

钢件牌号 Steel Grade

牌号 Grade	ISO	颜色 Colour	应用特点 Application Feature
RC6205	P05-P10	黑色 Black	高立方相含量梯度硬质合金基体，具有很好的抗塑性变形能力。 搭配超厚 α -Al ₂ O ₃ 和超细晶粒 MT-TiCN 涂层。 适用于钢件材料的精加工到半精加工。 High cubic phase content gradient cemented carbide matrix is equipped with fine plasticity resistance. Extraordinary high temperature performance, combined with ultra-thick α -Al ₂ O ₃ and super-fine MT-TiCN coating, with special after treatment process. Suitable for finishing and semi-finishing of materials of steel members.
RC6205D	P05-P10	双色 Dichromatic	高立方相含量梯度硬质合金基体，具有很好的抗塑性变形能力。 搭配优化的具有特定织构的 α -Al ₂ O ₃ 层和超细耐磨 MT-TiCN 涂层。 适用于钢件材料的精加工到半精加工。 High cubic phase content gradient cemented carbide matrix is equipped with fine plasticity resistance. Optimized high temperature performance, combined with α -Al ₂ O ₃ layer with special MT-TiCN coating, with special after treatment process. Suitable for finishing and semi-finishing of materials of steel members.
RC6215	P10-P20	黑色 Black	较高立方相含量梯度硬质合金基体，具有高强度和良好的抗塑性变形能力。 α -Al ₂ O ₃ /MT-TiCN 涂层，具有良好的耐磨性和抗高温塑性变形能力。 推荐用于钢件材料的半精加工到粗加工。 The gradient hard alloy substrate with high cubic phase content has high strength and good plasticity resistance. α -Al ₂ O ₃ / MT-TiCN coatings with good abrasion resistance and high temperature plasticity resistance. Recommended for semi-finishing and roughing of steel materials.
RC6215D	P10-P20	双色 Dichromatic	较高立方相含量梯度硬质合金基体，具有高强度和良好的抗塑性变形能力。 具有特定织构的 α -Al ₂ O ₃ 层和超细耐磨 MT-TiCN 涂层，具有良好的耐磨性和抗高温塑性变形能力。 推荐用于钢件材料的高速半精加工。 The gradient hard alloy substrate with high cubic phase content has high strength and good plasticity resistance. α -Al ₂ O ₃ layer with specific texture and ultra-fine MT-TiCN coatings, have good wear resistance and high temperature plasticity resistance. Recommended for high-speed semi-finishing of steel materials.
RC6315	P10-P20	黑色 Black	采用功能梯度硬质合金基体，涂覆超耐磨 α -Al ₂ O ₃ 涂层。 推荐用于正角刀片的精加工。

Grade

颜色 Colour	应用特点 Application Feature
黄色 Yellow	采用赋予表层和芯部不同特性的双结构合金基体，基体再经韧性增强，配合厚的纤维晶 TiCN 加上厚的 $\text{K-Al}_2\text{O}_3$ 涂层。 推荐用于一般工况碳素钢和低合金钢的精加工和半精加工。 Use dual structure carbide matrix allowing for different characteristics of the surface and the core, the matrix is provided with toughness strengthening, and thick fiber grain TiCN plus thick $\text{K-Al}_2\text{O}_3$ coating are combined. Recommend to be used in finishing and semi-finishing of carbon steel and low alloy steel in general working conditions.
黑色 Black	采用赋予表层和芯部不同特性的双结构合金基体，基体再经韧性增强，配合厚的纤维晶 TiCN 加上厚的 $\alpha\text{-Al}_2\text{O}_3$ 涂层。 推荐用于一般工况碳素钢和低合金钢的精加工和半精加工。 Use dual structure carbide matrix allowing for different characteristics of the surface and the core, the matrix is provided with toughness strengthening, and thick fiber grain TiCN plus thick $\alpha\text{-Al}_2\text{O}_3$ coating are combined. Recommend to be used in finishing and semi-finishing of carbon steel and low alloy steel in general working conditions.
黄色 Yellow	较高立方相和粘结相含量的高韧性梯度硬质合金基体，具有高强度和良好的抗冲击性能，搭配混合型 $\text{Al}_2\text{O}_3/\text{MT-TiCN}$ 涂层，具有很好的可靠性。 推荐用于钢件材料的半精加工到粗加工。 The high toughness gradient hard alloy substrate with high content of cubic phase and bonding phase has high strength and good impact resistance. It has good reliability when combined with the mixed $\text{Al}_2\text{O}_3/\text{MT-TiCN}$ coatings. Recommended for semi-finishing and roughing of steel materials.
黄色 Yellow	采用韧性更好的双结构合金基体，涂覆中厚 MT-TiCN 和 $\alpha\text{-Al}_2\text{O}_3$ 涂层。 推荐用于一般断续切削加工碳素钢和低合金钢等材料。 It applies double structure alloy substrate with better tenacity and covers moderate thickness MT-TiCN and $\alpha\text{-Al}_2\text{O}_3$ coating. Recommend to be used for general intermittent cutting and machining of carbon steel and lower alloy steel etc. materials.
黑色	较高立方相和粘结相含量的高韧性梯度硬质合金基体，具有高强度和良好的抗冲击性能，搭配中等厚度的 $\alpha\text{-Al}_2\text{O}_3/\text{MT-TiCN}$ 涂层，具有杰出的可靠性和耐磨性。 推荐用于钢件材料的半精加工到粗加工。

