NeoGen®
A new generation of Ti-reinforced membrane

neoss® | NeoGen®
Intelligent Simplicity
NeoGen® – a new generation of Ti-reinforced membrane

NeoGen® is a new generation of non-resorbable titanium-reinforced membrane combining the handling and tissue interactions of expanded PTFE with the enhanced barrier function offered by dense PTFE. The membrane has a three-layer design. The outer, soft tissue friendly, PTFE layer has a tight texture to resist bacteria permeability; the middle layer is a strong and highly shapeable titanium mesh; and the inner PTFE layer has an expanded texture that enables predictable hard tissue integration. This combination results in a membrane that is easy to handle and protects the augmentation site in a predictable manner. Simply put, it is a new generation of non-resorbable membrane.

**Design principle**

**Soft tissue side**
The soft tissue side of the membrane has a tight texture. This enables soft tissue interaction which leads to membrane stability. It also creates a barrier function which minimizes the risk of infection.

![Membrane surface demonstrating a tight texture with fibrils stretched in one direction.](image1)

![Surface topography on the submicrometer scale demonstrating a smooth texture.](image2)

**Titanium mesh**
The titanium mesh configuration constitutes a strong and highly shapeable reinforcement that retains its shape throughout the healing period.

![Easy to shape in three dimensions](image3)

**Hard tissue side**
The hard tissue side has an expanded texture that enables predictable hard tissue integration. In combination with the firm mesh configuration complete bone fill can be achieved.

![Membrane surface demonstrating an expanded texture with fibrils stretched in multiple directions.](image4)

![Surface topography on the submicrometer scale demonstrating an open and significantly rougher texture.](image5)
Soft tissue side

Human fibroblasts cultured on the soft tissue side of the membrane. Healthy fibroblast morphology (cell spread on surface) indicating tissue friendly material.

Higher magnification of a fibroblast demonstrating multiple attachments to the membrane surface.

Membrane implanted in rabbit maxilla site for 4 months. A cross section of the soft tissue-membrane interface shows excellent tissue integration.

Titanium mesh

The mesh design increases the shapeable area of the titanium by 50-60% compared to the corresponding surface in a conventional finger type reinforced membrane offered by competition.¹

A higher resistance to external forces can be achieved by utilizing a mesh design instead of conventional finger type reinforcement.¹

¹ Data on file

Hard tissue side

Membrane implanted in rabbit maxilla site for 4 months. A cross section of the bone-membrane interface shows new bone formation (violet) in direct contact with the membrane (blue).

Higher magnification of the bone-membrane interface shows bone tissues in direct contact with membrane and mineral deposits (dark spots) into the membrane.

Elemental analysis of the bone-membrane interface shows calcium deposits (green) into the membrane (red). This indicates a close interaction between bone and membrane.
The history of PTFE membranes began in the late 1980s with W.L. Gore and Associates, Inc. developing an expanded PTFE membrane. In the 1990s a dense type of PTFE membrane, designed to better withstand exposure, was developed. NeoGen® Ti-reinforced membrane is a new generation of PTFE membrane that combines the beneficial properties (handling, tissue interaction) of expanded PTFE with the enhanced barrier function of dense PTFE, all in one membrane.

Clinical performance Case courtesy of Dr. Norbert Haßfurther, Germany

Soft tissue side

The anatomical membrane shape provides coverage in most situations without trimming the mesh. The easily shapeable mesh maintains its shape for the entire treatment period.

Titanium mesh

The mesh is shapeable in multiple directions. It provides a stable tenting function and minimizes membrane folds.

Membrane configuration for augmentation of vertical defect.

Membrane configuration for augmentation of large buccal defect.

Hard tissue side

The initial clinical situation. An implant is placed to replace a missing central incisor. Several threads are exposed due to missing buccal wall.

Radiographs directly after membrane placement and directly after membrane removal showing vertical bone fill above the implant platform.

Successful case conclusion with complete fill of the void with regenerated bone.
NeoGen® Ti-reinforced membrane is surgically placed under the oral mucosa to aid in the regenerative healing of bone defects. The membrane stops the soft tissue from growing into the defect and creates space for complete fill of the defect with regenerated bone.

**Design principle**

- **Soft tissue interaction and stability**
  - Soft tissue side: Tight texture
  - Hard tissue side: Expanded texture

- **Barrier function**
  - Bacteria seal

- **Titanium mesh**
  - Strong and highly shapeable reinforcement

- **Predictable hard tissue integration and bone fill**

- **Gas permeability**
**NeoGen® Ti-Reinforced membrane** is available in five different anatomical shapes to cover all main indications from single anterior defects to larger multiple site defects. NeoGen® Non-Reinforced membrane is available in two different shapes.

### Assortment

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<thead>
<tr>
<th>Art. No.</th>
<th>Description</th>
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<tbody>
<tr>
<td>64010</td>
<td>NeoGen® Ti-Reinforced Membrane - S I (Small Interproximal) 29 x 14 mm</td>
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<tr>
<td>64011</td>
<td>NeoGen® Ti-Reinforced Membrane - M I (Medium Interproximal) 30 x 19 mm</td>
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<td>64012</td>
<td>NeoGen® Ti-Reinforced Membrane - L I (Large Interproximal) 36 x 21 mm</td>
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<td>64013</td>
<td>NeoGen® Ti-Reinforced Membrane - M (Medium) 32 x 22 mm</td>
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<td>64014</td>
<td>NeoGen® Ti-Reinforced Membrane - L (Large) 34 x 25 mm</td>
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<tr>
<td>64020</td>
<td>NeoGen® Non-Reinforced Membrane 29 x 14 mm</td>
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<tr>
<td>64021</td>
<td>NeoGen® Non-Reinforced Membrane 34 x 25 mm</td>
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**Art. No.**

- 64030: Membrane Tack 3 mm – 10 pcs
- MTAB0: Tacs/Pins – 10 pcs
- 64031: Tack Positioning Instrument
- 64032: Tack Mallet
- 64033: Tack and Screw Cassette
- 64034: Membrane Screw 3 mm - 10 pcs

**Description**

- Membrane Tack 3 mm – 10 pcs
- Tacs/Pins – 10 pcs
- Tack Positioning Instrument
- Tack Mallet
- Tack and Screw Cassette
- Membrane Screw 3 mm - 10 pcs

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**NeoGen® Non-Reinforced Membrane** 60 cm 4/0 – Reverse Cutting 16 mm 3/8

**NeoGen® Suture** 60 cm 4/0 – Reverse Cutting 16 mm 3/8

**NeoGen® Suture** 60 cm 6/0 – Reverse Cutting 12 mm 3/8

**All products might not be available in all markets.**