

Precision Parts Grade

Grade	ISO	specification			USE WAY of tungsten carbide
		Density	TRS	Hardness	
		G/Cm ³	N/mm ²	HRA	
YG6X	K10	14.8-15.1	≥1560	≥91.0	Qualified for machining of chilled cast iron, alloy cast iron, refractory steel and alloy steel. Also Qualified for the machining of common cast iron.
YG6A	K10	14.7-15.1	≥1580	≥91.0	
YG6	K20	14.7-15.1	≥1670	≥89.5	Qualified for finish machining and semi-finish machining for the cast iron, non-ferrous metal, alloy and unalloyed materials. Also qualified for wire drawing for the steel and non-ferrous metal, electric drill for geology use and steel drill etc.
YG8	K20-K30	14.6-14.9	≥1840	≥89	Qualified for rough machining of cast iron, non-ferrous metal, nonmetal materials, drawing of steel, non-ferrous metal and pipes, various drills for geology use, tools for machine manufacture and wearing parts.
YS2T	K30-M30	14.5-14.8	≥2300	≥91.5	Qualified for low speed rough machining, milling titanium alloy and refractory alloy, especially for cut-off tool and silk prick.
YL10.2	K30-M30	14.4-14.6	≥2100	≥91.5	
YK25	K40	14.3-14.6	≥2100	≥86.5	Qualified for molding the drills for heavy-duty rock drill: detachable bits used for deep hole drilling, rock drill trolley etc.
YG11C	K40	14.0--14.4	≥2060	≥86.0	
YG15	K40	13.9-14.1	≥2020	≥86.5	Qualified for hard rock drilling, steel bars with high compression ratios, pipe drawing, punching tools, core cabinet of powder metallurgy automatic molders etc.
YG20		13.4-14.8	≥2480	≥83.5	Qualified for making dies with low impact such as punching watch parts, battery shells, small screw caps etc.
YG20C		13.4-14.8	≥2480	≥82.5	Qualified for making moulds of cold heading, cold stamping and cold pressing used for manufacturing standard parts, bearings etc.

Saw Blades Grade

Density	Hardness	TRS		
g/cm ³	HRA	N/mm ³	SampleB	An ultra fine cemented carbide with tungsten powder and binder cobalt. Good toughness and wear resistance. Suitable for low speed cutting allowing a big rake angle, ensuring the sharpness of the edges, bearing a heavy cutting force and achieving good surface finish.
YS2T	14.45	91.5	2380	

Strips Grade

Grades k	Equal to	Density	TRS	Hardness	Application
	ISO	(g/cm ²)	(N/mm ²)	(HRA)	
YG7	K10	14.8	1950	90.5	Better wear resistant than Mk6, used for hard wood used for processing original wood, aluminum section bar, brass rod and cast iron.
YG6	K10	14.85	1900	90.8	Has wear resistance higher than Mk6, used for processing hard wood, original wood, aluminum section bar, brass rod and cast iron.
YG8	K20	14.7	1950	89	Wear and percussion resistance, used for processing hard wood, soft wood ferrous and non-ferrous.
YG8A	K20	14.7	2000	89.5	Wear and percussion resistance, used for processing hard wood, soft wood ferrous and non-ferrous.
YG10X	K40	14.5	2000	91	Suitable for processing hard wood, veneer board, PCB, PVC & metals
YG12C	K40	14.3	2500	87.4	For crashing the granite, marble, cobble etc.

Rods Grade

GRADE of carbide bars	ISO CODE	COBALT CONTENT (%)	DENSITY g/cm ³	HARDNESS HRA	TRS N/mm ²
K10T	K05-K10	4.5-6.0	14.95-15.05	92.7	1800
YG8	K30	8	14.8	89.5	2200
YG6	K20	6	14.95	90.5	1900
YG6X	K10	6	14.95	91.5	1800
YL10.2	K30	10	14.5	91.8	2400
YG13X	K30-K40	13	14.3	89.5	2600
YG15	K40	15	14	87.5	2800
YL10.2	14.45	91.5 1600(HV3)	2400	Progressive die is suitable for low and medium speed electronics concave and convex mold production, appropriate copper, aluminium sheet stamping.	

Drawing Die Grade

Grade	Density	T.R.S	Hardness	Performance & application recommended
	g/cm ³	MPa	HRA	
YG3X	15.15-15.35	91.5	1760-1300	With very good wear resistant properties, it is used for making small drawing dies
YG6X	14.95	1800	91.5	For drawing steel and nonferrous wires or bars of less than 6.00mm under not so much stress.
YG6	14.95	1900	90.5	For drawing steel, nonferrous alloy bars of less than 20.00mm under more stress and also for drawing tubes of less than 10.00mm.
YG8	14.8	2200	89.5	For drawing steel and nonferrous bars and tubes, also for manufacturing mechanical parts, tools and wear parts.
YG10	14.5	2400	88.5	
YG15	14	2800	87	For drawing steel bars and tubes with a high reduction rate and for manufacturing anvils, drilling and punching and impacting.