钢件牌号 Steel Grade

牌号 Grade	ISO	颜色 Colour	应用特点 Application Feature
RC6225D	P15-P30	双色 Dichromatic	较高立方相和粘结相含量的高韧性梯度硬质合金基体，具有性能，搭配优化的具有特定织构的 $\alpha\text{-Al}_2\text{O}_3$ 层和超细耐磨的后处理工艺，具有杰出的可靠性和耐磨性。 推荐用于钢件材料的高速半精加工到粗加工。 High toughness gradient hard alloy substrate with high content of cubic phase and bonding phase with ultra-fine $\alpha\text{-Al}_2\text{O}_3$ layer and ultra-fine wear-resistant MT-TiCN coating process, have outstanding reliability and wear resistance. It is recommended for high-speed semi-finishing to roughing of steel materials.
RC6135	P25-P40	黄色 Yellow	高立方相含量和高粘结相含量的超高韧性梯度硬质合金 $\alpha\text{-Al}_2\text{O}_3$ 和高韧性 MT-TiCN 涂层，具有极高的刃口强度和用于钢件材料粗加工。 The ultra-high toughness gradient hard alloy substrate with high cubic phase content and with thicker mixed type $\alpha\text{-Al}_2\text{O}_3$ and high toughness MT-TiCN coatings, has extremely high resistance. It is used for roughing of steel materials.
RC6235	P25-P40	黑色 Black	高立方相含量和高粘结相含量的超高韧性梯度硬质合金 $\alpha\text{-Al}_2\text{O}_3$ 和高韧性 MT-TiCN 涂层，具有极高的刃口强度和用于钢件材料粗加工。 Super high toughness gradient hard alloy substrate with high cubic phase content and with thin $\alpha\text{-Al}_2\text{O}_3$ and high toughness MT-TiCN coatings, with extremely high edge strength. It is used for roughing of steel materials.

hless Steel Grade

颜色 Colour	应用特点 Application Feature
黄色 Yellow	较低 Co 含量和高立方相含量的梯度结构合金基体，涂覆薄 MT-TiCN 和超薄 κ-Al₂O₃ 涂层，具有优良的耐磨性和抗塑性变形能力，独特的后处理工艺使刀片前刀面和刃线表面具有极低的粗糙度，有效阻止积屑瘤的产生。 适用于不锈钢的高速连续加工。 Gradient structure alloy substrate with lower Co content and higher cubic phase content, covers thinner MT-TiCN and super thinner κ-Al₂O₃ coating. It owns good abrasion resistance and capability of resistance to plastic. The unique post-processing technique makes the rake face of the insert and the edge line own the lowest roughness, which can prevent the production of welding. Suitable for high speed and continuous machining of stainless steel.
黄色 Yellow	较高 Co 含量和适中立方相含量的梯度结构合金基体，涂覆薄 MT-TiCN 和超薄 κ-Al₂O₃ 涂层，具有优良抗冲击性和抗塑性变形能力，独特的后处理工艺使刀片前刀面和刃线表面具有极低的粗糙度，有效阻止积屑瘤的产生。 适用于不锈钢的高速断续 / 连续加工。 Gradient structure alloy substrate with higher Co content and appropriately cubic phase content, covers thinner MT-TiCN and super thinner κ-Al₂O₃ coating. It owns good impact resistance and capability of resistance to plastic. The unique post-processing technique makes the rake face of the insert and the edge line own the lowest roughness, which can prevent the production of welding. Suitable for high speed intermittent and continuous machining of stainless steel.

