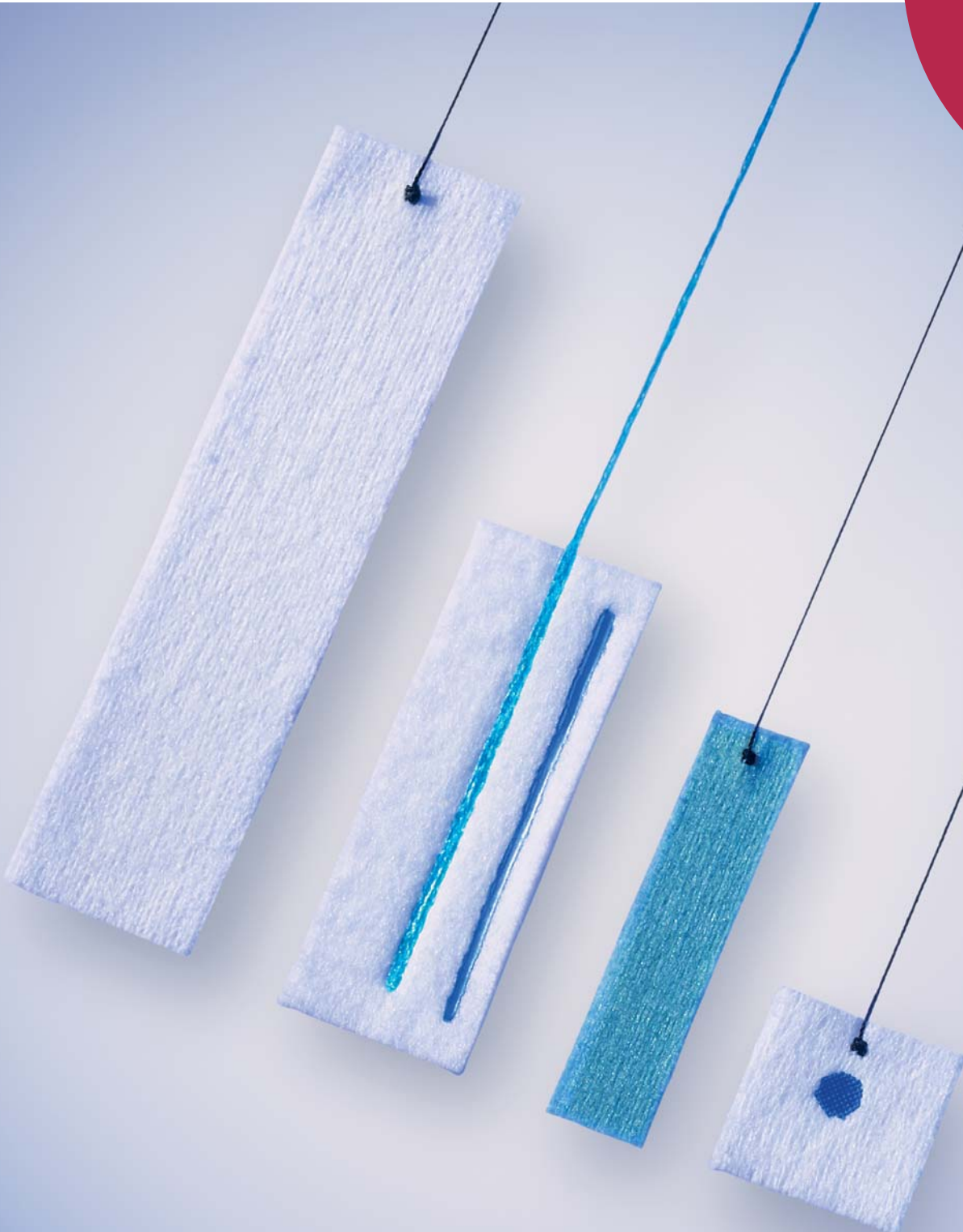


Neurosorb®

Surgical patties for highest standards



Neurolint®
becomes
Neurosorb®





Neurosorb® patties an expert view

Neurosurgical patties are one of the indispensable aids used everyday in operations on the brain and spine. The fact that there have been no new developments for years does not however mean that the ultimate state has already been reached. Analyses of the current situation have shown that

there is potential for further optimization in the materials used as well as the size and packaging of the neurosurgical patties. From the application point of view, neurosurgical patties perform two main functions: Firstly, patties serve as statically used brain spatula patties. They are placed between the brain spatula and the surface of the brain, and remain there for a comparatively long period of time, cushioning the spatula against the brain and alleviating the effect of the spatula edges.

Secondly, patties serve as dynamically used preparation patties for the following tasks:

- pushing aside tissue
- cushioning suction cannulas and other micro instruments
- holding back parts of the brain, vessels or spinal nerve roots
- moistening and swabbing
- applying pressure to tiny blood vessels
- as a suction underlay

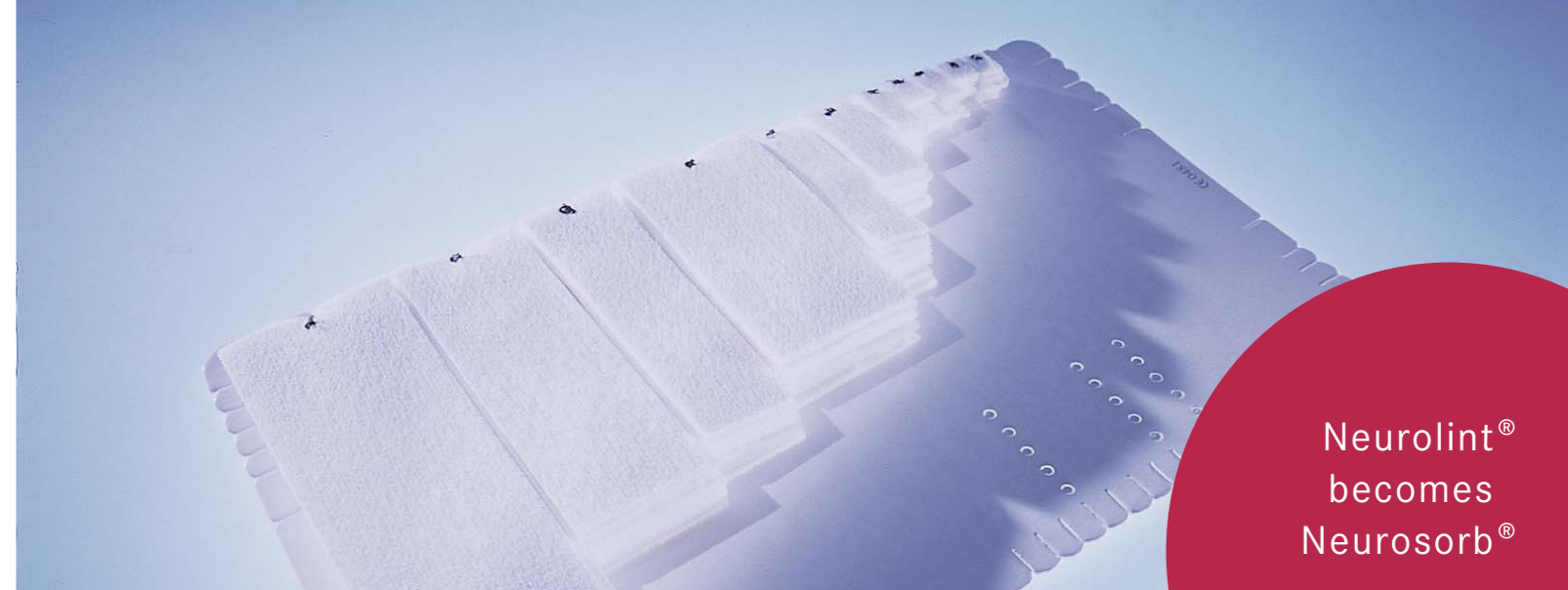
None of the neurosurgical patties that have been available on the market until now meet all the necessary requirements to cover the vast variety of functional differences present in today's market. With VOSTRA® neurosurgical patties, a new range of products has been developed with a wide programme of sizes, materials and features to satisfy the widest variety of surgeons' requirements.