Cutter Tools Grade

Grade	Equal to ISO Category Number	Performance			Uses
		Density	Bend Strength	Hardness	
		G/Cm3	N/mm2	HRA	
YG3	K01	14.9-15.3	≥1180	≥90.5	Sand-blasting nozzles Qualified for fine turning and half-fine turning when cast iron, non-ferrous metal, alloys as well as non-alloy materials cutting consecutively. Can make wire drawing of steel and non-ferrous metal. Also qualified for sand-blasting nozzles.
YG3X	K01	15.1-15.4	≥1300	≥91.5	
YG6X	K10	14.8-15.1	≥1560	≥91.0	Qualified for machining of chilled cast iron, alloy cast iron, refractory steel and alloy steel. Also Qualified for the machining of common cast iron.
YG6A	K10	14.7-15.1	≥1580	≥91.0	
YG6	K20	14.7-15.1	≥1670	≥89.5	Qualified for finish machining and semi-finish machining for the cast iron, non-ferrous metal, alloy and unalloyed materials. Also qualified for wire drawing for the steel and non-ferrous metal, electric drill for geology use and steel drill etc.
YG8	K20-K30	14.6-14.9	≥1840	≥89	Qualified for rough machining of cast iron, non-ferrous metal, nonmetal materials, drawing of steel, non-ferrous metal and pipes, various drills for geology use, tools for machine manufacture and wearing parts.
YT15	P10	11.1-11.6	≥1180	≥91.0	Qualified for rough machining, semi-finish machining and finish machining during consecutive machining of carbon steel and alloy steel.
YT14	P20	11.2-11.8	≥1270	≥90.5	Qualified for rough machining for rough face of carbon steel and alloy steel, half process during discontinuity cutting.

YT5	P30	12.5-13.2	≥ 1430	≥ 89.5	Qualified for rough machining for rough face of carbon steel and alloy steel and discontinuity cutting.
YW1	M10	12.7-13.5	≥ 1180	≥ 91.5	Qualified for finishing and semi-finishing machining of refractory steel, high manganese steel and common steel.
YW2	M20	12.5-13.2	≥ 1350	≥ 90.5	Qualified for semi-finishing machining of refractory steel, high manganese steel and common steel.

Heading Dies Grade

Grade	Density	T.R.S MPa	Hardness HRA	Performance & application recommended
GT40	13.6	3300	87.2	Very high toughness & very good wear resistance. Very good performance on difficult heading and forming dies cold extrusion & heading dies for bolts, nuts and similar difficult cold headed parts. Press tools for sheet metal applications. Cut-off knives & quills for wire dia less than 8mm, dies for difficult extrusions.
GT50	13.3	3200	85	Extra-ordinary high toughness & good wear resistance. Good strength at elevated temperature. ideally suited for tools which are subjected to impact loads, easily machinable. Very good performance on heading and forming dies, performing and finishing dies for cold forming of screws, rivet, bolt, nut and similar cold headed parts. Cold forming dies for cylindrical and taper roller for roller bearings. Cold forming dies for bearing balls. Dies for impact extrusion, quills & cutters for wire dia. More than 8mm.
GT55	13.1	3100	84.3	

Plates Grade

Grade	ISO CODE	DENSITY g/cm ³	HARDNESS HRA	TRS N/mm ²	Performance & application recommended
YG6X	K10	14.8-15.1	≥91.0	≥ 1750	has the degree of hardness and the good resistance to wear, is suitable for manufacturing molds and so on forming tools, wear resisting parts
YG8A		14.6-15.0	≥91.5	≥ 1900	
LS2T		14.3-14.7	≥91.5	≥ 2200	
YG18X		13.8-14.1	≥89.0	≥ 2000	has the good overall performance, is suitable for manufacturing the level to hot-chamber die casting molds and so on
YG6	K20	14.7-15.1	≥89.5	≥ 1670	has the high intensity, the resistance to wear is lower than YG6X, is suitable for manufacturing the forming tools, bears the abrasion parts and so on
YG8	K30	14.5-14.9	≥89.0	≥ 2050	
YG15	K40	13.9-14.2	≥86.5	≥ 2450	is suitable for manufacturing the hot-chamber die casting mold, bears the abrasion parts and so on
YG20	K40	13.4-13.8	≥85.0	≥ 2500	Has the high intensity, is suitable for manufacturing the level to hot-chamber die casting molds and so on
YG20C		13.4-13.7	≥82.5	≥ 2450	Has the good resistance to wear and the good toughness, is suitable for Leng Dui, Leng Chong, the cold press mold