

New Manufacturing Process Solves Problems with Traditional Endoscope Cleaning and Cytology Brush Tips

Sanderson MacLeod

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Overview

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Problems with Traditional Medical Brush Protective Tips

Until recently, there were four types of commonly used medical brush protective tips. They are the Insert Molded Tip, the Light Cured Acrylic Tip, the Hand Crimped Tip and the Fan Tip. All four of these traditional medical brush tips have significant problems.

Insert Molded Tip:

Insert Molded Tips are made by placing a twisted wire brush into an injection mold. Problems with injection molded brush tips include:

Detachment: The tip can fall off the twisted wire brush; causing scratching, scarring and equipment damage.

Protrusion: The core wire might protrude through the plastic tip surface, causing scratching, poking and scarring.

Orientation: The tip orientation can be inconsistent.

Expense: The manufacturing process is expensive, requiring costly molds and prolonged development time.

Light Cured Acrylic Tip:

Light Cured Acrylic Tips are made by dipping the end of a twisted wire brush into plastic or acrylic and using ultraviolet light to cure the substance into a tip. Defects can include:

Protrusion: The core wire can protrude through the acrylic surface which may cause scratching, poking and scarring.

Rough surface: The surface texture might be rough.

Inconsistency: Tip dimensions can be inconsistent.

Petroleum-based: The manufacturing process involves hazardous fumes, extended curing times and is petroleum-based.

Hand Crimped Tip:

Hand Crimped Tips are made by pressing small metal caps onto twisted wire brushes by hand. Weaknesses include:

Detachment: The tip can fall off the twisted wire brush causing scratching, scarring and equipment damage.

Orientation: Due to the manual process, the placement of the tip on the twisted wire brush may be inconsistent.

Expense: This is a manual and expensive manufacturing process.

Fan Tip:

The Fan Tipped Brush is one of the original attempts at creating protective brush tips, and it is still used today. This is a brush where the bristles are “fanned” to provide a minimal level of protection. These brushes have several serious problems...

Inadequate Protection: The fanned bristles are simply not adequate protection from scratching, poking and scarring.

Wire Exposure: The core wire can easily become exposed.

Limitations: Fan tips cannot be made in all diameters commonly needed for medical twisted wire brush applications.

With New Technology, the Z-Tip Solves These Problems

Because the healthcare industry needs a better, safer, and economically priced protective brush tip; Sanderson MacLeod has developed a new and unique manufacturing method for creating twisted wire endoscope cleaning and cytology brushes with protective tips. It's called the Z-Tip, and the company has a patent pending on the invention.

In our quest to find a better way, we looked beyond the brush industry and found the answer in material joining engineering. After many rounds of research, trials and testing; we devised a new manufacturing process using high energy fusion welding technologies. As a result, we are now able to melt a pre-constructed core wire section of a twisted wire brush into a consistent, smooth and inseparable protective tip.

Z-Tip advantages include:

It has a mirror-like surface and therefore won't scratch or scar.

It is made of one-piece construction, which means that the tip cannot fall off and the wire cannot protrude through the tip. The entire brush is stronger and will not unravel.

It is manufactured in a fully automated inline process that makes the product economical to the buyer and ensures uniformity for every brush.

Because the Z-Tip brush is one metallurgic unit, there are no biocompatibility issues.

It reduces internal inspection time and costs due to its quality and consistency.

The manufacturing process is not petroleum-based.

Because it cannot scar, the Z-Tip enhances endoscope sterility by not allowing grooves that trap contaminants.

The Z-Tip is available for all commonly used twisted wire medical brush applications.

More Information

Additional information about the Z-Tip from Sanderson MacLeod can be found at www.ZTipBrush.com. Questions and comments can be directed to Mark Borsari, Vice President Strategy & Development at mborsari@sandersonmacleod.com or 413-283-3481 in the USA.

About The Company:

Sanderson MacLeod is the only brush manufacturer that specializes solely in twisted wire brushes, and for more than 50 years, has been the source of twisted wire brushes for some of the largest companies in the world. The company has a long history of innovation, including the distinction of inventing the first twisted wire mascara brush. Sanderson MacLeod employs approximately 100 people in a state-of-the-art, 137,000 square foot facility in Palmer, Massachusetts and utilizes a modern, FDA compliant Quality Control Laboratory to ensure product quality. www.sandersonmacleod.com.