The product range consist of two basic materials (fleece) with different properties like weight per square metre (gsm), material strength and their surface. The range consists of a low-reflection green neurosurgical patty which can be used in longer microsurgical operations. Apart from the ability to choose the individual material best suited for a particular purpose, the comprehensive range of sizes guarantees that the surgeon is always optimally equipped with neurosurgical patties. The time consuming and therefore expensive and wasteful practice of the surgical team cutting patties to size in the operating room can be completely avoided through the use of VOSTRA® patties.

The VOSTRA® Indication Sets provide the surgeon with a constant, optimum collection of neurosurgical patties for all important surgical indications. Using these Indication Sets ensures optimum efficiency in terms of costs and operation logistics, particularly with alternating surgical teams. The remaining neurosurgical patties in already opened single sets do not have to be thrown away and new packages do not need to be opened. Furthermore, each patty size and each indication set can be put together according to the individual wishes of the surgeon.

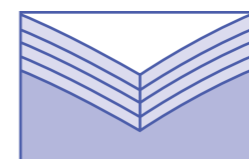
The development of the VOSTRA® product range presents the most frequently used "tool" of the neurosurgeon for the first time in an optimized form which is tailored to the specific requirements of the surgical procedure and the preferences of the individual surgeon.

Professor Dr. Joachim Michael Gilsbach
Director of the Neurosurgical Department,
University Hospital RWTH Aachen

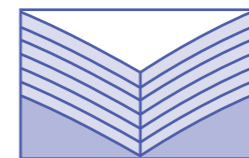


Neurolint®
becomes
Neurosorb®

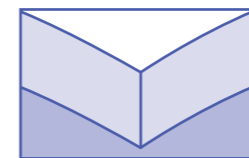
Neurosorb® patty-materials



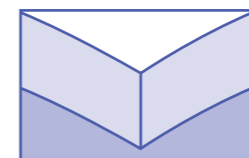
Neurosorb® 4 white
100% cotton, 4 layer
Best moulding and
modelling capacity



Neurosorb® 6 white
100% cotton, 6 layer
Greatest absorption
capacity



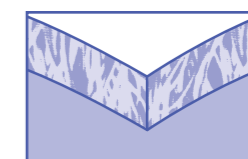
Neurosorb® CL white
100% cotton
Inherently stable



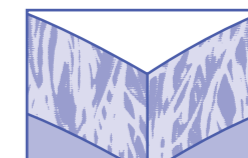
Neurosorb® 100 white
100% cotton
Preparational patty for
cranial application



Neurosorb® 100 green
100% cotton
Preparational patty for
cranial application,
no distracting light reflection



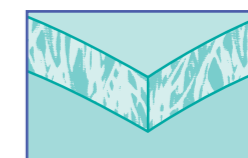
Neurosorb® 75 white
100% viscose
Highest tensile strength



Neurosorb® 140 white
100% viscose
Robust, for spinal applications



Neurosorb® 175 white
100% Viskose
Compact, highest form
stability and absorption
capacity

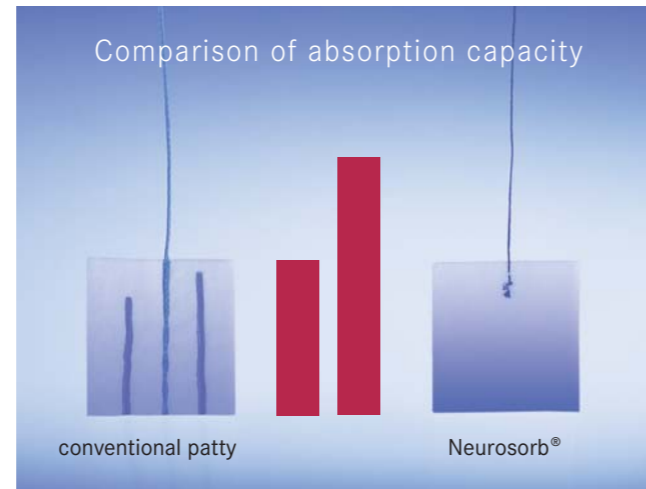


Neurosorb® 75 green
100% viscose
Highest tensile strength,
no distracting light reflection

Neurosorb®

essential properties

VOSTRA® Neurosorb® patties are manufactured from 100% cotton or viscose in a special needle and water jet process. All Neurosorb patties have the six essential properties of a neurosurgical patty:



1. High Absorption Capacity

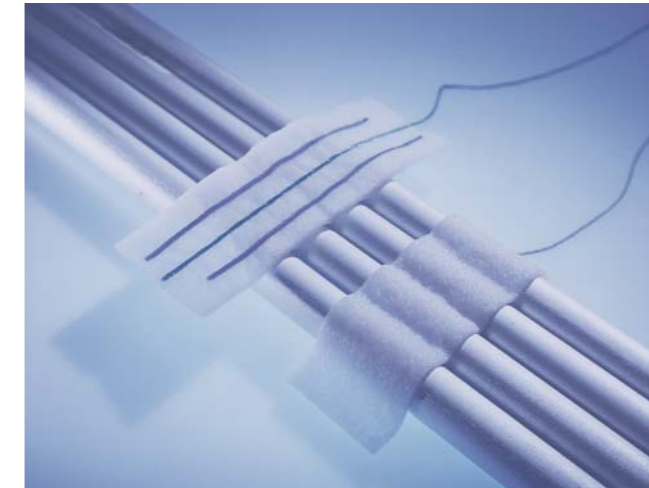
Neurosorb® patties can absorb up to 10 times their own weight of fluid, whereas conventional patties only absorb 5 to 6 times their own weight.

