

Z5mlc (Locator^{®*}) Implants

General note

Chapters 1–4 of the surgical and prosthetic concept are to be followed for patient treatment with Z5mlc implants.

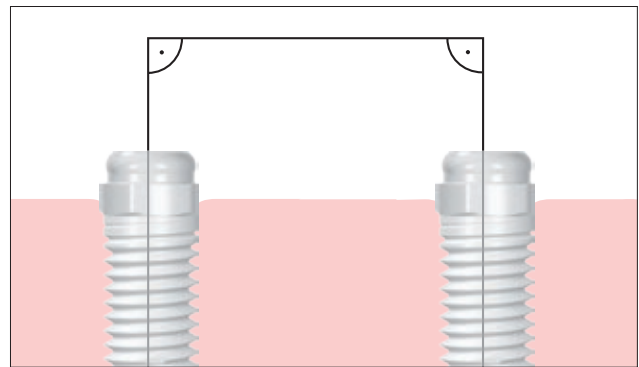
Chapter 5 describes specific features of Z5mlc implants, as well as, deviations from previously described procedures.

Clinical application (see also sec.: 2.1 / 2.2)

- Z5mlc implants are designed for surgical implantation into the edentulous upper and lower jaw for the attachment of dentures to replace missing teeth. The Z5mlc implant system is also suitable for patients with metal allergies and the chronic diseases resulting from them.
- The principle of 4-point-support is required i.e. by use of 4 Z5mlc implants.
- Maximum axial divergence of Z5mlc implants is 40° to each other.
- Z5mlc implants must be protected against any movement/loading during the osseointegration phase.
- Z5mlc implants are appropriate for vertically (height) reduced space.

Contraindications (see also section 2.1 / 2.2)

- Not suitable for combined implant and tissue supported prosthesis.
- Less than 4 Z5mlc implants per jaw.



Axial divergence

Caution: To ensure long term function of retention elements, as well as, to avoid overloading of implants, axial loading of the implants is ideal. Therefore, whenever possible, the implants should be positioned in parallel to each other and vertical to the occlusal plane. The implants should be placed at the same horizontal level to allow easy handling while removing and inserting the prosthesis.





* Locator[®] ist eingetragenes Warenzeichen von Zest Anchors, LLC

Z5m-40-10lc-25, Z5m-40-10lc-35*¹ and Z5m-40-10lc-45*¹

- Insertion depth 10 mm. Standard thread diameter, for universal use with sufficient vertical bone availability.
- Maximum axial divergence of Z5mlc implants is 40° degrees to each other.

Guided Surgery

zsystems empfiehlt die Fallplanung mittels 3-dimensionaler Röntgenaufnahme (DVT/CT) und den Einsatz einer aufgrund dieser Planung hergestellten Bohrschablone im Sinne einer «Guided Surgery», um die Achsenrichtung der Z5mlc Implantate möglichst parallel zu gestalten.

Product No.		Ø	Shoulder diameter	Insertion depth	Comments
Z5m-40-10lc-25		4.0 mm	4.4 mm	10.0 mm	Standard thread diameter, for sufficient vertical bone availability and a gingival thickness of 0.5 – 1.0 mm*.
Z5m-40-10lc-35* ¹		4.0 mm	4.4 mm	10.0 mm	Standard thread diameter, for sufficient vertical bone availability and a gingival thickness of 1.5 – 2.0 mm*.
Z5m-40-10lc-45* ¹		4.0 mm	4.4 mm	10.0 mm	Standard thread diameter, for sufficient vertical bone availability and a gingival thickness of 2.5 – 3.0 mm*.

* Depending on the favored distance between matrix and gingiva (0 – 0,5 mm).

