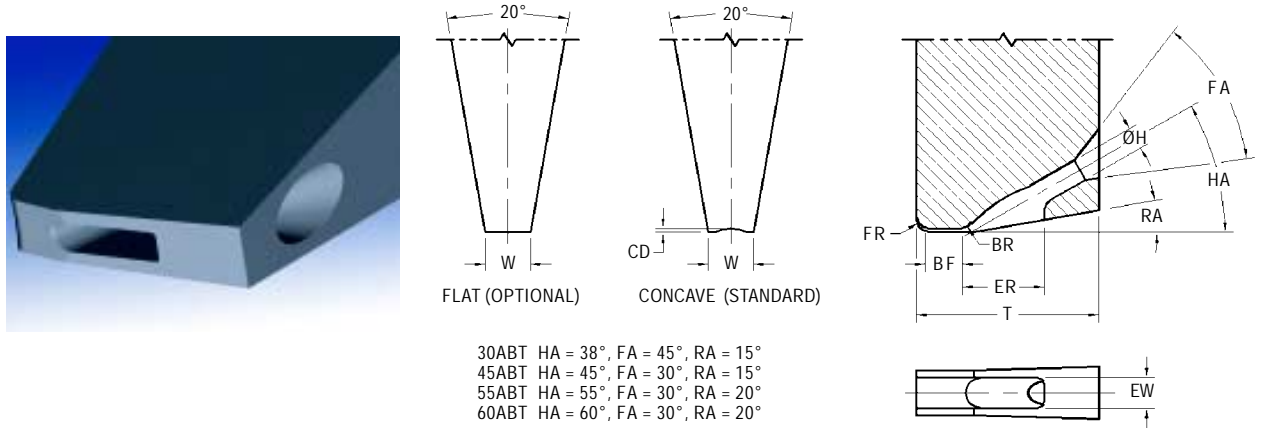


# ABT SERIES - AUTOBONDING TOOL

The ABT design is the most widely used and recommended tool design for automatic, manual with automatic retrofit and manual ultrasonic wedge bonders due to its highly Accurate bond placement capability.

The back radius area is rounded which keeps the wire in the center of the tool. The lower back heel area of 38° produces a strong first bond transition.



| STANDARD DIMENSIONS     |                   |                  |                               |                                     |  |                                       |                                     |   |                                     |
|-------------------------|-------------------|------------------|-------------------------------|-------------------------------------|--|---------------------------------------|-------------------------------------|---|-------------------------------------|
| Tool Styles             | Wire Feed Angle   | Hole / Bond Flat | Hole H<br>in / μm<br>±.0002/5 | Bond Flat BF<br>in / μm<br>±.0002/5 | Front Radius FR<br>in / μm<br>±.0001/3 | Back Radius BR<br>in / μm<br>±.0001/3 | Foot Width W<br>in / μm<br>±.0002/5 | Tip Thickness T<br>in / μm<br>±.0005/13 | Useable Wire Diameter<br>in / μm    |
| 30ABT                   | 38°               | 2015             | .0020 / 51                    | .0015 / 38                          | .0010 / 25                             | .0010 / 25                            | .0040 / 102                         | .0140 / 356                             | .0007 / 18<br>through<br>.0013 / 33 |
|                         |                   | 2020             | .0020 / 51                    | .0020 / 51                          | .0010 / 25                             | .0010 / 25                            | .0040 / 102                         | .0140 / 356                             |                                     |
|                         |                   | 2025             | .0020 / 51                    | .0025 / 64                          | .0010 / 25                             | .0010 / 25                            | .0040 / 102                         | .0140 / 356                             |                                     |
|                         |                   | 2030             | .0020 / 51                    | .0030 / 76                          | .0010 / 25                             | .0010 / 25                            | .0040 / 102                         | .0140 / 356                             |                                     |
| 45ABT                   | 45°               | 2520             | .0025 / 64                    | .0020 / 51                          | .0010 / 25                             | .0010 / 25                            | .0040 / 102                         | .0140 / 356                             | .0010 / 25<br>through<br>.0015 / 38 |
|                         |                   | 2525             | .0025 / 64                    | .0025 / 64                          | .0010 / 25                             | .0010 / 25                            | .0040 / 102                         | .0140 / 356                             |                                     |
|                         |                   | 2530             | .0025 / 64                    | .0030 / 76                          | .0010 / 25                             | .0010 / 25                            | .0040 / 102                         | .0140 / 356                             |                                     |
|                         |                   | 2535             | .0025 / 64                    | .0035 / 89                          | .0010 / 25                             | .0010 / 25                            | .0040 / 102                         | .0150 / 381                             |                                     |
|                         |                   | 2540             | .0025 / 64                    | .0040 / 102                         | .0010 / 25                             | .0010 / 25                            | .0040 / 102                         | .0150 / 381                             |                                     |
| 30ABT                   | 38°               | 3020             | .0030 / 76                    | .0020 / 51                          | .0010 / 25                             | .0010 / 25                            | .0050 / 127                         | .020 / 508                              | .0015 / 38<br>through<br>.0020 / 51 |
|                         |                   | 3025             | .0030 / 76                    | .0025 / 64                          | .0010 / 25                             | .0010 / 25                            | .0050 / 127                         | .020 / 508                              |                                     |
|                         |                   | 3030             | .0030 / 76                    | .0030 / 76                          | .0010 / 25                             | .0010 / 25                            | .0050 / 127                         | .020 / 508                              |                                     |
|                         |                   | 3035             | .0030 / 76                    | .0035 / 89                          | .0010 / 25                             | .0010 / 25                            | .0050 / 127                         | .020 / 508                              |                                     |
|                         |                   | 3040             | .0030 / 76                    | .0040 / 102                         | .0010 / 25                             | .0010 / 25                            | .0050 / 127                         | .020 / 508                              |                                     |
| 45ABT<br>55ABT<br>60ABT | 45°<br>55°<br>60° | 3020             | .0030 / 76                    | .0020 / 51                          | .0010 / 25                             | .0010 / 25                            | .0050 / 127                         | .0180 / 457                             |                                     |
|                         |                   | 3025             | .0030 / 76                    | .0025 / 64                          | .0010 / 25                             | .0010 / 25                            | .0050 / 127                         | .0180 / 457                             |                                     |
|                         |                   | 3030             | .0030 / 76                    | .0030 / 76                          | .0010 / 25                             | .0010 / 25                            | .0050 / 127                         | .0180 / 457                             |                                     |
|                         |                   | 3035             | .0030 / 76                    | .0035 / 89                          | .0010 / 25                             | .0010 / 25                            | .0050 / 127                         | .0180 / 457                             |                                     |
|                         |                   | 3040             | .0030 / 76                    | .0040 / 102                         | .0010 / 25                             | .0010 / 25                            | .0050 / 127                         | .0180 / 457                             |                                     |