2. No Adhesion to the underlying Surface

Thanks to their high absorption capacity, Neurosorb® patties keep the underlying tissue moist, even over longer time periods, and are effective in avoiding adhesion.

3. No Linting or Fraying

Sophisticated techniques in the manufacturing process guarantee optimal consistency and perfect cohesion of the material fibres.



4. Ideal Softness, Flexibility and Adaptability

Neurosorb® patties are absolutely position-stable. They adapt immediately to all surface structures and remain in this position without springing back, thus providing excellent protection.

5. Excellent moulding and modelling capacity

For the preparation procedure, every Neurosorb® patty can be quickly and easily moulded into any required shape.

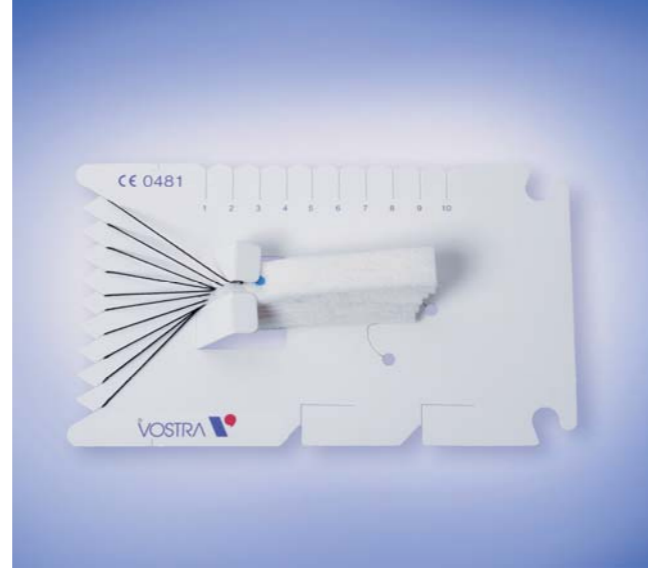
6. High Tensile Strength

Neurosorb® patties can resist even high levels of stress.



Neurosorb®

Configurations



Neurolint® becomes Neurosorb®

Neurosorb® Single Sets

VOSTRA® Neurosorb® patties are available as single set in any size a surgeon specifies. The range currently starts with microsized (4 x 6 mm; 1/6 x 1/4") for keyhole neurosurgery or the preparation of extremely delicate structures. For major tumor surgery or for covering and protecting larger surfaces we provide large Neurosorb® patties (150 x 150 mm; 6 x 6"). The time-consuming task of cutting Neurosorb® patties to size is no longer necessary.

Packaging unit for single sets:

1 box of 20 to 30 sets depending on size; each set contains 10 patties. If needed, packaging may be adapted according to surgeon's needs.

Neurosorb® Individual Sets

Any size of Neurosorb® patties are available for composing individual sets as specified by the customer: The surgeon can choose from micro-sizes (4 x 6 mm; 1/6 x 1/4") for keyhole neurosurgery or the preparation of extremely delicate structures to large Neurosorb® patties (150 x 150 mm; 6 x 6") for major tumor surgery or protection of larger surfaces. The time-consuming task of cutting Neurosorb® patties to size is no longer necessary.

Packaging unit for individual sets:

1 box of 20 sets; each set contains the number of patties as specified by the customer.

Neurosorb® Indication Sets

For the first time, specially preconfigured Neurosorb® patty sets are now available for neurosurgical procedures such as aneurysm and angioma operations, tumor surgery, pituitary and intervertebral disc operations and many more.

Neurosorb® X-Ray Contrast Marking

All Neurosorb® patties are available with or without x-ray marking. There are six different variants which the surgeon can choose from starting with x-ray dot markings, x-ray thread markings covering half the length of the patty or full length. Depending on the variant chosen, the patty properties such as pliability, strength and surface roughness can be influenced leading to altered modelling characteristics. The surgeon can hereby individually determine properties like softness, flexibility and mouldability.

Neurosorb® String

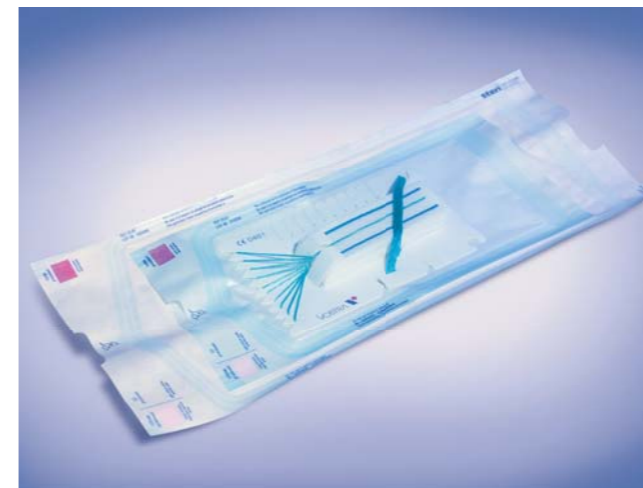
Neurosorb® patties can either be delivered with a sewed or welded string that will yield different patty properties according to the attachment mode chosen. Both manufacturing processes guarantee a 100% safe and high-tensile fixation.

Neurosorb® Carrier Card

All Neurosorb® patties are delivered on a carrier card if not otherwise specified. The customer chooses between a convenient counting card and a simple carrier card. The counting card allows for easy verification and counting of the patties whereas the simple carrier card is used if en bloc removal of all patties is indicated.

Neurosorb® Sterile Packaging

All Neurosorb® patties are supplied in double sterile pouches to guarantee the greatest possible safety and sterility during hand-over and storage.