铸铁牌号 Cast Iron Grade

牌号 Grade	ISO	颜色 Colour	应用特点 Application Feature
RC8305A	K05-K10	黑色 Black	超细晶 WC-Co 合金基体搭配厚的 α-Al₂O₃/MT-TiCN 涂层，用于稳定工况铸铁高速精加工。 Superfine grained WC-Co alloy with thick substrate α-Al₂O₃/MT-TiCN coating endows resistance. It is used for high-speed finishing of cast iron under stable working conditions.
RC8215A	K10-K20	黑色 Black	中等粒度的 WC-Co 合金基体搭配中等厚度 α-Al₂O₃ 和较低内优良的抗冲击性能。 WC-Co alloy substrate matching with medium particle size, medium thickness α-Al₂O₃ coating has excellent impact resistance.
RC8315A	K10-K20	黑色 Black	中等粒度的 WC-Co 合金基体搭配中等厚度 α-Al₂O₃/MT-TiCN 涂层适用于铸铁的通用加工。 Medium grained WC-Co alloy substrate matching with medium thickness α-Al₂O₃/MT-TiCN coating has excellent abrasion resistance and toughness. Suitable for general machining of cast iron.
RC8315H	K10-K25	黑色 Black	中等粒度的 WC-Co 合金基体，搭配优化的具有特定结构的 TiCN 涂层，经过特殊的后处理工艺，使刀片具有极佳耐磨性，适用于铸铁的高速通用加工。 Medium grained WC-Co alloy substrate matching with optimized α-Al₂O₃ layer and ultra-thin TiCN coating, through special post-treatment process, makes the insert have excellent abrasion resistance. Suitable for high-speed general machining of cast iron.

颜色 Colour	应用特点 Application Feature
紫黑色 Purple black	TiAlN/TiAlSiN 纳米多层梯度结构涂层，Si 含量适中，摩擦系数低、纳米硬度高、抗剥落性能好，搭配高 Co 超细晶硬质合金基体，具有摩擦系数小，抗氧化温度高，突出的耐磨性和通用性等优点。 适合不锈钢粗加工 / 半精加工 / 精加工。 In TiAlN/TiAlSiN nanometer multi-layer gradient structure coating, Si content is moderate, friction coefficient is low, nano-indentation hardness is high, and antirrip performance is good, and is combined with high Co ultra-fine grain cemented carbide matrix, equipped with the advantages of low friction coefficient, high anti-oxidation temperature and outstanding wear resistance and generality. Suitable for roughing/semi-finishing/finishing of stainless steel.
黑灰色 Black grey	耐磨性与韧性优化匹配的微晶硬质合金，结合高粘结性的纳米晶 TiAlN 涂层，耐磨性极佳。 模具铣削加工首选牌号。 Microcrystal carbide owns optimized and matched abrasion resistance and tenacity. To realize the excellent abrasion resistance by combing with nanometer TiAlN coating with higher cohesiveness. It is the preferred plate No. For mould milling machine.
棕黄色 Brown yellow	TiAlN/TiAlSiN 复合多层结构涂层，高 Si 含量的表层使涂层具有极高的耐热和抗氧化性能，搭配高 Co 超细晶高硬度硬质合金基体。 适合不锈钢精加工。 TiAlN/TiAlSiN composite multi-layer structure coating, surface with high Si content is equipped with extremely high heat resisting and anti-oxidation performance, and is combined with high Co ultra-fine grain highly cemented carbide matrix. Suitable for finishing of stainless steel.
棕黄色 Brown yellow	TiAlN/TiAlSiN 纳米多层梯度结构涂层，Si 含量适中，摩擦系数低、纳米硬度高、耐热抗氧化性能强，搭配高 Co 超细晶硬质合金基体，保持良好耐磨性的同时提高抗冲击性。 适合不锈钢半精 / 精加工。 TiAlN/TiAlSiN nanometer multi-level gradient structure coating, Si content is moderate, friction coefficient is low, nano-indentation hardness is high, and heat resisting and anti-oxidation performance are robust, combined with high Co ultra-fine grain cemented carbide matrix. It improves anti-impact performance along with maintaining good wear resistance. Suitable for semi-finishing/finishing of stainless steel.

