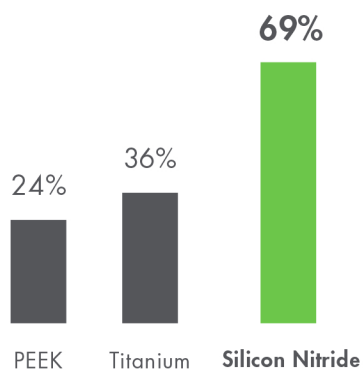




JUST THE FACTS



Percent of new bone around implant at 90 days¹

In the race to achieve 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 osseointegration³, along with proven bacteriostatic properties^{1,2} and enhanced imaging attributes⁴, **silicon nitride outperforms PEEK and titanium***.

ENHANCED OSTEOGENIC RESPONSE

The surface chemistry and natural nanotopography of silicon nitride provide an optimal environment for stimulation of osteoprogenitor cells to differentiate into osteoblasts.

GREATER PROTEIN ADSORPTION

Silicon nitride demonstrates significantly greater protein adsorption (fibronectin, laminin and vitronectin) in comparison to PEEK and titanium.²

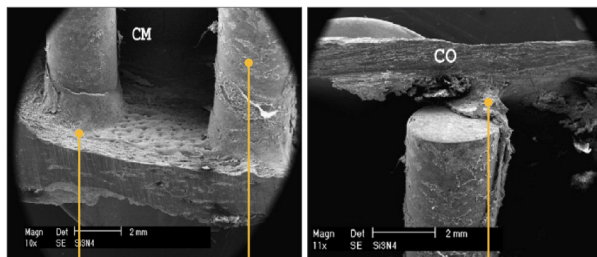
GREATER NEW BONE FORMATION

Silicon nitride implants demonstrate greater new bone formation at 3, 7, 14 and 90 days compared to PEEK and titanium; regenerated bone associated with silicon nitride implants is 2 to 3 times that of PEEK and titanium implants at 3 months after surgery.¹

INCREASED OSSEointegration

Silicon nitride implants demonstrate increased osseointegration at 3, 7, 14 and 90 days compared to PEEK and titanium; percent of bone at silicon nitride implant interface is 2 to 6 times that of PEEK and titanium implants at 3 months after surgery.¹

Silicon Nitride Rods³



Cortical Bone Trabecular Bone Remnants Bridging Bone

DEMONSTRATED ANTI-BACTERIAL PROPERTIES

Silicon nitride inhibits bacterial colonization and biofilm formation. Silicon nitride demonstrates significantly lower biofilm formation at 4, 24, 48 and 72 hours as compared to PEEK and titanium; live bacteria (*S. epidermidis*, *S. aureus*, *P. aeruginosa*, *E. coli* and *Enterococcus*) associated with silicon nitride implants are 8 to 30 times lower than PEEK and titanium.²

DEMONSTRATED BACTERIOSTATIC AGENT

No infection is observed with bacteria-inoculated silicon nitride implants at 3 months*, whereas both PEEK and titanium implants maintain a septic state. Silicon nitride demonstrates this property even in the absence of antibiotics.¹

SUPERIOR IMAGING PROPERTIES

COMPATIBLE WITH ALL IMAGING MODALITIES⁴

Silicon nitride implants are semi-radiolucent with clearly visible boundaries, and produce no distortion under MRI and no scattering under CT; this enables an exact view of the implant for precise intraoperative placement and postoperative fusion assessment.



Radiographic image of two Valeo® II C silicon nitride implants.

CALL 855.839.3500 OR VISIT US AT SINTX.COM TO DISCOVER WHY MATERIAL MATTERS.



REFERENCES

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* Based on *in vitro* and animal study results.

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