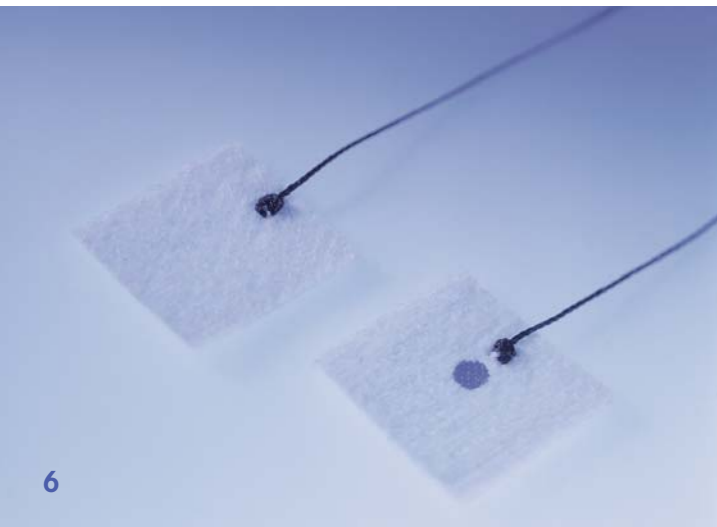


Neurosorb® Boxes

All Neurosorb® boxes have a tear-off flap on the front to allow for easy removal of the sterile packages even when the boxes are stacked.

Neurosorb® Size Label

Each Neurosorb® box (single sizes only) contains a size label on which the patty size is displayed on a scale 1:1. This label can be placed anywhere on the box to allow for quick and easy identification of the content.



Set Aneurysm

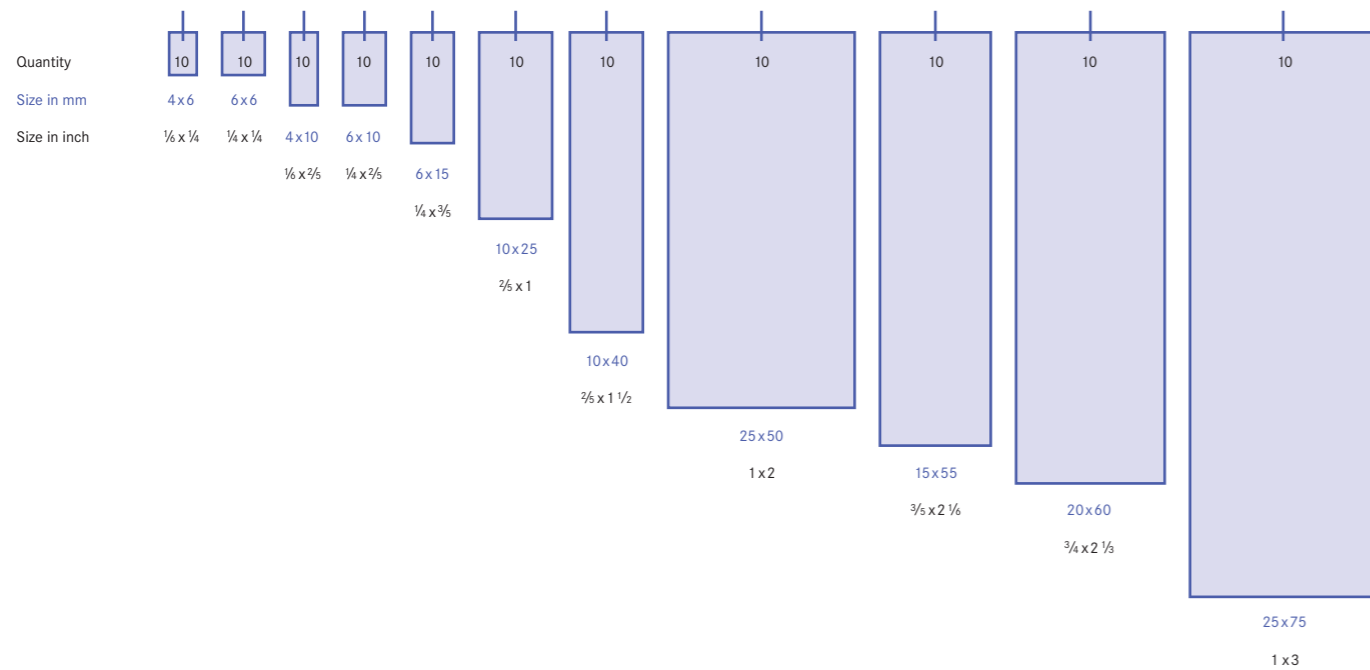


Packaging unit
1 box of 20 sets, each set contains 11 sizes

Configuration
All Indication Sets are available with a multitude of options which the customer can chose from:

- nine different base materials
- string sewed or welded
- with or without x-ray marking (six variants)
- counting card or simple carrier card

Size and quantity of Neurosorb® patties per set



Set Angiom

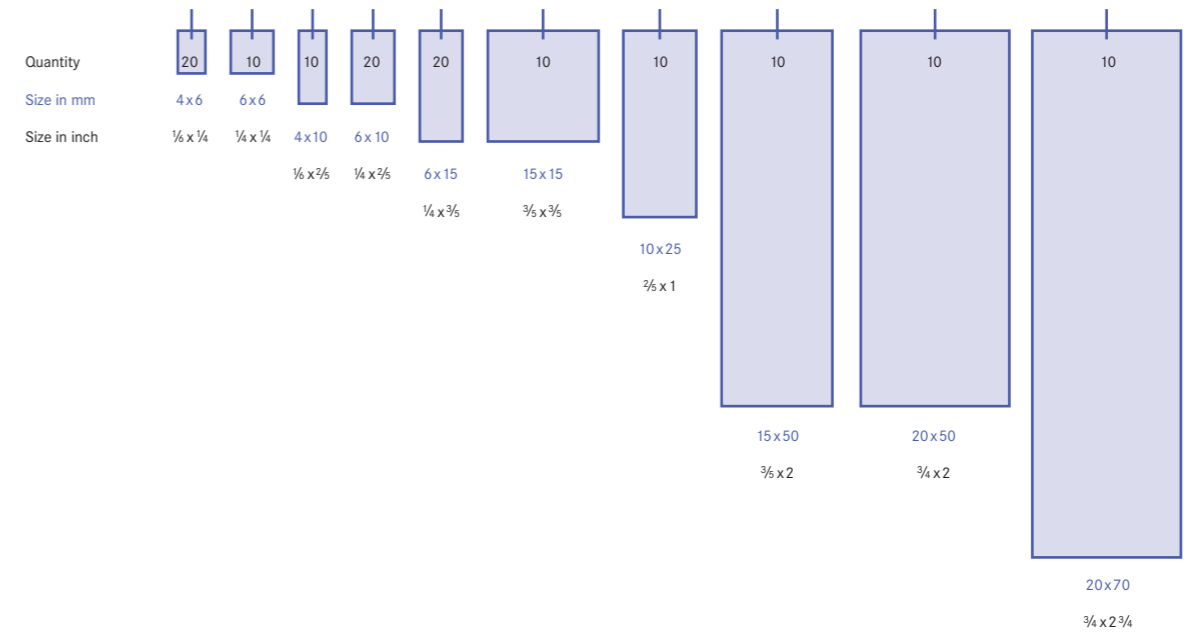


Packaging unit
1 box of 20 sets, each set contains 10 sizes

Configuration
All Indication Sets are available with a multitude of options which the customer can chose from:

- nine different base materials
- string sewed or welded
- with or without x-ray marking (six variants)
- counting card or simple carrier card

Size and quantity of Neurosorb® patties per set



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Indication Sets

Set Tumor 1

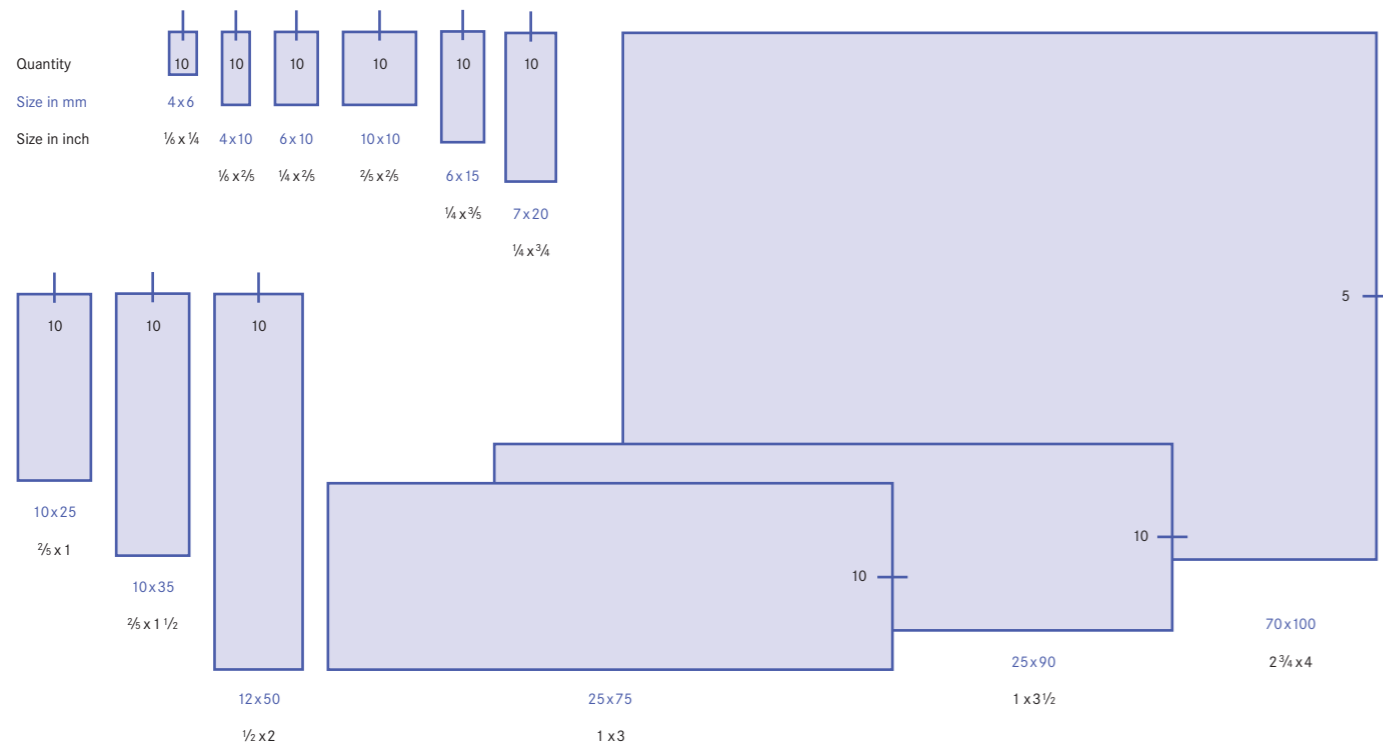


Packaging unit
1 box of 20 sets, each set contains 12 sizes

Configuration
All Indication Sets are available with a multitude of options which the customer can chose from:

- nine different base materials
- string sewed or welded
- with or without x-ray marking (six variants)
- counting card or simple carrier card

Size and quantity of Neurosorb® patties per set



Set Tumor 2

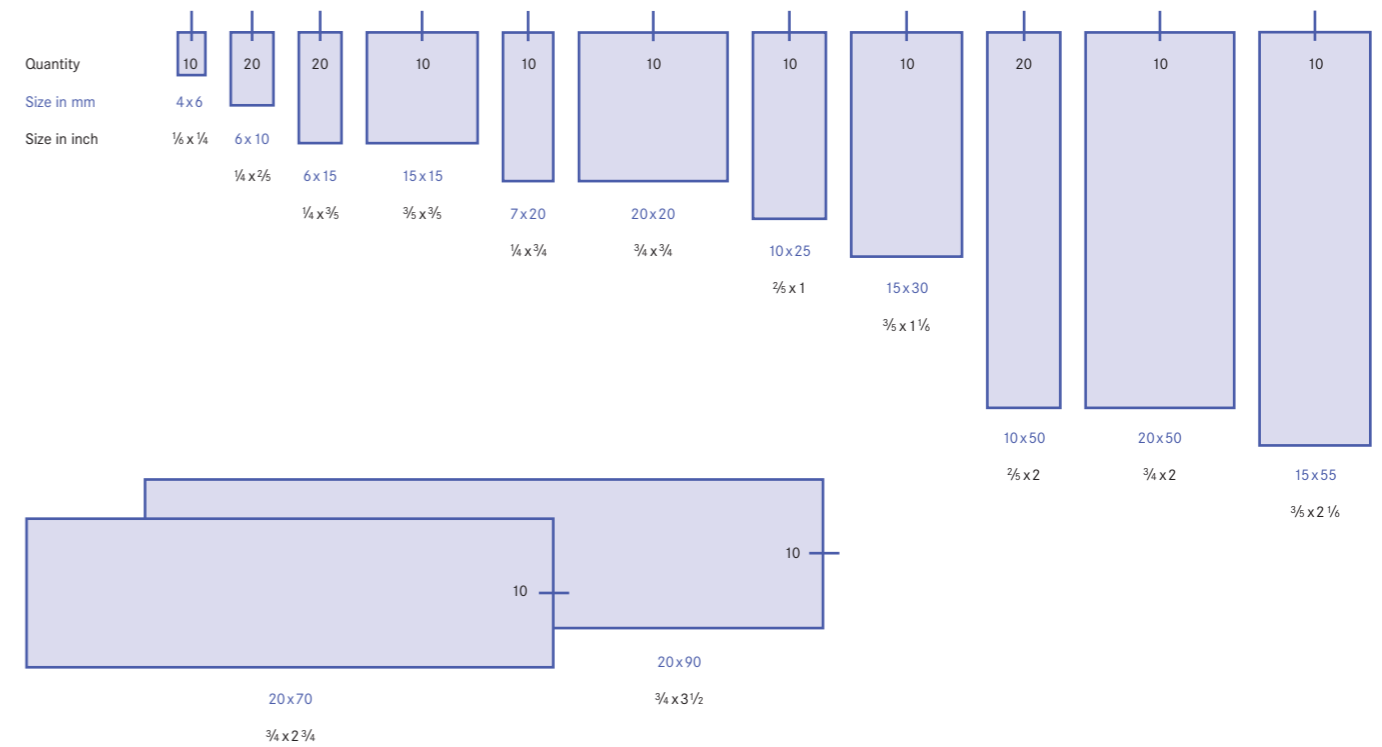


Packaging unit
1 box of 20 sets, each set contains 13 sizes

Configuration
All Indication Sets are available with a multitude of options which the customer can chose from:

- nine different base materials
- string sewed or welded
- with or without x-ray marking (six variants)
- counting card or simple carrier card

Size and quantity of Neurosorb® patties per set



Neurolint® becomes Neurosorb®

Set Pituitary



Packaging unit

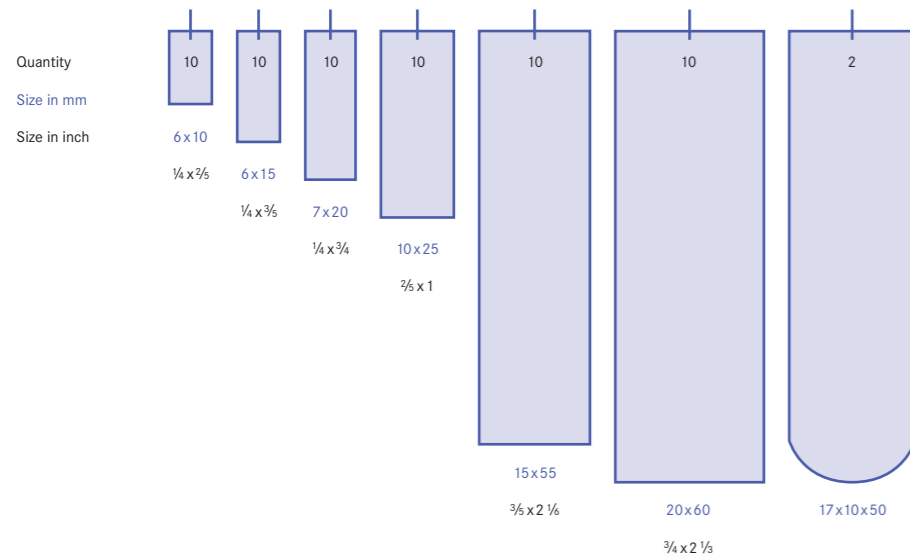
1 box of 20 sets, each set contains 6 sizes,
2 Rhinotamp® nasal tamponades

Configuration

All Indication Sets are available with a multitude of options which the customer can chose from:

- nine different base materials
- string sewed or welded
- with or without x-ray marking (six variants)
- counting card or simple carrier card

Size and quantity of Neurosorb® patties/Rhinotamp® per set



Set Shunt



Packaging unit

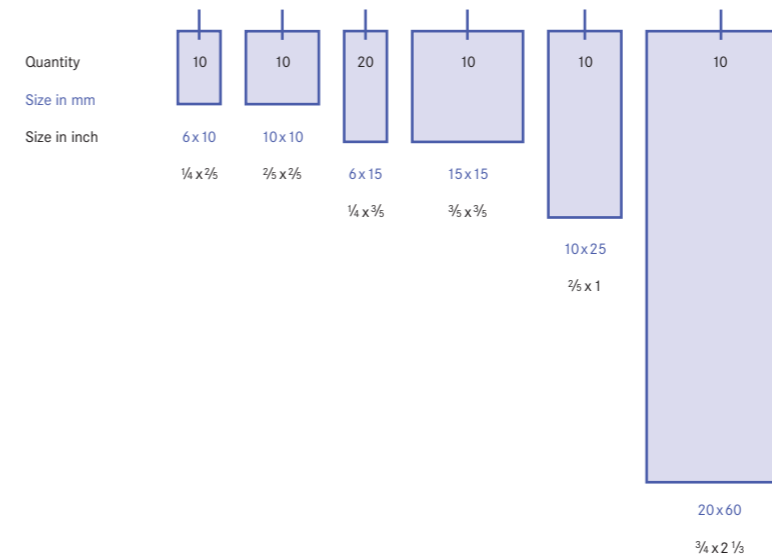
1 box of 20 sets, each set contains 6 sizes

Configuration

All Indication Sets are available with a multitude of options which the customer can chose from:

- nine different base materials
- string sewed or welded
- with or without x-ray marking (six variants)
- counting card or simple carrier card

Size and quantity of Neurosorb® patties per set



Neurolint®
becomes
Neurosorb®

Set Bypass



Packaging unit

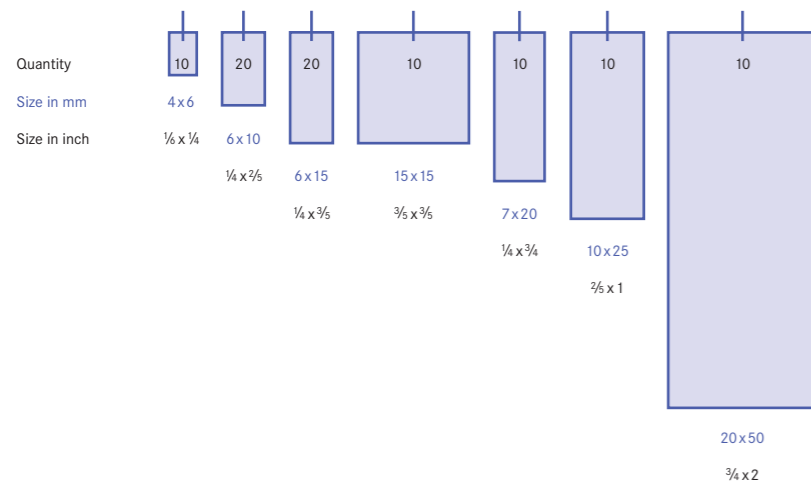
1 box of 20 sets, each set contains 7 sizes

Configuration

All Indication Sets are available with a multitude of options which the customer can chose from:

- nine different base materials
- string sewed or welded
- with or without x-ray marking (six variants)
- counting card or simple carrier card