TiAlN/TiAlSiN 复合多层结构涂层，Si 含量适中，纳米硬度高、耐热抗氧化性能强，搭配高 Co 超细晶硬质合金基体，保持良好耐磨性的同时提高抗冲击性。

适合不锈钢粗加工 / 半精加工。

In TiAlN/TiAlSiN composite multi-level structure coating, Si content is moderate, nano-indentation hardness is high, and heat

古铜色

牌号 Grade	颜色 Colour	应用特点 Application Feature
RP1020	黑灰色 Black grey	超细微晶合金基体与多层纳米 TiAlN 涂层结合，具有高耐用于钢、不锈钢等材料的断续、连续加工。 Ultra-fine microcrystal alloy substrate combines with multiple nanometer TiAlN coating and middle anti-collapse edge. Suitable for intermittent and continuous machining of steel and stainless steel etc. Mate
RP1120A	黄色 Yellow	TiAlN/TiAlSiN 复合多层结构涂层，高 Si 含量的表层使涂层性能，搭配高 Co 超细晶高硬度硬质合金基体。 适合不锈钢精加工。 TiAlN/TiAlSiN composite multi-level structure coating, surface with high Si content resistance and anti-oxidation performance, and is combined with high Co ultra-fine grain Suitable for finishing of stainless steel.

The figure displays nine graphs arranged in a 3x3 grid, showing the relationship between cutting speed and tool life for different materials and tool grades. The rows represent materials: P Steel, M Stainless Steel, and K Cast Iron. The columns represent tool grades: IRC6250, IRC6315, and IRC6215A. Each graph plots cutting speed (high, medium, low) against tool life (continuous, light intermittent, high intermittent).

Row 1: P Steel

- IRC6250:** Shows tool life curves for IRC6250, IRC6250, IRC6250, and IRC6250. The curves are relatively flat, indicating good performance across different speeds.
- IRC6315:** Shows tool life curves for IRC6315, IRC6315, IRC6315, and IRC6315. The curves show a slight increase in tool life with increasing speed.
- IRC6215A:** Shows tool life curves for IRC6215A, IRC6215A, IRC6215A, and IRC6215A. The curves show a significant increase in tool life with increasing speed.

Row 2: M Stainless Steel

- IRC6250:** Shows tool life curves for IRC6250, IRC6250, IRC6250, and IRC6250. The curves show a slight increase in tool life with increasing speed.
- IRC6315:** Shows tool life curves for IRC6315, IRC6315, IRC6315, and IRC6315. The curves show a significant increase in tool life with increasing speed.
- IRC6215A:** Shows tool life curves for IRC6215A, IRC6215A, IRC6215A, and IRC6215A. The curves show a significant increase in tool life with increasing speed.

Row 3: K Cast Iron

- IRC6250:** Shows tool life curves for IRC6250, IRC6250, IRC6250, and IRC6250. The curves show a significant increase in tool life with increasing speed.
- IRC6315:** Shows tool life curves for IRC6315, IRC6315, IRC6315, and IRC6315. The curves show a significant increase in tool life with increasing speed.
- IRC6215A:** Shows tool life curves for IRC6215A, IRC6215A, IRC6215A, and IRC6215A. The curves show a significant increase in tool life with increasing speed.



