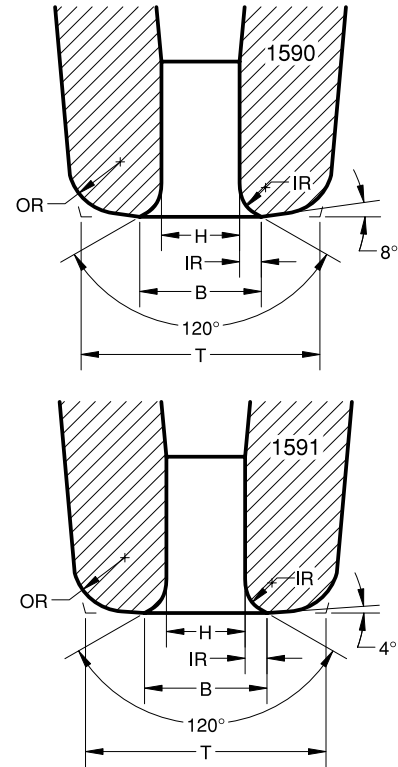
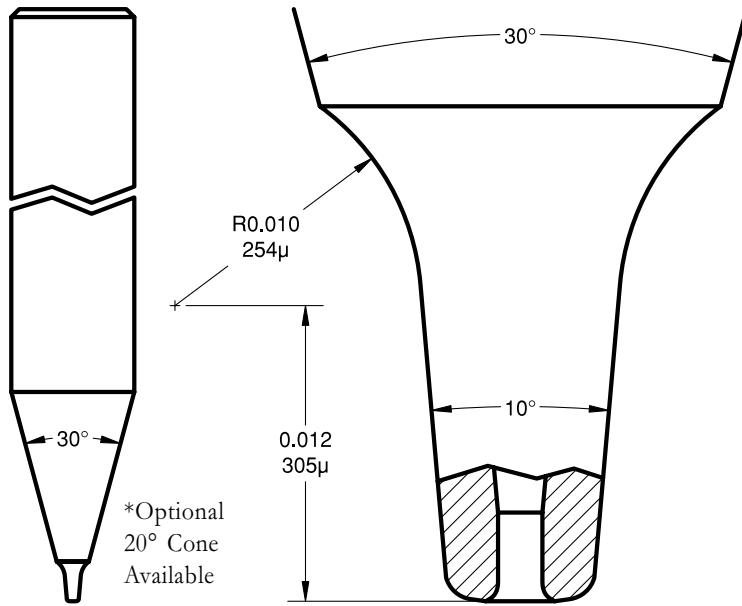


The 1590 and 1591 series capillaries are designed with angle bottlenecks for loop clearance in fine pitch bonding applications of 100µm pitch and above. The 120° radiused inside chamfer works well in high-speed automated bonders, providing the finest looping characteristics and wire control available. The 8° face angle provides good 2nd bond tailing and allows

ample 2nd bond cross-sectional area for reduced heel cracking. The 8° face angle is ideal for modern high-speed automated bonders on a variety of bonding surfaces. The 4° face angle provides increased downward force on the 2nd bond to enhance weld attachment in situations of poor bondability.