Size and quantity of Neurosorb® patties per set



Set Orbital



Packaging unit

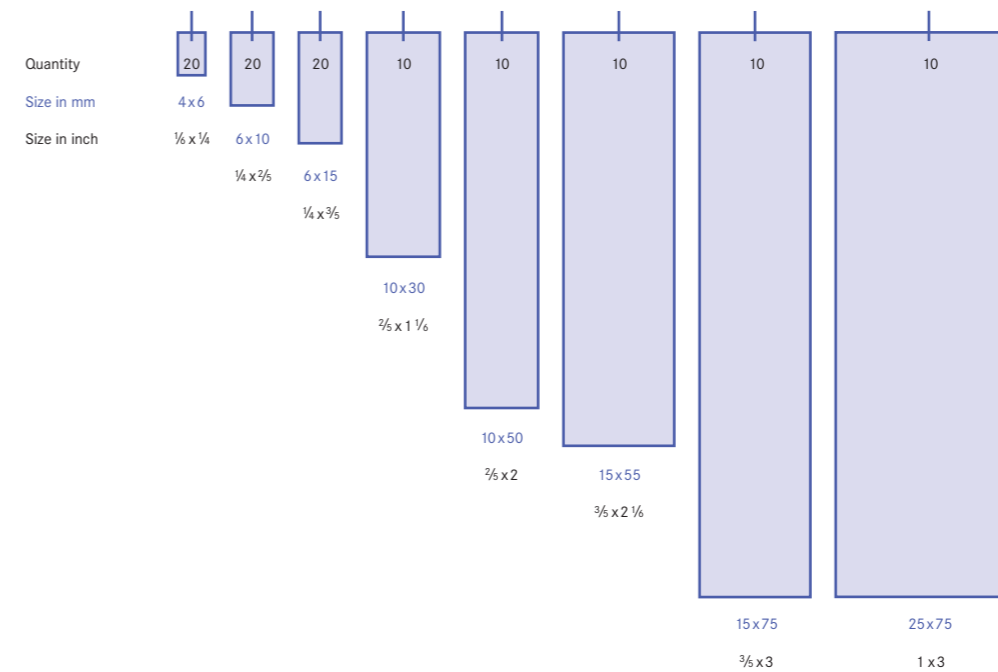
1 box of 20 sets, each set contains 8 sizes

Configuration

All Indication Sets are available with a multitude of options which the customer can chose from:

- nine different base materials
- string sewed or welded
- with or without x-ray marking (six variants)
- counting card or simple carrier card

Size and quantity of Neurosorb® patties per set



Neurolint®
becomes
Neurosorb®

Neurosorb®

Indication Sets

Set Spinal Disk

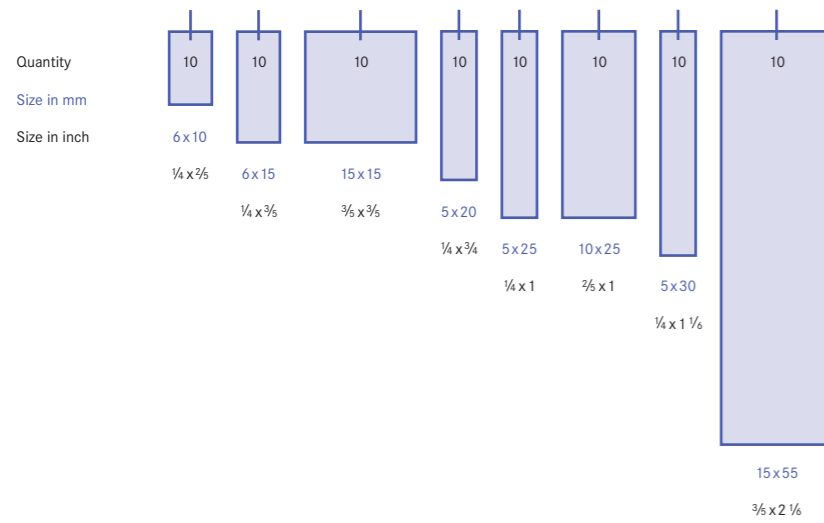


Packaging unit
1 box of 20 sets, each set contains 8 sizes

Configuration
All Indication Sets are available with a multitude of options which the customer can chose from:

- nine different base materials
- string sewed or welded
- with or without x-ray marking (six variants)
- counting card or simple carrier card

