Products for

neurosurgery
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**CRANIOTOMY**

- **Cranial Loop™**
  - PEEK fixation

- **SonicWeld Rx®**
  - Resorbable fixation

**CRANIOPLASTY**

- **Mesh**
  - Standard and smart mesh

- **Level One Plating**
  - Titanium fixation
PCl
every one is unique

CranioSculpt™
bone void filler

SPECIALTY

Neuroendoscopy
instruments and implants

Specialty Items
instruments and special items

- product not to scale unless otherwise noted -
Craniotomy

When securing the cranial flap, you need a device that is simple, fast, and meets your demands. KLS Martin® meets this requirement with three ideal solutions. For permanent fixation, we offer our proven Level One titanium fixation system and the fast, easy-to-use, radiolucent Cranial Loop™ PEEK fixation system. If you require a resorbable material, we offer the most innovative resorbable fixation system in the world, SonicWeld Rx™.
Level One Plating
titanium fixation

Cranial Loop™
PEEK fixation

SonicWeld Rx™
resorbable fixation
Titanium fixation has been the gold standard of cranial fixation due to its proven strength and ease of use. KLS Martin® led the marketing in the 1990’s with the first drill-free screw, and has continued to evolve our offering of titanium through our partnership with major neurosurgery institutions. Our Low Profile and Ultra Low Profile plating sets provide a strong and minimally palpable system, while our offering of specialty burr hole covers, plates, and storage options matches your surgical technique.
CRANIAL LOOP™

INSTRUMENT-FREE
Fast & easy implantation

CT/MRI ARTIFACT-FREE
100% PEEK-OPTIMA®

HIGH STRENGTH & SAFETY
Double-locking mechanism

3D ADAPTATION
Guarantees minimal profile

For additional product information, please refer to brochure Cranial Loop™.
REF: FC050000
- Osteotomy line device
- 12 mm diameter
- Low profile design

REF: FC050100
- Osteotomy line device
- 16 mm diameter
- Low profile design

REF: FC050200
- Burr hole device
- 22 mm diameter
- Low profile design

Manufactured by:

NEOS SURGERY S.L.
www.neosurgery.com

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SonicWeld Rx™
resorbable fixation

The SonicWeld Rx™ revolutionary process creates welded three-dimensional osteosynthesis utilizing a resorbable polymer pin and sonic vibration.

The process is simple, fast, and has more holding power than standard resorbable screws.

For additional product information, please refer to brochure SonicWeld Rx® Restoring Nature.
Cranioplasty

An ideal implant for cranioplasty maximizes strength and perfectly restores the symmetry. This ideal solution is a KLS Martin® Patient Contoured Implant (PCI) based on the patient's CT Scan. At times, you will not have time to create and order an implant. You need a product right off the shelf. KLS Martin® has not only a wide variety of geometries and 3D adaptable patterns, but also Smart Mesh shapes that fit an average skull and require only minimal modification. When you need to fill and contour defects, CranioSculpt™ bone void filler provides the ideal properties you are looking for.
Mesh
standard and specialty

Smart Mesh
CT based average shapes

PCI
each one is unique

CranioSculpt™
bone void filler
Mesh

standard and specialty patterns

This large selection of ‘flat’ off-the-shelf titanium mesh is designed for quick and easy-to-use reconstruction for a variety of small to large size defects. Ranging from 0.2 mm to 1.0 mm in profile, each piece is designed to provide adequate protection, yet still be easily adapted to follow the contours of the patient’s skull.
Smart Mesh

*standard approach mesh (SAM)*

KLS Martin® pioneered the use of CT based information to create a unique set of “off-the-shelf” pre-contoured solutions for some of the most common neurosurgery approaches. The unique design is slightly malleable to allow for proper fit to each individual patient, but rigid enough to provide adequate protection with outstanding cosmetic results for the patient. Ready at anytime, each piece is available pre-packed sterile, or in a sterilizable storage tray.
Smart Mesh

universal and Hybrid mesh

These unique pre-contoured ‘off-the-shelf’ mesh pieces provide the surgeon with flexibility in the OR for those tough cases where the defect location may not always be known. The universal mesh pieces provide you with an average contour solution that will fit most areas of the cranium. The new Hybrid mesh combines the rigid and protective features of our standard approach mesh design, along with the malleability of our 3D mesh design. This piece is designed for major frontal bone defects, but can quickly be trimmed to provide a universal fit over other locations of the cranium.
**PCI**

**PEEK, titanium and SLM**

The ideal solution in bone reconstruction, PCI's use the patient’s CT scan to create the ideal shape and strength titanium or PEEK implant. Our PEEK implants are offered solid or with holes, and can be customized with additional features based on your surgical preference. Our custom titanium implants are unlike anything else on the market. In addition to our proven milling and pressing processes, we now offer a Selective Laser Melting (SLM) custom titanium implant. This form of 3D metal printing allows us to make shapes and sizes that were impossible by prior methods. So whether it is PEEK, titanium or a combination of both, KLS Martin® has a custom implant solution for your needs.
KLS Martin® offers both a fast-setting and slower-setting CranioSculpt™ bone void filler. Both Form and Flow versions of CranioSculpt™ possess the same great advantages. They are biocompatible, allow for natural bone remodeling or healing, and are easy to prepare and deliver. In the body, they set fast and have excellent mechanical properties in terms of compression, tension, flexural and fracture toughness.

**Porosity / Material Info**
CranioSculpt™ is similar in composition to the mineral phase of bone. A calcium phosphate starting powder reacts with diluted sodium silicate liquid, and undergoes a non-exothermic chemical reaction to form low crystalline hydroxyapatite, which hardens in vivo to create an osteoconductive scaffold.

Histology analysis demonstrated that CranioSculpt™ is highly biocompatible and osteoconductive. Histological sections were examined following four weeks and six months in vivo and showed extensive bone apposition with no adverse tissue reaction. Normal bone remodeling by localized cell-mediated resorption coupled with new bone formation within the implanted area was a consistent finding in areas of CranioSculpt™.
Bone
Bone void filler
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Tough
An in vivo biomechanical study comparing Craniosculpt™ to cancellous bone was performed at four weeks and six months post-implantation. This study shows Craniosculpt™ maintains approximately twice the strength as cancellous bone during remodeling.
Neuroendoscopy

instrumentation and implants

As an expert in instrumentation and implant manufacturing, leaders in many specialties have relied on us to create innovative designs that suit their cutting-edge surgical approaches and techniques. The result is several unique dissector sets and implants, designed specifically for endoscopic-assisted neuroendoscopy procedures. Each dissector is designed to give you a solid, well-balanced feel while still maintaining long reach and control in small spaces. They also work well for standard microsurgery procedures. Each of the sets are interchangeable, which allows you to customize a set that suits your individual needs. Last but not least, we offer a unique selection of resorbable plates for sella wall reconstruction.
Specialty Instruments

KLS Martin has over 100 years of experience making high quality surgical instruments. The use of state-of-the-art technology by skilled craftsman with generations of surgical instrument-making experience has resulted in the finest array of surgical instruments in the industry.

For additional product information, please refer to the KLS Martin Surgical Instrument Catalog.