Specify: Series - Dash Number - Length+Finish - Options

Example: 1590-18E-437GM-20D

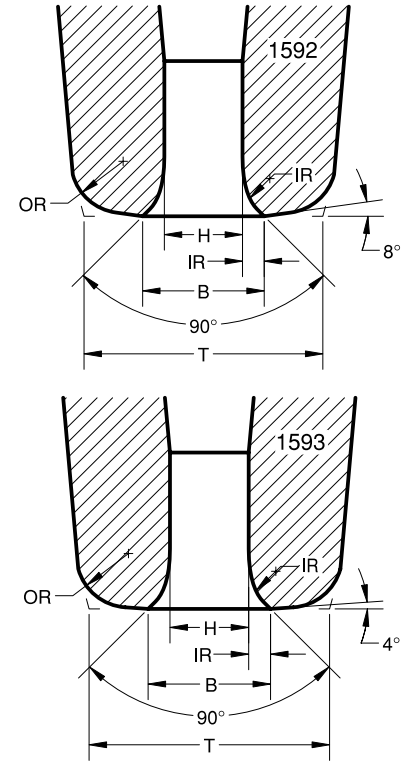
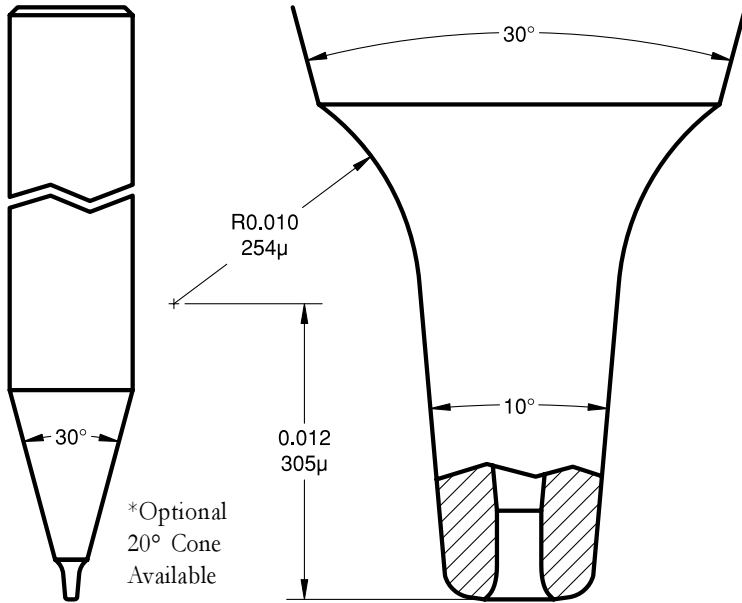
Note: A 10° by 0.012 in. (305µ) high angle bottleneck is standard in the 1590/1591 series. Other angle bottleneck configurations may be specified at the end of the part number.

SERIES & DASH NO.	H in./µm ±.0001/2.5	IR in./µm (ref)	B in./µm ±.0002/5	OR in./µm ±.0003/8	T		SUGGESTED WIRE DIAMETER in./µm
					(30° CONE) in./µm ±.0003/8	(10° ABTNK) in./µm ±.0003/8	
159X-15C	.0015/38	.0004/10	.0023/58	.0012/30	.0050/127	.0054/137	.0009/23 to .0011/28
159X-15D	.0015/38	.0004/10	.0023/58	.0012/30	.0055/140	.0059/150	
159X-15E	.0015/38	.0005/13	.0025/64	.0015/38	.0060/152	.0065/165	
159X-15F	.0015/38	.0005/13	.0025/64	.0015/38	.0065/165	.0070/178	
159X-15G	.0015/38	.0005/13	.0025/64	.0015/38	.0070/178	.0075/191	
159X-17C	.0017/43	.0004/10	.0025/64	.0012/30	.0050/127	.0054/137	.0010/25 to .0013/33
159X-17D	.0017/43	.0004/10	.0025/64	.0012/30	.0055/140	.0059/150	
159X-17E	.0017/43	.0005/13	.0027/69	.0015/38	.0060/152	.0065/165	
159X-17F	.0017/43	.0005/13	.0027/69	.0015/38	.0065/165	.0070/178	
159X-17G	.0017/43	.0005/13	.0027/69	.0015/38	.0070/178	.0075/191	
159X-17H	.0017/43	.0005/13	.0027/69	.0015/38	.0075/191	.0080/203	
159X-17J	.0017/43	.0005/13	.0027/69	.0015/38	.0080/203	.0085/216	
159X-18D	.0018/46	.0005/13	.0028/71	.0012/30	.0055/140	.0059/150	
159X-18E	.0018/46	.0005/13	.0028/71	.0015/38	.0060/152	.0065/165	
159X-18F	.0018/46	.0005/13	.0028/71	.0015/38	.0065/165	.0070/178	
159X-18G	.0018/46	.0006/15	.0030/76	.0015/38	.0070/178	.0075/191	
159X-18H	.0018/46	.0006/15	.0030/76	.0015/38	.0075/191	.0080/203	
159X-18J	.0018/46	.0006/15	.0030/76	.0015/38	.0080/203	.0085/216	

Tighter tolerances available at additional charge.

