



**Carbide Rod Blanks
Grade Selection Guide**



Who We Are

TechMet Carbides was founded in 1998, with the aim of providing world class tungsten carbide technology and products to carbide fabricators and OEM producers.

We provide local service and sales support to customers throughout North America, and offer metallurgical inspection, testing and analytical services from a fully equipped lab at our headquarters in Hickory, North Carolina.

TechMet has a complete range of high-quality tungsten carbide products, including carbide rod, burr blanks, indexable insert blanks, wear parts and a wide variety of specialty items. We also provide special products designed to meet your application requirements. Please contact us for information on these products and to learn how our metallurgical and application expertise can benefit your company.

We Improve Your Grinding Operations Too!

In addition to precision carbide blank materials, TechMet offers cost-effective solutions to help improve your grinding processes.



Flute-Tech Diamond Superabrasive Grinding Wheels

- Ultra-high performance hybrid bond construction
- Reduced grinding costs
- IN STOCK for immediate shipment

Stainless Steel Coolant Line Systems

- Lines and nozzles are installed exactly where needed
- **They stay where you put them** - no drooping or moving
- Increased grinding wheel life
- Reduced machine downtime





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GROUND, CUT-TO-LENGTH ROD BLANKS

TMK-320	The most widely used 10% submicron grade in North America. A workhorse with superior performance across a broad range of materials and applications.
TMK-3012	Highest strength carbide rod grade. Excellent combination of hardness, strength and wear resistance properties.
TMK-3020	Premium ultrafine grain size 10% cobalt grade with exceptional combination of wear resistance and toughness properties. Especially well suited for high performance drilling applications.
TMK-290X	Optimal grade for machining of hardened materials 50 to 65 HRc. 9% Co composition with 0.2 micron grain size.
TMK-3028	High hardness and wear resistance characteristics. Used extensively for micro-drills, circuit board drills and abrasive applications.
TMK-326	Good balance of wear resistance and toughness properties for composite materials and abrasive applications.
TMK-3026	Premium ultrafine grain size grade with superior combination of wear resistance and toughness properties. Most commonly used with composite materials and abrasive applications.
TMK-22D	Diamond coating specialist, offering outstanding wear resistance. Suitable for aluminum, composites and other non-ferrous materials.
TMK-3	Highest wear resistance grade. Typically used in woods, composites and plastics applications.

GROUND, CUT-TO-LENGTH ROD BLANKS

PROPERTY	TMK-320	TMK-3012	TMK-3020	TMK-290X	TMK-3028	TMK-326	TMK-3026	TMK-22D	TMK-3
WC (wt.%)	89.4	86.7	89.15	89.9	90.6	93.3	94.0	93.85	96.0
Co (wt.%)	10.0	12.0	10.0	9.0	8.5	6.1	6.0	6.0	3.0
Others (wt.%)	0.6	1.3	0.85	1.1	0.9	0.6	-	0.15	1.0
Grain Class	Submicron	Ultrafine	Ultrafine	Nano	Ultrafine	Submicron	Ultrafine	Fine	Fine
Density (g/cm³) ISO 3369	14.40	14.10	14.37	14.44	14.52	14.90	14.80	14.90	15.20
Hardness (HRA) ISO 3738	91.9	92.6	92.3	94.0	93.5	93.0	94.0	92.5	93.3
Transverse Rupture Strength (psi, min) ISO 3327	526,000	675,000	656,000	575,000	645,000	532,000	561,000	354,000	386,000

A grayscale photograph of various metal components, including rods, tubes, and flanges, arranged on a workbench. The image is semi-transparent and serves as a background for the section header.

UNGROUND RANDOM ROD (RR) BLANKS

TMK-320	The most widely used 10% submicron grade in North America. A workhorse with superior performance across a broad range of materials and applications.
TMK-290X	Optimal grade for machining of hardened materials 50 to 65 HRc. 9% Co composition with 0.2 micron grain size.

A grayscale background image showing various industrial metal components, including rods, tubes, and flanges, arranged on a workbench.

UNGROUND RANDOM ROD (RR) BLANKS

PROPERTY	TMK-320	TMK-290X
WC (wt.%)	89.4	89.9
Co (wt.%)	10.0	9.0
Others (wt.%)	0.6	1.1
Grain Class	Submicron	Nano
Density (g/cm ³) ISO 3369	14.40	14.44
Hardness (HRA) ISO 3738	91.9	94.0
Transverse Rupture Strength (psi, min) ISO 3327	526,000	575,000

A background image for the section header showing various cylindrical metal rod blanks of different diameters and lengths, some with threaded ends, arranged on a light-colored surface.

GROUND TO SIZE RANDOM ROD (GRR) BLANKS

TMK-320	The most widely used 10% submicron grade in North America. A workhorse with superior performance across a broad range of materials and applications.
TMK-326	Good balance of wear resistance and toughness properties for composite materials and abrasive applications.
TMK-3	Highest wear resistance grade. Typically used in woods, composites and plastics applications.

GROUND TO SIZE RANDOM ROD (GRR) BLANKS

PROPERTY	TMK-320	TMK-326	TMK-3
WC (wt.%)	89.4	93.3	96.0
Co (wt.%)	10.0	6.1	3.0
Others (wt.%)	0.6	0.6	1.0
Grain Class	Submicron	Submicron	Fine
Density (g/cm³) ISO 3369	14.40	14.90	15.20
Hardness (HRA) ISO 3738	91.9	93.0	93.3
Transverse Rupture Strength (psi, min) ISO 3327	526,000	532,000	386,000

A grayscale photograph showing various industrial rod blanks and drill bits. Some rods have circular coolant holes drilled through them. The items are arranged on a flat surface, with some standing upright and others lying down.

ROD BLANKS WITH COOLANT HOLES

TMK-320	The most widely used 10% submicron grade in North America. A workhorse with superior performance across a broad range of materials and applications.
TMK-3020	Premium ultrafine grain size 10% cobalt grade with exceptional combination of wear resistance and toughness properties. Especially well suited for high performance drilling applications.

ROD BLANKS WITH COOLANT HOLES

PROPERTY	TMK-320	TMK-3020
WC (wt.%)	89.4	89.15
Co (wt.%)	10.0	10.0
Others (wt.%)	0.6	0.85
Grain Class	Submicron	Ultrafine
Density (g/cm³) ISO 3369	14.40	14.37
Hardness (HRA) ISO 3738	91.9	92.3
Transverse Rupture Strength (psi, min) ISO 3327	526,000	656,000