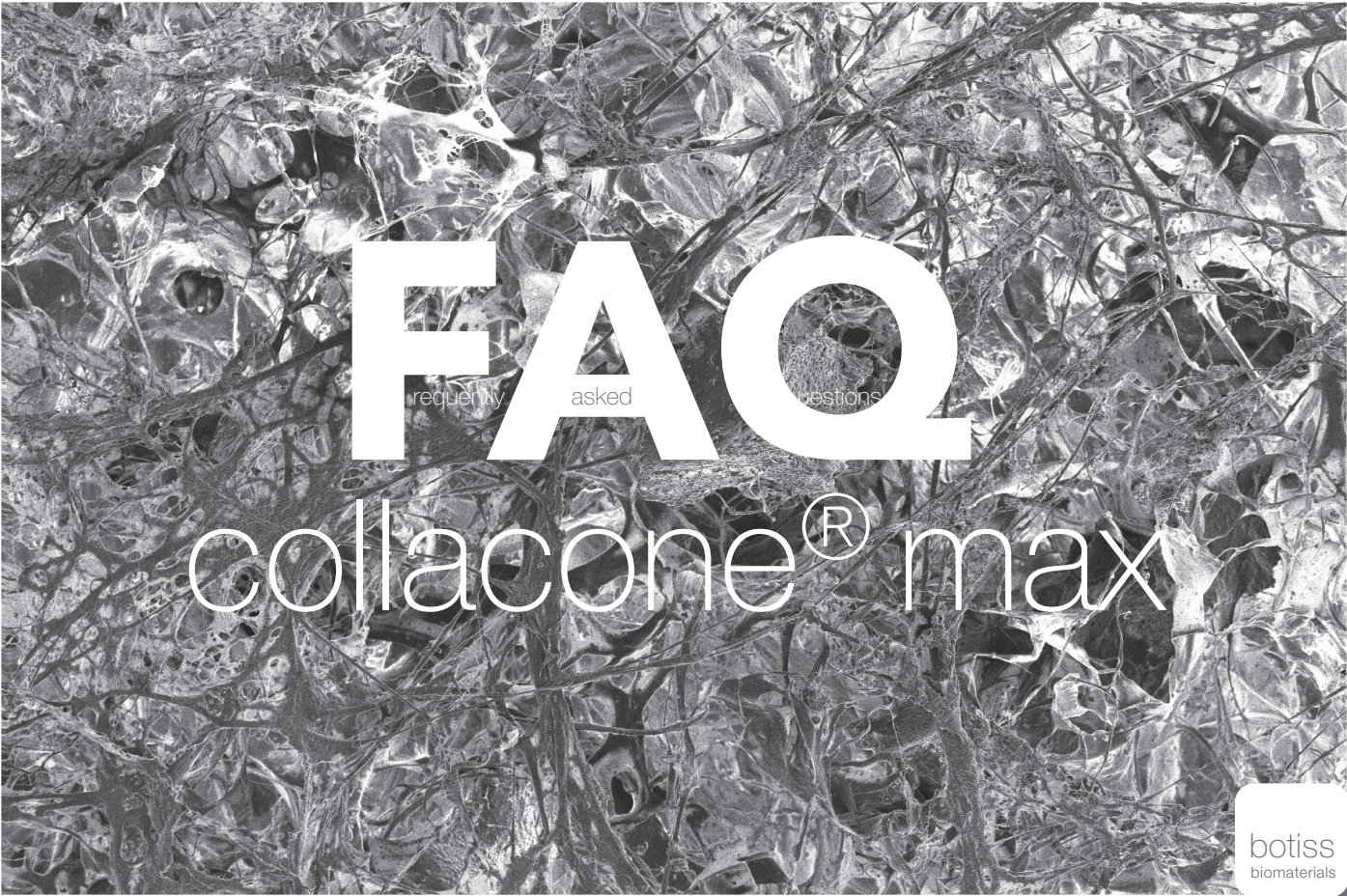




FAQ

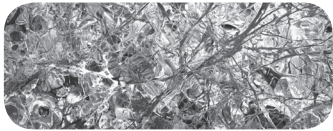
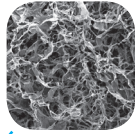
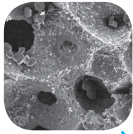
frequently asked questions

collacone® max

botiss
biomaterials

What is the composition of collacone[®] max?

What is the meaning of
biomimetic composite?



Scanning electron microscopy (SEM) images showing the microstructure of maxresorb® (top left), collagen fleece (top right), and the composite of maxresorb® particles and collagen, i.e. collacone® max

Biomimetic means mimicking the nature, while composite describes a material composed of two or more constituents. collacone® max is composed of porcine collagen and synthetic biphasic calcium phosphate granules and resembles human bone in its physical and chemical properties. Human bone is also composed of a mineral part (calcium phosphate) providing the stability and collagen giving the required flexibility.

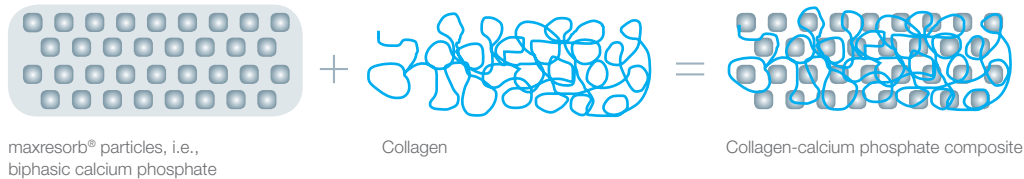
The biphasic calcium phosphate granules consist of 60% hydroxyapatite and 40% β -tricalcium phosphate (maxresorb® granules) and ensure volume stability of collacone® max and resorption at a controlled rate. The collagenous phase holds the particles in place creating a flexible cone that can be easily applied. Furthermore, the collagen provides biological signals that promote wound healing within the socket and supports the natural hemostasis.

