

INTRODUCING MINNE TIES AGILE MMF

Minne Ties® Agile MMF is an innovative approach to achieving maxilla-mandibular fixation (MMF). Unlike other systems on the market, Minne Ties is a non-invasive solution that provides a steady force and secure bite to allow for closed reduction fracture management or stabilization for internal fixation.

The Minne Ties self-locking suture tie design resembles that of a zip tie — one end being a smooth clasp head and the other a blunt tip introducer — which minimizes the risks of wire sticks to the surgeon and decreases patient discomfort.

STRENGTH OF CONSTRUCT

Summit Medical performed cyclical load testing to simulate the overall strength of construct Minne Ties can achieve when applied under its recommended use. Minne Ties were tested over a 21 day period of normal use. In our bench testing we compared a fully fixated bone model with a standard application of Arch Bars with wires versus a fully fixated bone model with a standard application of eight Minne Ties.

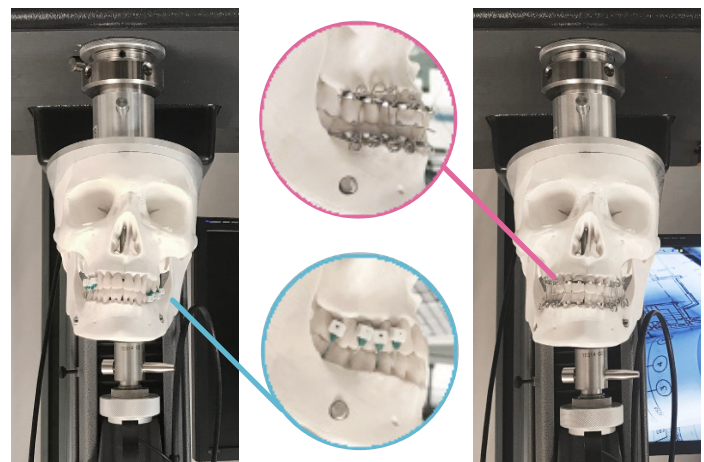
The pull force used was 22.48 lbs. (100 newtons)¹ minimum per cycle. Our reasoning for this force was an estimation based on a fractured human jaw.

We defined the length of testing to validate our indications for use. Minne Ties are designed to achieve and maintain maxilla-mandibular fixation (MMF) for up to three weeks.

Through our cyclical load testing we are able to demonstrate that the strength of construct of Minne Ties is equal to that of Arch Bars/Wires on day one. However, over the 21 day period, the Minne Ties construct shows less micro-movement than Arch Bars/Wires.

Mimicking the embrasure wire application technique, each tie is applied through the interdental space from posterior dentition to anterior dentition, which when finished creates a balanced series of bilateral sutures. And with the sleek design of Minne Ties, doctors are granted easy access to fractures for exposure, reduction, internal fixation and incision closure.

These reasons and many more are why Minne Ties Agile MMF is a safe, simple and efficient alternative to existing wire or hybrid devices.



Minne Ties Test Set Up

Arch Bar/Wires Test Set Up

504 Pulls Over 21 Days

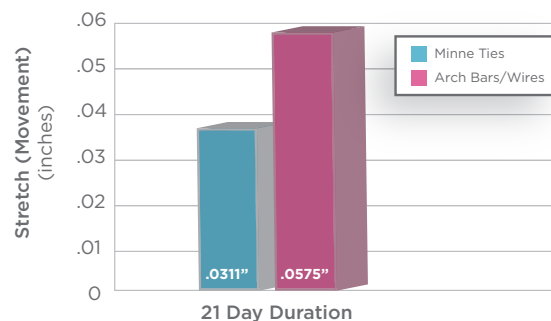
Type of MMF Used	Total Movement
Minne Ties	.0311"
Arch Bars/Wires	.0575"

Over a 21 day period a total of 504 pulls were applied to both **Minne Ties** and **Arch Bars/Wires**.

The data showed a total **movement of .0575"** for **Arch Bars/Wires** and a total **movement of .0311"** for **Minne Ties** — indicating that the skull that used **Minne Ties to achieve MMF had less movement** over the simulated 21 day timeframe compared to Arch Bars/Wires.

References: 1) Data on file at Summit Medical.

Bench Testing



Disclaimer:

A surgeon must always rely on his or her own professional clinical judgment when deciding whether to use a particular product to treat a particular patient. Invisian Medical does not dispense medical advice and recommends that surgeons be trained in the use of any particular product before using it in surgery. The information presented is intended to demonstrate risks associated to wire and hybrid systems. A surgeon must always refer to the instructions for use and product labeling before using any Invisian Medical product. Products may not be available in all markets because product availability is subject to the regulatory and/or medical practices in individual markets. Please contact Invisian Medical if you have questions about the availability of Invisian Medical products in your area. Always refer to the instructions for use before using any Minne Ties products.