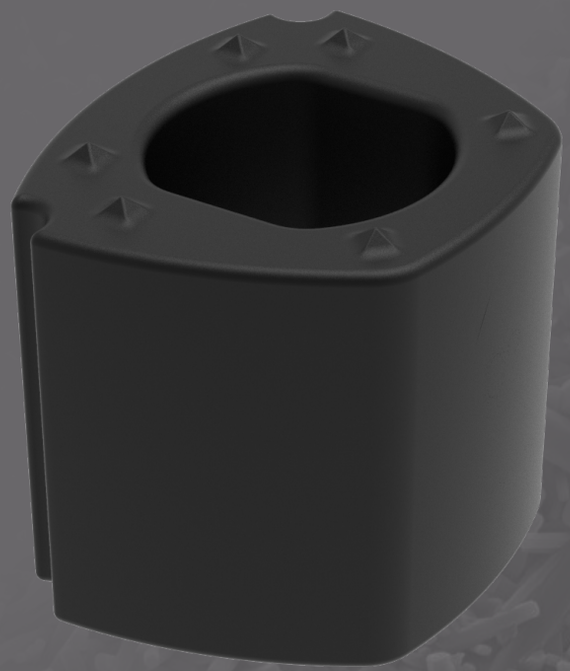
VALEO VBR

SILICON NITRIDE

CERVICAL VERTEBRAL BODY REPLACEMENT
INTERBODY FUSION DEVICES



In the race to achieve interbody fusion, material matters. And no material fosters an environment for faster fusion like silicon nitride. Featuring the ability to achieve superior new bone growth and osseointegration, along with proven bacteriostatic properties and enhanced imaging attributes, silicon nitride outperforms PEEK and titanium.

Nanotopography enhances osteoblast response, initiating faster fusion

Optimal material density enables radiotranslucent and reduced artifact imaging

Surface chemistry generates bacteriostatic properties

IMPLANT FOOTPRINTS AND SIZES

FOOTPRINTS:
16x12mm [6°]
17x14mm [6°]

HEIGHTS:
14-30mm, 1mm increments

CTL AMEDICA
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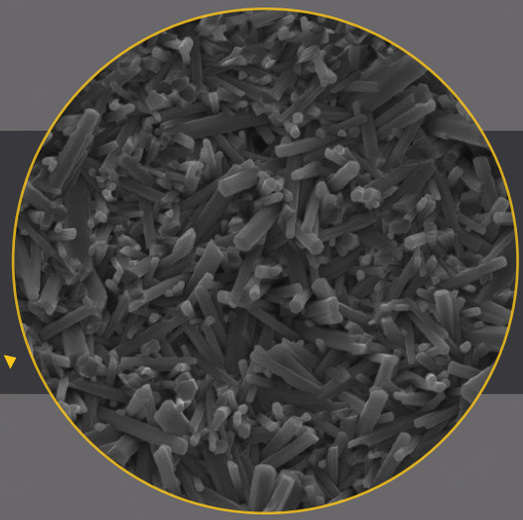
THE IDEAL BIOMATERIAL

CTL AMEDICA'S SILICON NITRIDE

Silicon nitride has the ability to achieve superior new bone growth. Along with anti-microbial properties and enhanced imaging capabilities, silicon nitride is the ideal biomaterial.



Silicon nitride's nano-texture surface at 10 microns

Faster Fusion Rates

Compared to PEEK and titanium, CTL Amedica's silicon nitride demonstrates greater new bone formation[1] and has an innate nanotopography and surface chemistry that provides an optimal environment for bone growth. The surface chemistry initiates bone growth, while the instrinsic nanotopography increases surface area. This combination of initiating bone growh with increased surface area enhances osteoblast response, accelerating the fusion process.

Enhanced Imaging Capabilities

Silicon nitride implants are radiotranslucent with visible boundaries and produce no artifact under CT or MRI; this enables an exact view of the implant for precise intraoperative placement and post-operative fusion assessment.

Proven Bacteriostatic Properties

The negative surface charge of silicon nitride repels bacteria and prevents biofilm formation[2], reducing the chance of infection. The hydrophilic surface creates a molecular water barrier preventing the adhesion of bacteria.

REFERENCES:

1. Webster TJ, Patel AA, Rahaman MN, et al. Anti-infective and osteointegration properties of silicon nitride, poly(ether ether ketone), and titanium implants. Acta Biomater. 2012;8(12):4447-4454. doi: 10.1016/j.actbio.2012.07.038. Epub 2012 Jul 31.
2. Gorth DJ, Puckett S, Ercan B, et al. Decreased bacteria activity on Si_3N_4 surfaces compared with PEEK or titanium. Int J Nanomedicine. 2012;7:4829-4840.

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