## ABT SERIES - GENERAL GUIDELINES ON HOW TO ORDER

| STYLE |                   | FEED ANGLE         |
|-------|-------------------|--------------------|
| ABT   | AUTO BONDING TOOL | 38°, 45°, 55°, 60° |

|    | MATERIAL   | HOLE / BOND FLAT  | TOOL LENGTH (TL)  |
|----|--|---|---|
| C  | Cermet composite for Gold Wire (recommended for Low Temperature bonding) | Will rely on specific application requirements (wire diameter used, bond pad size) – see dimension Table<br>* For Oval Hole options please specify HH (Hole Height) & HW (Hole Width) | S = .437 / 11.1 mm  |
| TI | Titanium Carbide Composite for Gold Wire                                 |   | ¾ = .750 / 19.05 mm   |
| W  | Tungsten Carbide Ultra Fine Grain for Aluminum Wire                      |   | L = .828 / 21.0 mm<br>1.00 = 1.00 / 25.4 mm<br>Longer lengths are available consult Bonder manufacturer for specifications. |

| FOOT OPTIONS    |  |
|-----------------|--|
| C               | Concave foot design with polished FR and BR with matte finish on BF (matte most commonly used with <i>Aluminum wire</i> ) for best results specify when the BF is greater than .0015"/38µm.  |
| CM              | Concave foot design with FR, BR and BF matte (for <i>Aluminum and Gold wire</i> )  |
| Flat (Optional) |  |
| F               | The FR and BR are polished. A fine matte finish is within the area of the BF.  |
| FM              | The FR, BR and BF are matte.   |
| CGM             | Cross Groove with FR and BR matte (for <i>Gold Wire</i> ) with a matte Flat BF. Most commonly used on manual and semi automatic bonders where pad size restrictions is not an issue. Not recommended for BF smaller than .0020"/50µm |
| CCM             | Cross Groove with FR and BR matte (for <i>Gold Wire</i> ) with a Concave used on automatic bonders where wire control is critical and pad size is limited. Not recommended for BF smaller than .0020"/50µm                           |

| HOW TO ORDER |  |
|--------------|--|
| SPECIFY      | <b>Style – Material – Hole/Bond Flat – Tool Length – Foot Option</b><br>(For modifications to standard tools, use part number and specify modified dimensions) or contact our technical support staff for assistance with your requirements. For Special Shank Style refer to page 61. |
| EXAMPLE      | 30ABT - W - 2520 - L - CM      180 - DEG - REV (For DIAS Wire Bonder or K&S 8060)<br>45ABT - TI - 2020 - ¾ - CGM   |