Specification of Turning Inserts

Chipbreaker Specification of Turning Inserts

型) Steel (Turning inserts - negative)

钢 (车削刀片 - 正型) Steel (Turning inserts - positive)

	特点 Feature						
 精加工 Finishing	刀片刃口锋利，切削阻力低，工件表面精度高。 三维凸点断屑结构，在小切深、小进给条件下具备出色的断屑控制性能。 The cutting edge is sharp, the cutting resistance is low, and the workpiece surface precision is high. The 3D bump chipbreaker has excellent control performance under the conditions of small cutting depth and small feed.						
							
 半精加工 Semi-finishing	曲线刃设计，锋利变前角结构，切屑流畅。 特殊的刃口处理工艺，获得较好的加工表面光洁度。 Curved cutting edge design: sharp variable front angle structure; smooth chip. Special cutting edge treatment machine to obtain better surface finish.						
							
 半精加工 Semi-finishing	刀片刃口强度高，正前角结构，切削阻力低。 独特的断屑槽结构，排屑范围宽，槽型通用性高。 High cutting edge strength; positive rake angle structure; low cutting resistance. Unique chipbreaker structure; wide chip removal range; high universality of chipbreaker.						
							
 半精加工 Semi-finishing	有切削方向，能有效控制切屑排除。 切削锋利性好，前刀面耐磨损性强的槽型结构。 With cutting direction, it can effectively control chip removal. The chipbreaker with good cutting sharpness and strong wear resistance of the rake face.						
							
 粗加工 Roughing	切削刃强度高，用于断续切削，锻造表皮或氧化皮材料的加工。 大切深和高进给条件下切屑控制性能出色。 High cutting edge strength. It is used for intermittent cutting, forging skin or oxide skin material machining. The chip control performance is excellent under the conditions of large cutting depth and high feed rate.						
							
 粗加工 Roughing	切削刃坚固，可用于高切削负荷的粗加工应用，金属切除率高。 曲线形切削刃使切削力降低，配合独特的断屑台设计，切屑排出性能良好。 The cutting edge is solid, which can be used for roughing applications with high cutting load, and the metal removal rate is high.						
							

断屑槽 Chipbreaker		特点 Feature					
PF 		精加工 Finishing	大前角结合直棱边刃口，切削锋利性高。 小切深、低进给工况下，断屑性能优异，可获得良好的加工表面。 Large rake angle combined with straight cutting edge, high cutting sharpness. Under the working conditions of small cutting depth and low feed rate, the chip removal is excellent, and good machining surface quality can be obtained.				
							
无代号 NO CODE 		半精加工 Semi-finishing	扁平棱边与大前角组合，刀片同时兼备优良的刀刃强度与切削性能。 刀尖部位凸点断屑槽结合大容屑槽设计，实现广泛领域的稳定切削。 The combination of flat edge and large rake angle makes the inserts have excellent cutting sharpness at the same time. The convex chipbreaker at the tool tip is combined with the design of large chip pocket in a wide range of fields.				
							

Specification of Turning Inserts

Chipbreaker Specification of Turning Inserts

负型) Cast iron (Turning inserts - negative)

铸铁 (车削刀片 - 正型) Cast iron (Turning inserts - positive)

	特点 Feature						
 粗加工 Roughing	高强度刃口结构，大容屑槽设计，适用于大余量切削。 With high strength cutting edge structure and large chip pocket design, it is suitable for large margin cutting.						
							
 粗加工 Roughing	扁平棱边刃形结构，刃口强度高，切削通用性好。 Flat cutting edge structure; high cutting edge strength; good cutting versatility.						
							
 重载加工 Finishing	高强度结构，装配刀杆稳固，适合脆硬材料不稳定切削。 With high strength structure and stable assembly tool holder, it is suitable for unstable cutting of brittle hard materials.						
							

断屑槽 Chipbreaker	特点 Feature
无代号 NO CODE 	扁平棱边与大前角组合，刀片同时兼备优良的刃刃强度与切削 刀尖部位凸点断屑槽结合大容屑槽设计，实现广泛领域的稳定 The combination of flat edge and large rake angle makes the inserts have excellent e sharpness at the same time. The convex chipbreaker at the tool tip is combined with the design of large chip pocket in a wide range of fields.
半精加工 Semi-finishing	     