Implants from Implantologists

Schilli
Implantology
Circle

SIC®

Ball and Socket Attachment with friction-retentive grip

12/2012

SIC Ball Anchorage

Ball Anchorage

The retentive ball anchor

The ball as a perfect geometric shape became established in restorative dentistry 40 years ago in the form of the retentive ball anchor. Its impressive function, easy handling and reasonable price ensure an efficient technique for dentists and dental technicians. The patients, mainly older, are extremely satisfied with the problem-free stabilisation of the restoration.

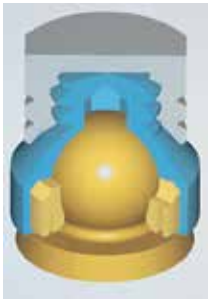
The system

The new ball and socket system has a few marked improvements compared with existing anchors. The retention mechanism is based on the newly designed friction-retentive grip with a defined withdrawal force.
As this mechanism is achieved using a thermoplastic resin, there is no wear of the ball patrix. Activation and deactivation with springs or lamellae are no longer required with this system. If the inner matrix has to be replaced at a recall, it can be exchanged within a few seconds by a completely new matrix using a specially designed torque key. There are three colour-coded inner matrices available with standardised withdrawal values.
Experience has shown that extremely strong forces are produced using two anchors without extensive support. In this case metal matrices are better indicated than plastic units. Precious metal inner matrices are available for this situation. These can be activated or deactivated using a small instrument.
With existing dentures in which the retentive force of the plastic inner matrix seems too low, the inner matrix can be easily replaced by a precious metal inner matrix, **without** having to exchange the retention cap! This is the advantage of the system.

Withdrawal values (average standard value):

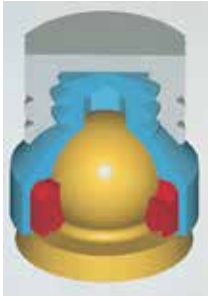
Yellow	=	600 g
Green	=	800 g
Red	=	1200 g
Gold	=	800 g

The easy and quick replacement of the inner matrix helps to save valuable time. The dentist can rely on reproducible withdrawal values without any manual manipulation.



approx. 600 g withdrawal force (light)

approx. 800 g withdrawal force (standard)



approx. 1200 g withdrawal force (strong)

SIC Ball Anchorage

Instructions for use

Schilli Implantology Circle

Initial situation with two anchors
The following steps for fabricating a denture using ball anchorage (patrices) will be explained using a case with two anchors in the regions of tooth 33 and tooth 44. The ball anchors (patrices) are screw-retained on a laboratory analogue.

Using the assembly matrix
The assembly inner matrix (2) is inserted into the retention cap (3) using the torque key (1) and fitted onto the patrix.
Assembly inner matrices with blue inserts should **not** be used as final inner matrices in the denture. They are intended only for use in the dental laboratory.

Fitting the matrices
The two matrices are fitted to the same path of insertion as the denture using the paralleling aid in the parallelometer. The undercut is blocked out using wax.

Blocking out
The two assembly matrices are blocked out using wax.

Assembly of the spacer
A cast CrCo strengthener is recommended for reasons of stabilisation. If this version is used, spacers should be fitted on the patrices using the corresponding paralleling aid.

Covering the alveolar ridge
The entire alveolar ridge base is covered with a 0.5 mm thick layer of wax.
Note: This working stage is omitted in the case of dentures without CrCo strengthener.

SIC Ball Anchorage

Instructions for use

Waxing up, CrCo strengthener
Waxed up CrCo strengthener.

Finished CrCo strengthener
Occlusal view of the cast CrCo strengthener.
Caution: The retention caps should not be connected to the CrCo strengthener (laser welded or soldered) but should only be cemented or adhesive retained using attachment adhesive or fixed in position using self-curing acrylic.

Setting up the teeth, flasking and polymerising
Labial view of the finished set-up.
The denture is then flasked and polymerised.

Inserting the inner matrix
After the denture has been finished and polished, the assembly matrix should be unscrewed and replaced by the required, final inner matrix.

Recall - replacing inner matrices
The inner matrices should be replaced at each recall appointment.
The inner matrices can be unscrewed using three turns of the torque key as required and replaced by new matrices.

SIC Ball anchor with replaceable inner matrices

Schilli Implantology Circle

Indication

Partial and hybrid dentures
Implants with a Ø 2.25 mm
ball attachment

Contra-indication

Unilateral free-end denture
without transverse
connector

Patrices

Two different patrices
2 mm and 4 mm gingival height

Inner matrices

Four inner matrices with different withdrawal forces.
Inner matrix yellow: low force approx. 600 g
Inner matrix green: standard force approx. 800 g
Inner matrix red: strong force approx. 1200 g
Inner matrix gold approx. 800 g (not illustrated)

Retention cap

Torque Rachet

Key for matrices with a preset torque of
4 Ncm = approx. 400 g

Materials

Titanium Grade 5
Composition:
Titanium alloy
Melting range:
Ti –90.0%, Al 5.5–6.5%, V 3.5–4.5%
Hardness, tempered:
1604–1660 °C, 350–385 HV5

