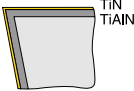
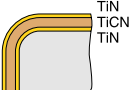




# Grade System for Threading Applications

## Grade Selection Table

| Type                      | Grade                                                                               | Coating                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Composition and Application                                                                                                                                                                                                                                                                                                                                                                                                                                | Standard designation | Area of use                              |    |    |    |    |    |    |    |    |  |  |  |  |
|---------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|------------------------------------------|----|----|----|----|----|----|----|----|--|--|--|--|
|                           |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      | <div>Wear resistance ← → Toughness</div> |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     | C-Class                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      | 05                                       | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 |  |  |  |  |
| Uncoated Carbide Grades   | K68                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>composition:</b> A hard, low binder content, unalloyed WC/Co fine-grained grade.<br><b>application:</b> The K68 grade has excellent abrasion resistance for machining cast irons, austenitic stainless steels, non-ferrous metals, nonmetals, and most high-temperature alloys. Use as a general purpose grade for non-ferrous materials.                                                                                                               | P                    |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                            | M                    |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                            | K                    |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                            | N                    |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                            | S                    |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     | C3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                            | H                    |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
| PVD-Coated Carbide Grades | KC5010                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>composition:</b> An advanced PVD TiAlN coating over a very deformation-resistant unalloyed WC-Co substrate.<br><b>application:</b> The KC5010 grade is ideal for finishing to general machining of most workpiece materials at higher speeds. Excellent for machining most steels, stainless steels, cast irons, non-ferrous materials and super alloys under stable conditions. It also performs well machining hardened and short-chipping materials. | P                    |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                            | M                    |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                            | K                    |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                            | N                    |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                            | S                    |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     | C3, C4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | H                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                      |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           | KC5025                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <b>composition:</b> An advanced PVD TiAlN-coated grade with a tough, very fine grain unalloyed substrate.<br><b>application:</b> For general purpose machining of most steels, stainless steels, high-temperature alloys, titanium, irons, and non-ferrous materials. Speeds may vary from low to medium, and will handle interruptions and high feed rates.                                                                                               | P                    |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                            | M                    |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                            | K                    |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                            | N                    |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                            | S                    |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     | C2, C6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | H                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                      |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
| KC5410                    |  | <b>composition:</b> A PVD TiB2 coating over a very deformation-resistant unalloyed substrate.<br><b>application:</b> The KC5410 grade is designed for roughing, semifinishing, and finishing of free machining (hypoeutectic <12.2% Si) aluminum, aluminum alloys and magnesium alloys. The TiB2 coating is harder than TiN and TiAlN coatings and has an extremely smooth surface, resulting in reduced surface friction, speedy chip flow, and outstanding wear resistance. In addition, built-up edge is prevented because this coating has a very low affinity for aluminum. The substrate is unalloyed and fine grained and offers sharp edges, smooth surfaces, and excellent thermal deformation resistance and edge integrity. Inserts with a ground periphery are polished before coating and have a sharp edge. Molded inserts have a light hone. | P                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                      |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | M                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                      |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | K                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                      |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | N                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                      |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | S                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                      |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           | C3 – C4                                                                             | H                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
| KU25T                     |  | <b>composition:</b> An advanced PVD coating over a tough and highly wear-resistant carbide substrate.<br><b>application:</b> KU25T is ideal for finishing to general machining of most workpiece materials. This grade provides the toughness needed to handle the demands of grooving, threading, and cut-off operations. KU25T performs extremely well when machining most steels, stainless steels, cast irons, non-ferrous materials, and superalloys under stable conditions. KU25T can also be effectively applied when machining hardened and short-chipping materials.                                                                                                                                                                                                                                                                              | P                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                      |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | M                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                      |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | K                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                      |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | N                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                      |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | S                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                      |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           | C2, C6                                                                              | H                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
| PVD-Coated Cermet         | KT315                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>composition:</b> A multi-layered, PVD TiN/TiCN/TiN, coated cermet turning grade.<br><b>application:</b> Ideal for high-speed finishing to medium machining of most carbon and alloy steels and stainless steels. Performs very well in cast and ductile iron applications too. Provides long and consistent tool life and will produce excellent workpiece finishes.                                                                                    | P                    |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                            | M                    |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                            | K                    |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                            | N                    |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           |                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                            | S                    |                                          |    |    |    |    |    |    |    |    |  |  |  |  |
|                           | C3, C7                                                                              | H                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |                                          |    |    |    |    |    |    |    |    |  |  |  |  |

LT  
TOP NOTCH  
TECHNICAL DATA  
THREADING TOOLS