The 1592 and 1593 series capillaries are designed with angle bottlenecks for loop clearance in fine pitch bonding applications of 90µm pitch and above. The 90° radiused inside chamfer works well in high-speed automated bonders, providing excellent looping characteristics and wire control. The 90° inside chamfer forms a compact ball bond and

provides excellent 2nd bond tailing. The 8° face angle allows ample 2nd bond cross-sectional area for reduced heel cracking. The 8° face angle is ideal for modern high-speed automated bonders on a variety of bonding surfaces. The 4° face angle provides increased downward force on the 2nd bond to enhance weld attachment in situations of poor bondability.



Specify: Series - Dash Number - Length+Finish - Options
Example: 1592-18E-437GM-20D

Note: A 10° by 0.012 in. (305µ) high angle bottleneck is standard in the 1592/1593 series. Other angle bottleneck configurations may be specified at the end of the part number.

SERIES & DASH NO.	H in./µm ±.0001/2.5	IR in./µm (ref)	B in./µm ±.0002/5	OR in./µm ±.0003/8	T (30° CONE) in./µm ±.0003/8	T (10° ABTNK) in./µm ±.0003/8	SUGGESTED WIRE DIAMETER in./µm
159X-15A	.0015/38	.0003/8	.0021/53	.0010/25	.0040/102	.0043/109	.0009/23 to .0011/28
159X-15B	.0015/38	.0003/8	.0021/53	.0010/25	.0045/114	.0048/122	
159X-15C	.0015/38	.0004/10	.0023/58	.0012/30	.0050/127	.0054/137	
159X-15D	.0015/38	.0004/10	.0023/58	.0012/30	.0055/140	.0059/150	
159X-15E	.0015/38	.0005/13	.0025/64	.0015/38	.0060/152	.0065/165	
159X-15F	.0015/38	.0005/13	.0025/64	.0015/38	.0065/165	.0070/178	
159X-15G	.0015/38	.0005/13	.0025/64	.0015/38	.0070/178	.0075/191	
159X-17C	.0017/43	.0004/10	.0025/64	.0012/30	.0050/127	.0054/137	.0010/25 to .0013/33
159X-17D	.0017/43	.0004/10	.0025/64	.0012/30	.0055/140	.0059/150	
159X-17E	.0017/43	.0005/13	.0027/69	.0015/38	.0060/152	.0065/165	
159X-17F	.0017/43	.0005/13	.0027/69	.0015/38	.0065/165	.0070/178	
159X-17G	.0017/43	.0005/13	.0027/69	.0015/38	.0070/178	.0075/191	
159X-17H	.0017/43	.0005/13	.0027/69	.0015/38	.0075/191	.0080/203	
159X-17J	.0017/43	.0005/13	.0027/69	.0015/38	.0080/203	.0085/216	
159X-18D	.0018/46	.0005/13	.0028/71	.0012/30	.0055/140	.0059/150	
159X-18E	.0018/46	.0005/13	.0028/71	.0015/38	.0060/152	.0065/165	
159X-18F	.0018/46	.0005/13	.0028/71	.0015/38	.0065/165	.0070/178	
159X-18G	.0018/46	.0006/15	.0030/76	.0015/38	.0070/178	.0075/191	
159X-18H	.0018/46	.0006/15	.0030/76	.0015/38	.0075/191	.0080/203	
159X-18J	.0018/46	.0006/15	.0030/76	.0015/38	.0080/203	.0085/216	

Tighter tolerances available at additional charge.