SIC Ball and Socket Attachments

Art No.	
936157 	**SIC Ball and Socket Abutment Ø 3.3 mm, GH 2.0 mm** Diameter implant connection [mm] 3.3 Diameter prosthetic connection [mm] 3.3 Gingival height [mm] 2.0 Material Titanium Grade 5 Compatible with [mm] SICace 3.4; 4.0 SICmax 3.7; 4.2
936158 	**SIC Ball and Socket Abutment Ø 3.3 mm, GH 4.0 mm** Diameter implant connection [mm] 3.3 Diameter prosthetic connection [mm] 3.3 Gingival height [mm] 4.0 Material Titanium Grade 5 Compatible with [mm] SICace 3.4; 4.0 SICmax 3.7; 4.2
936016 	**SIC Ball and Socket Abutment Ø 4.2 mm, GH 2.0 mm** Diameter implant connection [mm] 4.2 Diameter prosthetic connection [mm] 4.2 Gingival height [mm] 2.0 Material Titanium Grade 5 Compatible with [mm] SICace 4.5; 5.0 SICmax 4.7; 5.2
936017 	**SIC Ball and Socket Abutment Ø 4.2 mm, GH 4.0 mm** Diameter implant connection [mm] 4.2 Diameter prosthetic connection [mm] 4.2 Gingival height [mm] 4.0 Material Titanium Grade 5 Compatible with [mm] SICace 4.5; 5.0 SICmax 4.7; 5.2

Schilli Implantology Circle

SIC Accessories for Ball and Socket Attachments

Art No.		
936001		**Inner Assembly Matrix, blue (for model)** Material: Titanium Grade 5 Compatible with: SIC Ball and Socket Attachments
936002		**Inner Matrix, gold, suitable for activation** Retention force [kg]: 0.8 Material: AuPt Compatible with: SIC Ball and Socket Attachments
936005		**Inner Matrix, yellow, light** Retention force [kg]: 0.6 Material: Titanium Grade 5 Compatible with: SIC Ball and Socket Attachments
936004		**Inner Matrix, green, standard** Retention force [kg]: 0.8 Material: Titanium Grade 5 Compatible with: SIC Ball and Socket Attachments
936003		**Inner Matrix, red, strong** Retention force [kg]: 1.2 Material: Titanium Grade 5 Compatible with: SIC Ball and Socket Attachments
937040		**Activator/Deactivator for Inner Matrix “gold”** Material: stainless steel for surgical devices Compatible with: SIC Ball and Socket Attachments
936006		**Torque Ratchet, 4 Ncm, Matrix** Material: stainless steel for surgical devices Compatible with: SIC Ball and Socket Attachments
936008		**Retention Cap, universal** Material: Titanium Grade 5 Compatible with: SIC Ball and Socket Attachments

Art No.		
936013		**Spacer for Retention Cap, universal** Material: POM Compatible with: SIC Ball and Socket Attachments
936015		**Paralleling Tool** Material: stainless steel for surgical devices Compatible with: SIC Ball and Socket Attachments
936610		**Lab Implant for Ball and Socket Attachments** Material: stainless steel for surgical devices Compatible with: SIC Ball and Socket Attachments
936010		**Polymerisation Aid (PCV ring), 10 pcs.** Material: PVC Compatible with: SIC Ball and Socket Attachments
936014		**Block-Out Aid (distance plate), 2 pcs.** Material: Zn Compatible with: SIC Ball and Socket Attachments

SICace Ø 3,4 mm
SICmax Ø 3,7 mm

SICace Ø 4,0 mm
SICmax Ø 4,2 mm

SICace Ø 4,5 mm
SICmax Ø 4,7 mm

SICace Ø 5,0 mm
SICmax Ø 5,2 mm

Implants from Implantologists

Schilli Implantology Circle

SIC invent AG
Birmannsgasse 3
CH-4055 Basel
Tel.: +41 (0)61 260 24 60
Fax: +41 (0)61 261 39 68
contact.switzerland@sic-invent.com

SIC invent Austria GmbH
Kohlmarkt 7/Stg. 2/58
A-1010 Wien
Tel.: +43 (0)1 533 70 60
Fax: +43 (0)1 533 70 60 50
contact.austria@sic-invent.com

SIC invent North America Inc.
contact.usa@sic-invent.com

SIC invent Deutschland GmbH
Bühlstraße 21
D-37073 Göttingen
Tel.: 0800 742 46 83 68
Fax: 0800 74 23 29 38
contact.germany@sic-invent.com

SIC invent Asia-Pacific Inc.
6F, Hyojin Bldg, 1540-5 Seocho-dong
Seocho-gu, Seoul, 137-482, Korea (ROK)
Tel.: +82 2 585 9700
Fax: +82 2 584 4411
contact.korea@sic-invent.com

www.sic-invent.com

International edition