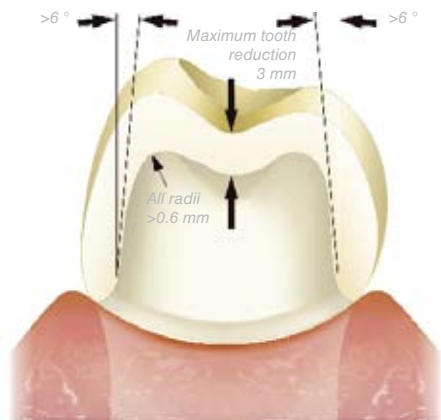
Use incise. restorations to protect weakened tooth structures, restore functionality and improve aesthetics
incise. crowns are suitable for anterior and posterior restorations.

The prepared tooth should follow these guidelines:

- Taper angle of greater than 6°
- All intended line angles should have a radius (0.6 mm or greater)
- A tapered shoulder/chamfer is required
- Minimal dentine removal is desired to conserve tooth structure and vitality. Maximum tooth reduction should not exceed 3 mm.



Anterior preparation



Posterior preparation

Example preparation

Anterior preparation



Labial view



Palatal view

Contraindications

Guidelines are given for the purpose of maximising strength and reliability of the restoration, giving the highest aesthetic quality and the best possible fit. These features need to be eliminated before taking the final impression.

The features contraindicated for the *incise* process are:



Parallel walls



Undercut walls



Feather edges

A well prepared tooth is essential for good marginal adaptation of the restoration.



90° shoulders



Gutter shoulders



Sharp corners



Crests

Cementation guidelines

Pre-treatment

The restoration will be supplied with internal surfaces already sand-blasted by the laboratory.

Do NOT sterilise restoration using steam. This may have long-term implications on the strength of the material.

Checking the fit

- 1 Seat the restoration.
- 2 Check the occlusion with articulating paper.
- 3 Check the colour match with the patient. If you or the patient have any doubts, cement crown/bridge temporarily until the problem is resolved.

Fixing the restoration

incise™ recommends using Kuraray Panavia F resin cement.

Resin-modified glass ionomer cements are not recommended by Renishaw.

For the latest information on cementation guidelines please visit:
www.renishaw.info/incise



ALWAYS FOLLOW THE MATERIAL MANUFACTURER'S INSTRUCTIONS

Additional information



Product returns

In the unlikely event that it is necessary for a prosthesis to be returned to Renishaw, it must be appropriately sterilised, and this must be clearly indicated on the primary (external) packaging.

Please refer to BS EN 980:2003, Graphical symbols for use in the labelling of medical devices, for recommended labelling symbols.



Renishaw applies innovation to provide solutions to your problems

Renishaw is an established world leader in metrology, providing high performance, cost-effective solutions for measurement and increased productivity. A worldwide network of subsidiary companies and distributors provides exceptional service and support for its customers

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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