

# FEHLING Micro Instruments

## 1 Application

Generally, the principle of intended use applies. In the case of micro instruments with their comparatively delicate construction, any misuse can result in costly damage, which can in no instance be used as basis for warranty claims. Below is a selection of instructions provided - without any claim to completeness:

- Do not overstrain functional parts! The sum of external forces must not exceed the sum of internal strengths (basic law of mechanics). Since the forces applied in using surgical instruments can hardly be objectively measured, feeling and practical experience must largely determine applicatory decisions.
- Applicable to **micro forceps**:
  - Grab only tissues or material if volume and firmness are compatible with the forceps model!
  - The arms must always be pressed together in orthograde position! Deviating directions of pressure lead to overthrowing of gripping parts.
  - Do not overburden! Excessive burden begins when the two arms touch each other when pressed together.
- As a general rule, all sharp micro instruments must be protected from shock and impact - especially close to their tips! Cover tips with suitable protective caps, for example with silicone caps!

## 2 CERAMO®

### 2.1 Properties

CERAMO® surfaces are characterized by great hardness, strong resistance to oxidation and chemical inertia. They are therefore particularly suitable for a large number of clinical applications executed under hospital conditions.

The hardness of CERAMO® surfaces protects them from friction but not from plastic deformation. Resistance of a surgical instrument to plastic deformation is determined exclusively by the physical properties of the basic metal. . For this reason, instruments with CERAMO® surfaces are also subject to the limitations of the intended use and therefore no warranty is valid in cases of misuse.

### 2.2 Application

CERAMO®-coated instruments can be used for all purposes wherever the same or similar instrument models made of stainless steel or titanium without a ceramic surface are used. Compared with these uncoated surfaces CERAMO® surfaces offer the following advantages

- Enhanced resistance to friction (extended service life)
- Greater resistance to oxidation
- Improved antifriction properties
- Reduced reflection of light.

### 3 Storage and reprocessing

For reprocessing of the instruments please observe the user information on reprocessing sterilizable medical devices in accordance with DIN EN ISO 17664-1. Please observe the following in particular:

- Always keep micro instruments in a separate location from other instruments – including while they are on the operating table!
- Only store and transport your micro instruments in specially designed containers!
- Do not clean your micro instruments together with other instruments! The strong flow generated in washing machines always whirls lightweight micro-instruments up and around. When the fine tips collide with other instruments or get caught in strainer baskets, the result may be deformation or even breakage. We recommend the use of a perforated container tray in which the micro instruments are then washed. In this container, the instruments should be secured against slipping, e. g. with a silicone nap mat.
- Ensure that the procedure described here is followed by all persons concerned by means of suitable standard operating procedures - in the operating theatre and for sterilization!

### 4 Repairs

When used as intended, damage to the instruments is largely excluded. Should damage nonetheless occur - e. g. due to misuse - only the manufacturer can check whether the damage can be repaired and, if technically possible, if repairs can be made. Clean and disinfect instruments before returning them for repair. A verification form for this process is available from the manufacturer.