Size and quantity of Neurosorb® patties per set



Set Spinal Cord

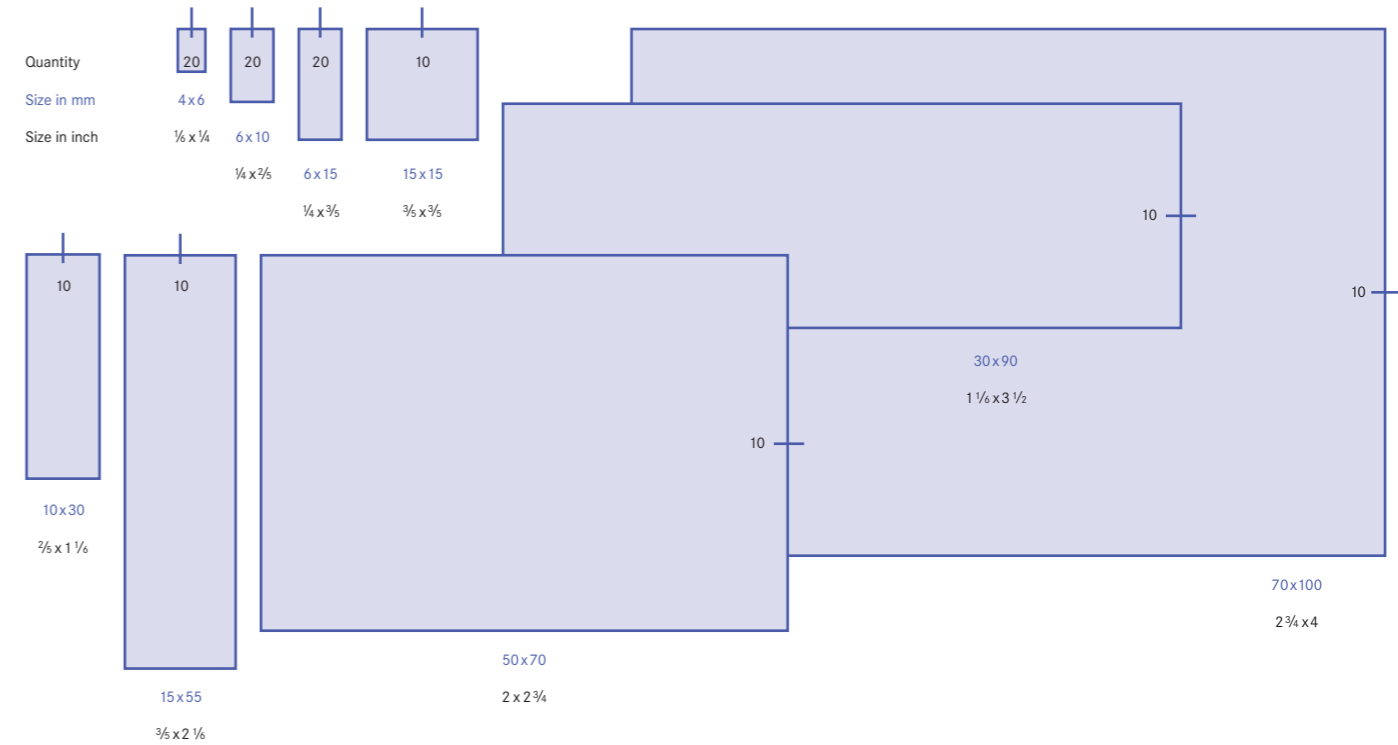


Packaging unit
1 box of 20 sets, each set contains 9 sizes

Configuration
All Indication Sets are available with a multitude of options which the customer can chose from:

- nine different base materials
- string sewed or welded
- with or without x-ray marking (six variants)
- counting card or simple carrier card

Size and quantity of Neurosorb® patties per set



Neurolint® becomes Neurosorb®

Neurosorb®

Indication Sets

Set Peripheral Nerve



Packaging unit

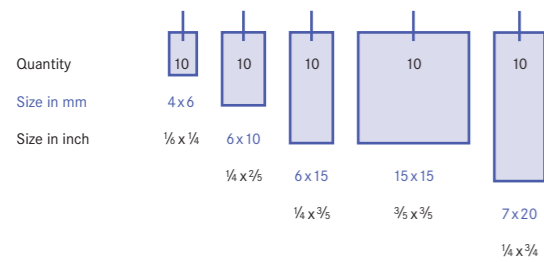
1 box of 20 sets, each set contains 5 sizes

Configuration

All Indication Sets are available with a multitude of options which the customer can chose from:

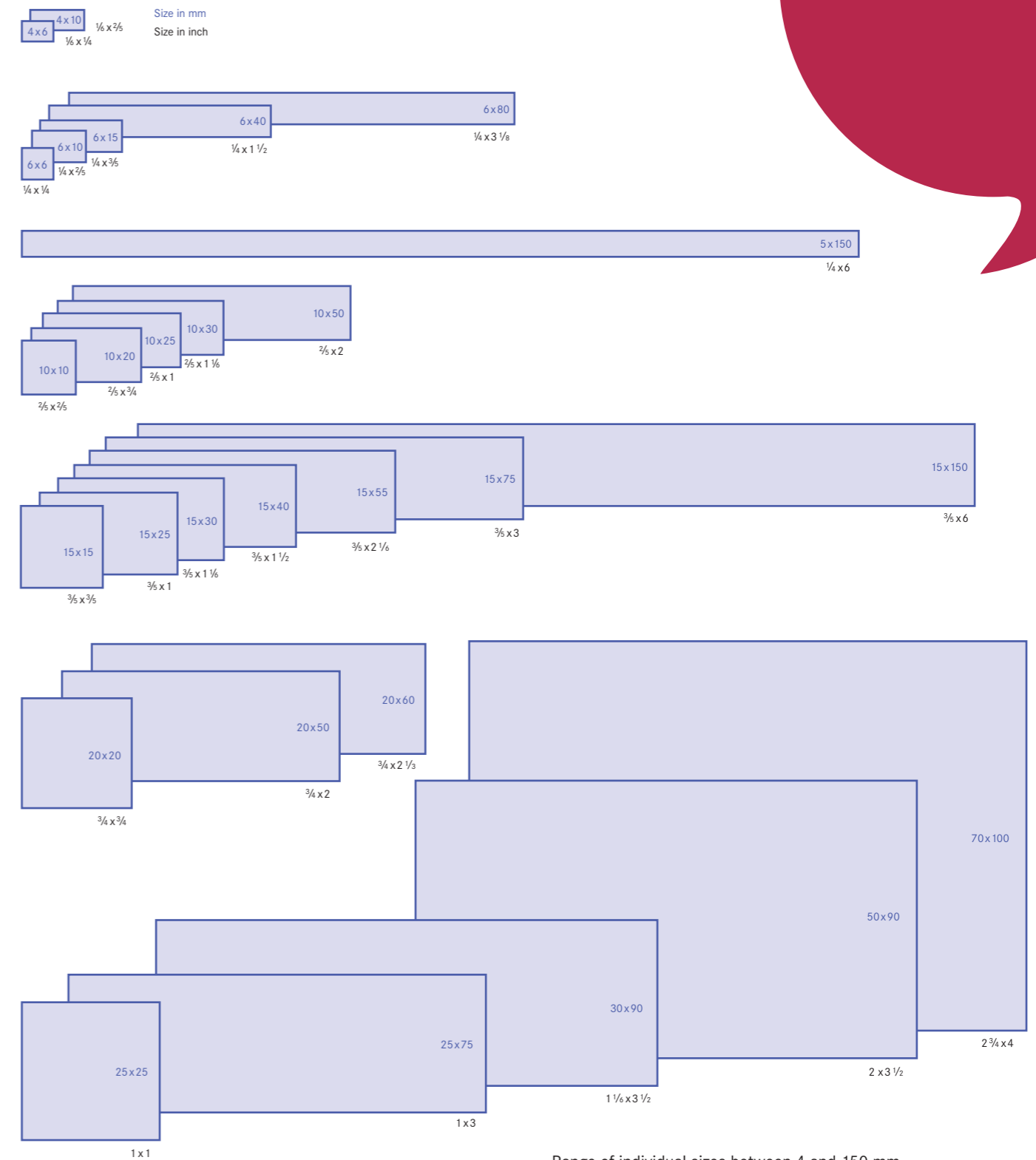
- nine different base materials
- string sewed or welded
- with or without x-ray marking (six variants)
- counting card or simple carrier card

Size and quantity of Neurosorb® patties per set



Neurosorb®

Range of Standard Sizes



Range of individual sizes between 4 and 150 mm.



Neurolint®
becomes
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Manufacture and sales:

VOSTRA GmbH Phone +49 241 96850-0
medical products Fax +49 241 96850-56
Im Süsterfeld 3 info@vostra.de
52072 Aachen www.vostra.de
Germany

CE 0481



Vostra GmbH was founded in 1985 with the goal of developing, manufacturing and marketing high-quality consumables for the neurosurgery, ENT and general surgery.

Our customers needs have always been the focus in our strive for excellence. Dedication and expertise have nourished an international customer base which we supply on short notice – world wide.

Vostra – excellence in medical products.

