

## **Technical Tip #125:** **Breakdown of Insert Nomenclature**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9/10)
ANSI Inch	<u>C</u>	<u>N</u>	<u>M</u>	<u>G</u>	<u>4</u>	<u>3</u>	<u>2</u>	—	<u>LF</u>
ISO Metric	<u>C</u>	<u>N</u>	<u>M</u>	<u>G</u>	<u>12</u>	<u>04</u>	<u>08</u>	—	<u>LF</u>

- (1.) First station indicates shape of insert and together with 2<sup>nd</sup> station determines number of useable cut edges.
  - (2.) Second station indicates relief angle or rake angle of the insert.
  - (3.) The third station provides a working gage for repeatability. It sets tolerance to the I.C. (inscribed circle) and creates a gage tolerance for the I.C. to the over-the-nose radius along with the thickness of the insert.
  - (4.) Fourth station indicates insert type. Indicates with or without hole, shape and size of hole, chipbreaker form, and single- or double-sided insert.
  - (5.) Fifth station indicates I.C. size of the insert.
    - a. For under ¼-inch inserts, I.C. is measured in 1/32-inch increments.
    - b. For ¼-inch and greater inserts, I.C. is measured in 1/8-inch increments.
- Note:* Use larger I.C. inserts for heavier or interrupted cutting conditions, and smaller I.C. inserts for finishing operations.
- (6.) Sixth station designates insert thickness.
    - a. For under ¼-inch inserts, thickness is measured in 1/32-inch increments.
    - b. For ¼-inch and greater inserts, thickness is measured in 1/16-inch increments.
  - (7.) Seventh station designates nose radius of the insert.
 

Note that the nose radius size of the insert, along with federate inches per revolution (ipr), have the greatest impact on the attainable surface finish of the cut.
  - (8.) Optional designates R for right-handed or L for left-handed insert.
  - (9./10.) Designates edge preparation: sharp edge, radius hone, T-Land