How is collacone[®] max manufactured?

collacone® max is made of porcine collagen and biphasic maxresorb® particles.

The collagen is extracted from porcine dermis in a procedure involving multi-stage cleaning processes that effectively remove all non-collagenous proteins and antigenic components. This results in a pure collagen suspension.

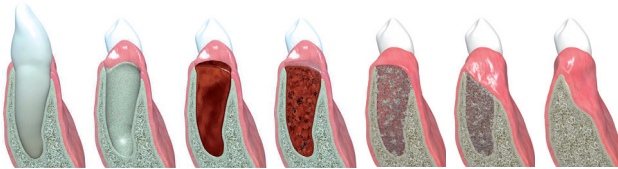
maxresorb® granules are produced by mixing hydroxyapatite and β -tricalcium phosphate (60%/40%) in a ceramic slurry; this ensures an equal distribution of the two calcium phosphate phases. The slurry is then foamed, dried and granulated. **Finally, the collagen solution is mixed with the maxresorb® granules to form a homogenous mixture that is molded into cone shape.**



What happens after tooth extraction?

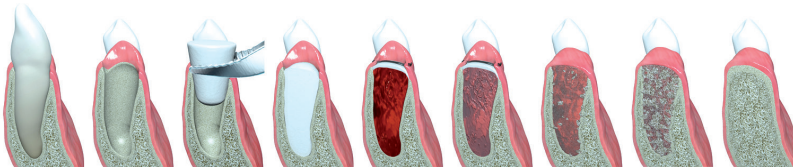
Why should I perform socket preservation with products such as collacone[®] max?

The alveolar socket is lined with bundle bone – cancellous bone, into which the periodontal fibers infiltrate. This bone is supplied with nutrients by the periodontium and resorbs after tooth extraction as parts of the periodontal ligament are destroyed during tooth removal. In the case of a thin buccal bone, the whole buccal wall may resorb.



The principal aim of socket preservation is to reduce the dimensional loss of alveolar bone and to improve the aesthetic outcome of the final prosthesis. Socket filling with a bone grafting material may not prevent resorption of the bundle bone, but surely helps maintaining the volume of the alveoli. Preserving the bone volume prevents the need for additional augmentative procedures, enables stable implant installation, diminishes soft tissue alterations and helps improving the aesthetic outcome of the final prosthesis.

collacone® max is a composite material that helps to maintain the socket space and provides a scaffold for bone ingrowth and new bone tissue formation.



How do I have to apply
collacone[®] max?

Before application of collacone® max, the socket should be cleaned carefully and thoroughly with a curette to remove all tissue remnants (and potential contaminants i.e. infection). It should be ensured that the socket is intact; in case of wall defects the additional use of a barrier membrane (i.e. Jason® membrane) has to be considered. Prior to use, the cone may be cut to size if required.

collacone® max should be applied to the socket without compression (no pressing), nor overfilling; the cone should be placed 1-2 mm below the bone crest.

collacone® max may be used in dry status, or briefly hydrated in blood. Excessive hydration of the cone prior to placement should be avoided.



Do I need to cover the socket
after application of collacone[®] max?

To prevent migration of granules and to ensure undisturbed healing a proper coverage of collacone® max is recommended. This can be achieved by repositioning the mucoperiosteal flap over the grafted site and suture it to obtain primary closure. If primary wound closure cannot be achieved completely, further mobilization of the flap (e.g. by incision through the periosteum) is needed. Alternatively, the socket can be sealed with an autologous soft tissue punch or a collagen matrix such as mucoderm® (mucoderm® punch).

Open healing is possible, but may lead to insufficient regeneration/particle integration in the most coronal part of the socket with loose particles encapsulated in the soft tissue. Open healing is also possible, if collacone® max is used as a temporary void filler when performing early implantation. In this case, the material is removed from the socket 4-8 weeks after application when the implants are inserted.

After which period can I place
implants following socket grafting
with collacone[®] max?

To ensure complete integration of the material it is recommended to place implants earliest at 5-6 months post-op. In case of earlier re-entry the material might not be completely integrated and remodeled.

The patient's health status and the indication are amongst the most crucial factors that, beside the used biomaterials, decide the time of healing and regeneration.

What is the difference between
collacone[®] and collacone[®] max?

collacone® is a pure collagen sponge without any mineral constituents. It was specifically developed and designed for application in fresh extraction sockets to stabilize the formed blood coagulum, which helps to control bleeding and supports the natural healing course. However, collacone® resorbs quickly (within 2-4 weeks) and is not appropriate to maintain and preserve the volume of the socket. Accordingly, collacone® is only suited for early implantation. To preserve the shape of the ridge on a long-term, a bone grafting material is required. **The maxresorb® particles embedded in the collacone® max help to maintain the socket space and provide a scaffold for bone ingrowth and new bone tissue formation.**

What are the clinical indications
of collacone[®] max?

Based on its cone-shape, the main indication of collacone® max is socket preservation.

However, if cut to the required size, collacone® max can also be used as a grafting material in other situations such as immediate implantation, augmentation of smaller or contained bone defects or periodontal defects. The material can also be picked in pieces with a pair of tweezers.