

SINGLE POINT-TAB BONDING TOOLS

Nearly every desktop computer and server in use today contains one or more hard-disk drives. Every mainframe and supercomputer is normally connected to hundreds of them. You can even find VCR-type devices, portable music players such as MP3 devices, and camcorders that use Hard disks instead of tape. These billions of hard disks do one thing well-they store changing digital information in a relatively permanent form. They give computers the ability to remember things when the power goes out.

Advancement in Technology has lead to the increase in the storage capacity of the hard disk drive. The evolution towards a smaller slider has challenged the head-gimbal assembly (HGA), and head stack assembly (HSA) processes for new bonding techniques.

Flexible traces are rapidly replacing wires in the disk drive industry. These traces can be bonded with various tip designs. These bonding tools have been develop by SPT, by using a new innovative molding process to ensure tip to tip repeatability.

The most common tip configuration is the waffle tip design when using molded ceramic material. The groove or protruding (+) or (X) design when using polycrystalline diamond (PCD) tip.

Advantage of using the waffle tool design is for maximizing the transfer of ultrasonic energy during bonding where optimum bonding conditions are not present. In addition, the tool is designed with a 4-sided radius edges for orientation Flexibility. The Shank can be designed to fit wedge or Capillary transducers.

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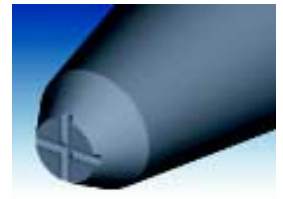
SQUARE WAFFLE FOOT



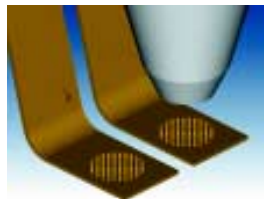
ROUND WAFFLE FOOT



**DOUBLE CROSS
GROOVE 7000 STYLE**



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GROOVE 7100 STYLE**



WIRE IMPRESSION