



General

SYMBOL	CHEMICAL COMPOSITION (weight per cent)					Average grain size μm	Transverse rupture strength N/mm^2	Density g/cm^3	Hardness HV	Hardness HRA	ISO code(s)
	WC	TiC	Ta (Nb) C	Co	Ni						
HB05	92			8		medium	2550	14.6	1450		
HB06	92			8		medium-coarse	2650	14.6	1350		
HB10	90			10		2	3260	14.5	1200		
HB20	87			13		medium	2860	14.2	1250		
HB30	85			15		coarse	2550	14.0	1050		
HG05	93		2	5		fine	1840	14.9	1750		
HK01	94		2	4		>1.0	1530	15.0	1850		K01



Grade Programme – Coated

Symbol	Coating	Thickness um	Type of Coating	ISO
HC10	CVD	6-10	TiC + AL2 O3	P05-P35 / K05-K20
HC15	CVD	6-12	Tic + A12 O3 + TiN	P15-P45 / K05-K25
HC20	CVD	5-9	TiC	P10-P40 / K05-K20
HC30	CVD	6-12	TiC + A12 O3 + TiN	P05-P35 / K05-K20
HC40	CVD	3-8	TiC	P25-P45 / M15-M30
HC50	CVD	3-8	TiC	K05-K25 / M15-M20



Data for Tungsten Carbide grit

Symbol	Chemical Composition (weight per cent)			Size Range UM	Hardness Band HRA
	WC	Co	Other		
GR01	88-90	6-12	2	90-125	89-91
GR02	88-90	6-12	2	125-210	89-91
GR03	88-90	6-12	2	150-250	89-91
GR04	88-90	6-12	2	200-300	89-91
GR05	88-90	6-12	2	250-420	89-91
GR06	88-90	6-12	2	250-350	89-91
GR07	88-90	6-12	2	300-400	89-91
GR08	88-90	6-12	2	300-500	89-91
GR09	88-90	6-12	2	400-500	89-91
GR10	88-90	6-12	2	450-600	89-91
GR11	88-90	6-12	2	500-600	89-91
GR12	88-90	6-12	2	800-1000	89-91
GR13	88-90	6-12	2	1000-1200	89-91
GR16	88-90	6-12	2	1/16 - 1/8	89-91
GR17	88-90	6-12	2	1/8 - 3/16	89-91
GR18	88-90	6-12	2	3/16 - 1/4	89-91
GR19	88-90	6-12	2	1/4 - 3/8	89-91
GR20	88-90	6-12	2	3/8 - 5/16	89-91

Diamond Impregnated Carbide

Symbol	Type	Binder composition
D12	Natural Diamond	2mm 90wc/10 co
D13	Natural Diamond	3mm 90wc/10 co
D14	Natural Diamond	4mm 90wc/10 co
D12	2mm Natural Diamond	10% Cobalt
D13	3mm Natural Diamond	10% Cobalt
D14	4mm Natural Diamond	10% Cobalt



Grade Programme – Wear

Symbol	WC	Tic	TaC	CO	Ni	Grain um	Dens. g/cm3	TRS. n/mm2	HV30/HRA	ISO
G05	93		2	5		F	14.9	1840	1750	
G10	92		2	6		M	14.8	2240	1630	
G15	90.8		0.2	9		M	14.6	2750	1350	
G20	88.8		0.2	11		M	14.4	2860	1350	
G25	87			13		M	14.2	2900	1250	
G30	84.8		0.2	15		M	14.0	2450	1150	
G40	79.8		0.2	20		M	13.5	2700	1050	
G55	74.8		0.2	25		M - C	13.0	2550	800	
B05	92			8		M	14.6	2550	1450	
B06	92			8		M - C	14.6	2650	1350	
B10	90			10		2	14.5	3260	1200	
B20	87			13		M	14.2	2860	1250	
B30	85			15		C	14.0	2550	1050	
KN1	94				6	M	14.8	1840	1550	
KN2	91				9	M	14.6	2240	1350	
KN3	89				11	M	14.3	1530	1600	
RC1				3-6		F			1650	MIN
RC2				7-10		M			1450	MIN
RC3				10-15		M - C			1250	MIN



Grades

Symbol	WC	Tic	TaC	CO	Ni	Grain um	Dens. g/cm3	TRS. n/mm2	Hardness	HRA	ISO
MACHINING											
RKX	96			4			15.1	2200	1900	93.8	K01
RKF	94			6			14.9	2300	1700	92.8	K10
RKS	93			7			14.8	2500	1650	92.5	K10-K20
RKM	94			6			15.0	2300	1580	92.0	K10-K20
RKD	93			7			14.9	2500	1520	91.5	K30
RKI	93			7			14.9	2500	1450	91.0	K30
RKK	89			11			14.4	2800	1350	89.8	K40
RX3	97			3		<0.8	15.2	1800	2000	94.2	K01
RX4	96			4		<0.8	15.1	2200	1900	93.8	K01
RX6	94			6			14.95	2700	1820	93.4	K05-K20
RX7	92.5			7.5		<0.8	14.8	3000	1750	93.1	K20-K30
RX10	90			10		<0.8	14.5	4000	1580	92.0	K30-K40
RX12UF	87			12	1		14.2	4300	1680	92.7	K20-K30
RX15	85			15		<0.6	14.1	3800	1325	89.6	K30-K40
RX16	+		+	+		<0.4	13.9	3800	1600		K20-K30
RPM	69.5	6.5	14.5	9.5			12.5	2500	1520	91.5	
RPP	78	8	5	9			12.5	2300	1550	91.8	
RPX	78.5	5	5	11.5			12.9	2300	1380	90.2	
WEAR RESISTANCE											
RG10	94			6			15.0	2300	1580	92.0	
RG20	89			11			14.4	2800	1350	89.8	
RG25	88			12			14.3	3000	1380	90.2	
RG30	85			15			14.0	2900	1150	87.5	
RG30K	85			15			14.1	2900	1250	88.7	
RG40	80			20			13.6	2800	1050	86.2	



