

Ceramic Scoring Wafer

cat.# 20116

The square alumina scoring wafer has eight straight edges for cutting both fused silica and metal MXT tubing.

Note: Your ceramic scoring wafer may include serrated edges. We recommend using only the straight edge to cut both fused silica and metal MXT tubing following the instructions below.

Instructions for Cutting Fused Silica Tubing

1. Holding the column end upright, lightly score the fused silica tubing with the straight edge of the wafer, but do not break it.

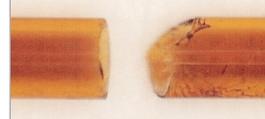
Note: Only very gentle, rapid scoring motions will produce straight cuts. Excess pressure can crush the column end or lead to poor cuts, which can affect your chromatographic performance or your Press-Tight connector's seal.

2. Point the column end downward, then lightly tap the column (it should break easily) to remove the end portion.

Note: Pointing the end down helps prevent fused silica or polyimide particles from falling into the bore of the column. This is especially important with wider bore columns (0.53 mm ID).

3. Inspect the cut column end for a clean, square cut by holding it up to a light and turning it a full 360°. Alternatively, use a magnifying glass (cat.# 20124) for inspection. If the tubing does not break or the cut is not uniform (Figure 1), repeat steps 1–3.
4. Gently wipe the end of the column with a solvent like methanol or acetonitrile to remove fragments and finger oils.
5. As the cutting edge progressively deteriorates, more pressure is needed to score the column, and this undue pressure can lead to poor cuts. When the straight edge of the wafer has become dull, discard and replace the wafer.

Figure 1: Make a clean, square cut (left) for optimum chromatographic performance.



Instructions for Cutting Metal MXT Tubing

Metal capillary tubing is cut by scoring the tubing wall with the straight edge of the ceramic scoring wafer. A sharp file may also be used; however, we do not recommend using high-speed wheels or grinders to cut the metal tubing because they may introduce metal filings into the tubing and/or create very high temperatures that may destroy the polymer near the cut.

1. Holding the column end upright, score the metal tubing with the straight edge of the wafer by applying mild pressure in a sawing motion. Typically, four sawing motions will be enough to score the tubing without breaking it.

2. Gently wipe the end of the column with a solvent like methanol or acetonitrile to remove fragments.

3. Pointing the column end downward, bend the tubing away from the score until the score opens. Then, bend the tubing back toward the score until it snaps into two pieces (Figure 2).

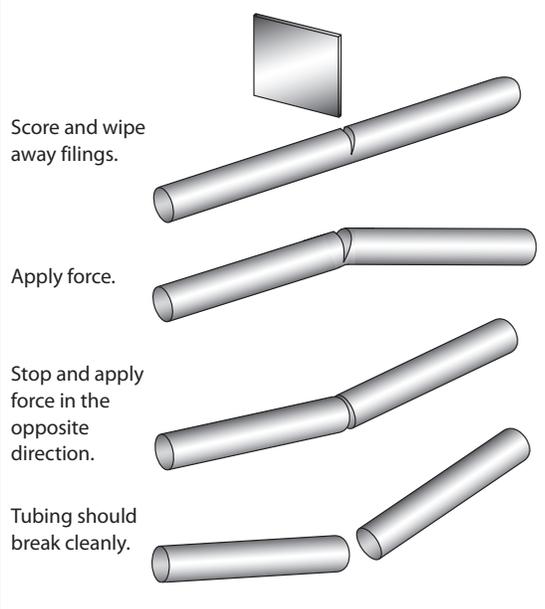
Note: Pointing the end down helps prevent particles from falling into the bore of the column. This is especially important with wider bore columns (0.53 mm ID).

4. Inspect the cut column end for a clean, square cut by holding it up to a light and turning it a full 360°. Alternatively, use a magnifying glass (cat.# 20124) for inspection. If the tubing does not break, the hole is not round, or the cut is not uniform, repeat steps 1–3. If there is a burr on the tubing, lightly scrape it against the flat side of the scoring wafer to remove.

5. Gently wipe the end of the column with a solvent like methanol or acetonitrile to remove fragments and finger oils.

6. As the cutting edge progressively deteriorates, more pressure is needed to score the column, and this undue pressure can lead to poor cuts. When the straight edge of the wafer has become dull, discard and replace the wafer.

Figure 2: Cutting metal capillary tubing.



CAUTION: Read before installing a metal column.

Use caution when using MXT columns in gas chromatographs (GCs) with electrically energized detector jets or orifices. MXT columns, like aluminum-clad fused silica, will conduct electricity and cause a short if the end of the column is inserted too far into the detector. Indications of a detector short are absence of a detector signal, detector polarity faults, or blown fuses.

We recommend that the detector be powered down when installing MXT columns in any GC with an ungrounded jet. Insert the column end until it touches the jet tip, then pull it back approximately 5 mm. Then, start up the detector and check the signal level to make sure it is in the range specified by your instrument manufacturer.

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