*¹ currently not available

Implant selection gingival thickness

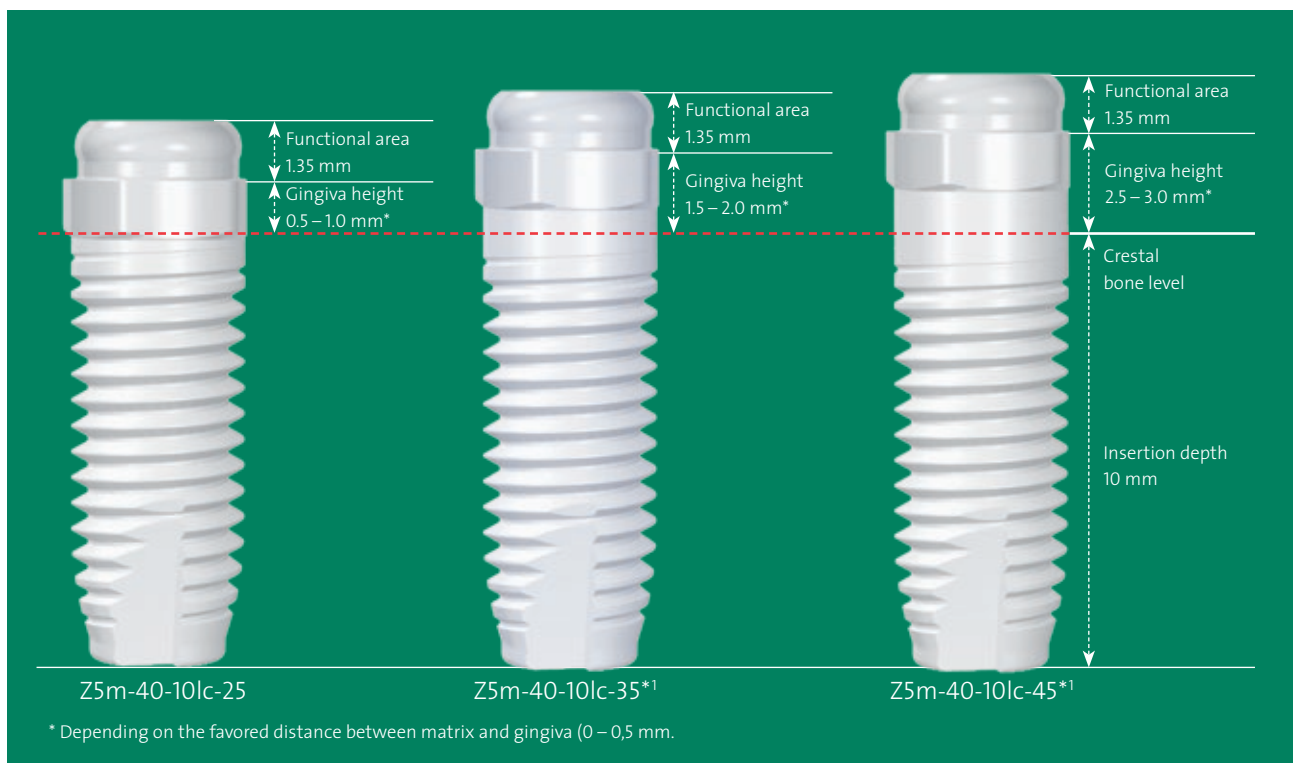
Z5mlc implants are available for 3 different gingival heights (0,5–1 / 1,5– 2,5*1 / 2,5–3,5*1 mm).

Measure the maximum gingival thickness at the planned implantation site (i.e. by using a probe with root canal measuring stop, local anaesthesia) prior to the surgery.

Choose the implant with the correct gingival height, according to the result of tissue thickness measurement

at the thickest point. If you want to produce the overdenture with 0.5 mm distance between matrix and gingiva, add 0.5 mm to this gingival height.

The correct implant choice (gingival height) allows the positioning of the functional area of the Novaloc™ prosthetic component 1.35 mm (1,85 mm, if the overdenture is produced with 0.5 mm space to gingival level) above gingival level, thus enabling correct function of the prosthetic Novaloc™ matrix.



Insertion depth and gingival height

*1 currently not available

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Drilling protocol

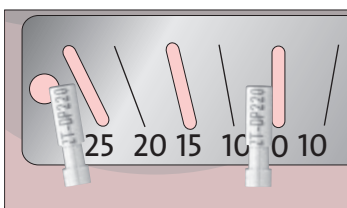
The drilling protocol for Z5mlc implants is consistent with the general drilling protocol for 4 mm diameter Z5m implants (see sec.: 3.2/3.5), although angle piece and ratchet adapters are different. Angle piece adapter Z5m-HA12lc or ratchet adapters Z5m-RA16lc / Z5m-RA24lc are to be used for LC implant insertion.

		
Z5m-HA12lc*1 Angle piece adapter 12 mm	Z5m-RA16lc Ratchet adapter 16 mm	Z5m-RA24lc*1 Ratchet adapter 24 mm
Stainless steel, for insertion of Z5mlc implants with the angle piece	Stainless steel, for insertion of Z5mlc implants with the torque ratchet	Stainless steel, for insertion of Z5mlc implants with the torque ratchet

Implant divergence

zsystems recommends an optical check of implant axis regarding parallelism by using depth gauge DP220 after pilot drilling.

