Dramatically increase your lab’s productivity and profitability in the fast-growing implant marketplace with patient specific, digitally created and precision milled Cobalt Chrome abutments and screw retained bars from Core3dcentres®.

Utilise our completely digital workflow or send us your standard models to scan - our open systems handle a wide variety of major implant systems. 100% of the restoration is manufactured in modern HSM (High Speed Machining) 5 axis milling machines, and all these conditions guarantee the passivity of the structure. This one-piece design eliminates any weakness that might have been caused by soldering or laser welded joints. Superstructures are fabricated without any of the stresses or distortions that might have occurred under the casting process. Returned to you surface finished according to prescription, ready to be built up in ceramics. This allows for a strong, accurate and stable restoration which prevent from braking ceramics while firing it, is biocompatible, easy to remove for cleaning.

Indications:
- Screw retained implant bridges and abutments for ceramics adhesion.
- Single abutments, bars from 2 to 10 implants, bars from 2 to 14 teeth
- Bars with anatomical shape in certain retentions: mix (anatomical at the front), complex (completely anatomical)

Advantages:
- Designed and manufactured using CAD/CAM the restorations are more accurate than any traditionally made restoration with perfect marginal fit
- They are free from distortions and defects, and show a predictable precision to <20 microns.
- Precision-milled from a solid piece of Cobalt Chrome, it’s a one-piece construction no soldered or welded joints. Manufactured by milling machinery removing material from a passive disc, the consistency of the product is 100%
- The structural changes shown in the materials processed by laser sintering or casting, won’t be present in structures obtained by a milling process (oxide formation, braking risk, lack of elasticity)
- Co-Cr shows an excellent ceramics adhesion: the thermal expansion and coefficient, is suitable for most ceramics
- Exceptional strength, yet lightweight. Truly passive fit. Precise, Flexible and Aesthetic
- Allows to correct the insertion angle to prevent from vestibular non aesthetic holes
- Free-form design of framework for ultimate aesthetic outcome. You can choose between a simple hybrid bar (no retentions), mixed hybrid bar (retentions to the front only), complex hybrid bar (retentions for all the teeth)
- Different shapes available for a better retention of the resin. You can choose between polished or rough finished in occlusal and gingival zones

Core™ Co-Cr
Abutments and Bars
For the laboratory

What to send:
To receive a Core Custom Milled Cobalt-Chrome Abutment or Bar, the laboratory is required to send a digitally designed file from an open or affiliated scanner software and any special requirements. Laboratory technicians can also create their own unique bar design with a resin pattern and send it to Core3dcentres with the master cast to be scanned and milled. Using a copy milling technique, Core3dcentres creates a one piece Cobalt-Chrome replica of the design.

OR
Alternatively, Core3dcentres offers virtual design and milling of bars. An upper and lower model with bite registration with clear instructions as to what has to be manufactured and the accurate information regarding tooth position of implants, implant brand and size or abutment type, desired design of the bar for the type of prosthesis, length of the distal extensions. Any special information on such aspects as path of insertion information or malocclusion is always welcome. Please also include working model with implant analogues and soft tissue and opposing model with bite registration (or mounted on an articulator).

Previous considerations:
- Parallel and divergent implants up to 20°
- Equal or less than 4mm of tissue depth
- Equal or greater than 7mm inter arch space
- Multiple implants with a minimum of 2mm space in between

Considerations for traditional models:
- Use new analogues only
- The model (if required) shouldn’t be higher than 50mm
- Models should not be stuck to the articulator

All files are emailed back to you for verification prior to being sent to manufacturing.

What you get back:
Metal implant bridges are provided from Core3dcentres to our customers in a polished or rough finish (you can choose the finish for every zone). The restoration will fit perfectly and be ready for ceramics load. This will normally be returned to the laboratory between 48 and 72 hours depending on the restoration requested. The screws necessary to place and screw the abutment or bridge and a certificate with a reference number and a detail of the material will also be provided.

What you need to do to complete:
It's not necessary to make any oxidation or control firing to load the ceramics. If you decide to do so, you should select the same opaque firing final temperature with a retention time of 5 minutes. There are several systems now available in the market to load ceramics and the laboratory must use the guidance from the manufacturer along with trial and error to find the best techniques. Similarly with the glaze, this is to the laboratories preference however must be compatible with Cobalt-Chrome. Core3dcentres can advise and help with this process helping you identify the current best materials available.

For the clinician

1. Take Fixture Level Impression
Take preliminary fixture level polyvinyl siloxane impression (NOTE: Open Tray Impression preferred), impression of opposing dentition and bite if possible. Lab will prepare verification matrix.

2. Place Verification Matrix and Take Final Impression
Upon receipt, remove from the model and place the separated copings intra-orally in the same position, lute the pieces together and take a final Open Tray polyvinyl siloxane (for best accuracy) impression making sure the coping screws are accessible.

3. Establish the Bite
If try-in of a new denture was done previously, this can be used to mount the master model and begin fabrication of the bar. Otherwise, a bite rim that can be screwed onto the implants will be made and a new bite relation taken before the bar is fabricated. Lab will fabricate a wax-up and matrix it for the fabrication of the custom abutments (if required) and bar.

4. Custom Abutments Fabricated (if required)
Fabricated to fall within the parameters of the wax-up. Orientation matrix fabricated to allow the clinician to orientate the abutments in the mouth.

Fine tuning the restoration:
After the metal test, clean all the parts that will be in contact with the implant and the screw to make sure nothing decreases the passivity. Polish all the parts that aren’t covered by ceramics with an aluminiu oxide shotblasting. After this, give a second shotblast with “shine pearl”. The following step is to use a rubber with diamonds to all the visible metal pieces. The last thing is to screw again the bridge in the model and remove the excess ceramics next to the connection.

Conclusion:
Your Core3dcentres are here to help and advise you on the restoration we provide. Please contact us for up to date advice on techniques, materials and best practices.