CORROSION RESISTANCE

RCN	91				9		14.6	2100	1550	91.8	
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MINING

RB7	93			7			14.9	2500	1450	91.0	
RB8	91.5			8.5			14.6	2500	1350	89.8	
RB10	90			10			14.5	3100	1200	88.2	
RB15	85			15			14.1	3000	1050	86.2	

STANDARD GRADES FOR SAW TIPS

SZ3C	96.5			2.5	1		15.2	2300	1950	94.0	K01
SZ4	96			4			15.1	2200	1850	93.6	K01
SZ5	95			5			15.0	2000	1700	92.8	K05
SZ7	93			7			14.8	2500	1650	92.5	K10
RKM	94			6			15.0	2300	1580	92.0	K20
RKD	93			7			14.9	2500	1520	91.5	K30
Z01	93	.	2	5	.	.	F	14.8	1730	1800	K01
Z10	92.5	.	0.5	7	.	.	F	14.7	2240	1700	K10
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W05	94.5	.	2	3.5	.	.	1-2	15.1	1500	1800	.
W10	93.5	.	0.5	6	.	.	1-2	14.9	1700	1750	.
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R20	90	.	.	10	.	.	-	14.3	2300	86	.
R30	85	.	.	15	.	.	-	13.9	2400	84	.
R35	83.5	.	.	16	.	.	-	13.8	2500	84	.
R40	82	.	.	18	.	.	-	13.5	2500	83.5	.
R45	80	.	.	20	.	.	-	13.4	2400	83	.
R50	74	.	.	26	.	.	-	12.7	2000	81	MIN



Grade Programme – Standard

Symbol	WC	Tic	TaC	CO	Ni	Grain um	Dens. g/cm3	TRS. n/mm2	HV30/HRA	ISO
HP01		80		20		M	5.5	1120	1680	P01
HP05	15	62			12	-	6.3	1200	92	P05- P10
HP10	56	20	15	9		M	10.2	1530	1550	P05- P15
HP20	73	12	6	9		M	11.6	2140	1600	P20
HP25	69.5	6.5	14.5	9.5		M	12.6	2550	1550	P25
HP30	78	8	5	9		M	12.4	2240	1550	P25- P35
HP35	70	4	16	10		1 - 2	12.9	2000	1530	P20- P40
HP40	77	5	5	13		M	12.8	2350	1450	P35- P45
HK16	90			10		70.8	14.5	2200	1620	K15- K30
HK01	94		2	4		>1.0	15.0	1530	1850	K01
HK10	94		1	5		F	14.9	1800	1750	K05- K10
HK14	92.5		0.5	7		F	14.7	2240	1700	K10
HK15	92		2	6		F	14.8	2040	1700	K15- K35
HK15S	92		1	7		F	14.8	2240	1700	K15- K35
HK18	85	7.5		7.5		1 - 2	12.9	1600	1680	K15- K25
HK20	93		1	6		M	14.8	2400	1625	K15- K25



Grade Programme – Standard

HK25	92		2	6		1 - 2	14.8	1900	1500	K15-K25
HK30	93			7		M	14.8	2500	1550	K30
HK40	89			11		1 - 3	14.3	2500	1250	K40
HK50	87			13		1 - 3	14.3	3300	1250	K50
HK60	85			15		1 - 3	13.9	2600	1150	K60
M10	85	6	3	6			12.7	1300	1550	M10
M20	84.8	6.5	3.2	5.5		F	13.1	2040	1680	M15-M25
M30	86	2.5	6	5.5		M	13.9	1900	1550	M15-M25
M40	92.8		0.2	7		M	14.8	2350	1450	M40



Grade Programme – Matrix Bars

Symbol	Size Range	Composition/Mix	Matrix
MB01	1/16" x 1/8"	40 - 60	Cu 46-50 Ni9-11 Zn BAL
MB02	1/8" x 3/16"	40 - 60	Cu 46-50 Ni9-11 Zn BAL
MB03	3/16 x 1/4"	40 - 60	Cu 46-50 Ni9-11 Zn BAL
MB04	1/4" x 3/8"	40 - 60	Cu 46-50 Ni9-11 Zn BAL
MB05	3/8" x 5/16"	40 - 60	Cu 46-50 Ni9-11 Zn BAL

Typical Analysis

Symbol	Tensile Strength	Working Temp.	Hardness
MB01	110,000 PSI	1200F TO 1750F	90 - 110 BRINELL
MB02	110,000 PSI	1200F TO 1750F	90 - 110 BRINELL
MB03	110,000 PSI	1200F TO 1750F	90 - 110 BRINELL
MB04	110,000 PSI	1200F TO 1750F	90 - 110 BRINELL
MB05	110,000 PSI	1200F TO 1750F	90 - 110 BRINELL

Tungsten Carbide Analysis

Symbol	WC	CO	TaC	NbC
MB01	53.0 - 97.7	2.0 - 20.0	0.1 - 12.0	0.1 - 5.0
MB02	53.0 - 97.7	2.0 - 20.0	0.1 - 12.0	0.1 - 5.0
MB03	53.0 - 97.7	2.0 - 20.0	0.1 - 12.0	0.1 - 5.0
MB04	53.0 - 97.7	2.0 - 20.0	0.1 - 12.0	0.1 - 5.0
MB05	53.0 - 97.7	2.0 - 20.0	0.1 - 12.0	0.1 - 5.0