Z5mlc implants can only be fitted with a prosthetic restoration if maximum axial divergence of Z5mlc implants does not exceed 40°.



Measurement of axial divergence

*1 currently not available

Axis direction must be corrected if divergences exceed 20° degrees per implant (in relation to the occlusal plane), or 40° degrees between multiple implants.

Protective device healing period

Z5mlc implants must be protected against tongue-, cheek- and chewing pressure during osseointegration (see sec.: 2.4). Most times it is appropriate to generously grind out an existing overdenture in the area of the Z5mlc implants to avoid any contact with the overdenture.

Caution: Assure position stability of overdenture!

Preparation

Z5mlc implant abutments and shoulders may not be prepared.

Matrix

For prosthetic restoration of Z5mlc implants only original Novaloc™ matrices of the manufacturer Valoc (www.valoc.ch) are recommended.

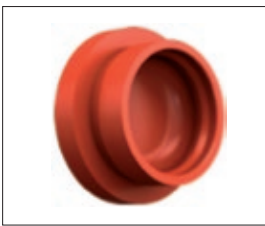


Novaloc™ PEEK-matrix,
Manufacturer: Valoc (www.valoc.ch)

Matrix housings are available from PEEK or titanium. Colour-coded retention inserts are available with different retention values (red 300 g / white 750 g / yellow 1200 g / green 1650 g / blue 2100 g / black 2550 g). The retention value (pull-off strength) can be varied easily by simple exchange of the retention insert. Please follow Valoc's (www.valoc.ch) manufacturer's instructions.

Impression taking

A Novaloc™ forming/fixing matrix (impression cap) is available for impression taking. Impression procedure is consistent with the procedure described for unprepared Z5m implants (see sec.: 4.4) using elastic impression material. Please also follow the relevant instructions of the manufacturer Valoc (www.valoc.ch).



Novaloc™ forming/fixing matrix,
manufacturer: Valoc (www.valoc.ch)

Model production

Valoc's (www.valoc.ch) product line includes corresponding laboratory analogs for production of the master model.



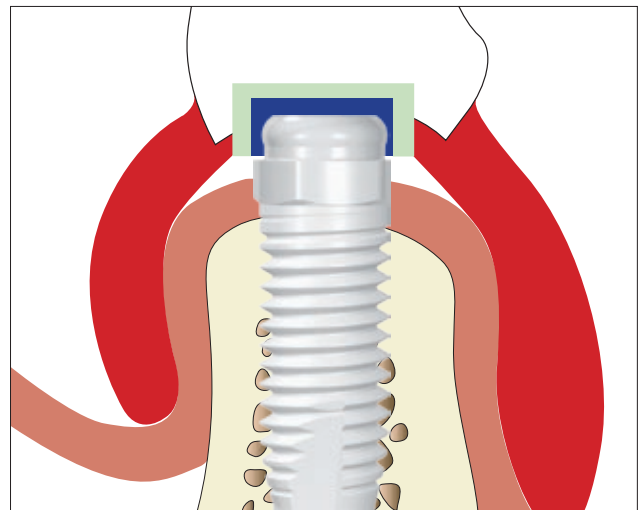
Novaloc™ laboratory analog,
manufacturer: Valoc (www.valoc.ch)

The corresponding laboratory analogs are inserted precisely into the cap. Positioning must be checked carefully. Please follow the relevant instructions of the manufacturer Valoc (www.valoc.ch).

Prosthetic restoration of Z5mlc implants

Generally it is recommended to produce a new overdenture while planning the case or after implant treatment.

Please also follow the detailed instructions of the manufacturer Valoc (www.valoc.ch) when fabricating the overdenture restoration.



Schematic picture: cross section of Z5mlc implant, Novaloc™ matrix
and overdenture

For chair-side matrix fixation into the denture, prevent any resin from entering in between the matrix and the implant abutment. This can be accomplished by placing thin foil or a rubber dam between abutment and matrix. Make sure to provide sufficient space for the matrix and the resin in the overdenture.

Try-in of the overdenture

The try-in should take place at first without the retention inserts installed in the Novaloc™ matrices. In the first step you should check the fit of the overdenture on the gingiva and in occlusion. In the second step the denture is tried in with built-in retention inserts and the retention force is adjusted.

