

DIAMOND & CBN WHEELS



STOCK AVAILABILITY

Norton Range Diamond & CBN Wheels

	S.S.	BOND	TYPE	DIAM	WIDTH	DI	BORE	DIA/CBN	CONC.	BOND
	CODE			D	W	X	H	GRIT		
	SA15	Resin	11V9	90	10	1.5	31.75	ASD126	R50	B1
	SA13	Resin	11V9	100	10	1.5	31.75	ASD91	R50	B1
	SA131	Resin	11V9	100	10	1.5	31.75	SD107	R50	B1
	SA1	Resin	11V9	100	10	2	31.75	ASD126	R50	B1
	SA17	Resin	11V9	100	10	2	31.75	ASD64	R50	B1
	SA36	Resin	11V9	100	10	2	31.75	ASD126	R75	B1
	SA37	Resin	11V9	125	10	2	31.75	ASD126	R75	B1
	SA49	Resin	11V9	125	10	3	31.75	ASD126	R75	B1
	SA44	Resin	11V9	125	6	2	31.75	ASD91	R75	B1
	SA11	Resin	11V9	100	10	2	31.75	CB126	R75	B1
	SA71	Metal	1A1R	100	0.8	5	31.75	D151	C100	MB
	SA72	Metal	1A1R	125	1	5	31.75	D151	C100	MB
	SA73	Metal	1A1R	125	1.5	5	31.75	D151	C100	MB
	SA74	Metal	1A1R	150	1	5	31.75	D151	C100	MB
	SA75	Metal	1A1R	150	1.5	5	31.75	D151	C100	MB
	SA76	Metal	1A1R	200	1	5	31.75	D151	C100	MB
	SA77	Metal	1A1R	200	1.5	5	31.75	D151	C100	MB
	SA78	Metal	1A1R	300	3	3	50	D151	C100	MB
	SA83	Resin	1A8	15	10	3	6	SD126	R100	B2
	SA84	Resin	1A8	18	10	3	10	SD126	R100	B2
	SA85	Resin	1A8	20	10	3	10	SD126	R100	B2
	SA86	Resin	1A8	25	10	3	10	SD126	R100	B2
	SA87	Resin	1A8	30	10	3	10	SD126	R100	B2
	SA88	Resin	1A8	40	10	3	10	SD126	R100	B2
	SA50	Resin	6A9	125	7	3	31.75	ASD64	R75	B1
	SA51	Resin	6A9	125	6	1.5	31.75	ASD91	R75	B1
	SA7	Resin	12V9	75	6	2	20	ASD76	R50	B1
	SA41	Resin	12V9	100	6	1.5	31.75	ASD107	R75	B1
	SA42	Resin	12V9	100	6	2	31.75	ASD107	R75	B1
	SA52	Resin	1A1	100	4	3	20	ASD30	R100	B4
	SA54	Resin	1A1	100	5	2	31.75	ASD126	R75	B2
	SA23	Resin	1A1	150	12	3	31.75	ASD126	R75	B2
	SA3	Resin	1A1	150	12	3	31.75	ASD126	R50	B2
	SA38	Resin	1A1	150	12	3	31.75	ASD30	R50	B2
	SA12	Resin	1A1	150	12	3	31.75	CB126	R75	B4
	SA25	Resin	1A1	150	6	3	31.75	ASD126	R75	B2
	SA79	Metal	1A1	150	10	5	31.75	D126	R50	MB
	SA56	Resin	1A1	250	25	4	76.2	ASD151	R75	B2
	SA4	Resin	1A1	300	12	3	127	ASD126	R75	B2
	SA24	Resin	1A1	300	12	3	127	ASD126	R50	B2
	SA55	Resin	1A1	300	12	3	127	ASD126	R100	B4
	SA57	Resin	1A1	300	15	3	127	ASD126	R75	B2
	SA58	Resin	1A1	350	12	3	127	ASD126	R100	B2
	SA35	Metal	1A1	300	12	3	127	D126	C50	MB
SA70	Metal	1A1	300	12	5	127	D126	C50	MB	
	SA27	Resin	11A2	100	10	2	31.75	ASD126	R75	B2
	SA80	Resin	11A2	100	10	2	31.75	SD107	R50	B2
	SA8	Resin	11A2	100	10	2	31.75	ASD126	R50	B2
	SA59	Resin	11A2	125	10	2	31.75	ASD126	R50	B2

SUPER ABRASIVES

DIAMOND & CBN WHEELS

Grinding Parameters For Resin Bond Diamond & CBN Wheels

Grinding Process	Parameter		For Diamond	For CBN
Surface Grinding	Cutting speed (m/s)		23-36	28-33
	Oscillation (m/min)		8-15	10-20
	Depth of cut (mm)	Roughing Finishing	0.05-0.08 0.002-0.02	0.06-0.1 0.005-0.03
External Cylindrical Grinding	Cutting speed (m/s)		23-36	28-33
	Oscillation (m/min)		5-15	10-20
	Workpiece speed (m/min)	10-20	10-20	
	Depth of cut/Infeed (mm)	Roughing Finishing	0.03-0.05 0.003-0.02	0.04-0.08 0.004-0.03
Internal Grinding	Cutting speed (m/s)	Resin Bond Electroplated	15-20 5-10	18-25 8-15
	Oscillation (m/min)		2-3	3-5
	Workpiece speed (m/min)	25-30	30-35	
	Depth of cut/Infeed (mm)	Roughing Finishing	0.003-0.02 0.003-0.008	0.003-0.03 0.003-0.05
Tool & Cutter Grinding	Cutting speed (m/s)	Wet Dry	18-25 15-18	25-35 18-30
	Table Speed (m/min)		2-3	3-5
	Depth of cut/Infeed (mm)	0.02-0.2	0.02-0.3	
Creepfeed Grinding	Cutting speed (m/s)		25-30	30-45
	Feed Rate (mm/min)		25-250	50-750
	Depth of cut		Total Allowance	Total Allowance

Guidelines For Dressing And Truing

Bond	Abrasive	Dressing Method		Remarks
		Good	Best	
Resin Bond	Diamond	Dressing Stick 37C 220	Brake Truing Device 37C 220 Wheel	Always dress wet
Resin Bond	CBN	Dressing Stick 38A 220	Brake Truing Device 38A 220	Always dress wet
Metal Bond	Diamond and CBN	Dressing Stick on vice	Profile or T/C grinder with wheel	Wet or dry
Vitrified Wheels	Diamond Low Conc.	Dressing Stick 39C - 2 grits finer than wheel	Nibs with traverse Dressing	Always dress wet
Vitrified Wheels	CBN Low. Conc.	Gem Dressers or nibs	Rotary Dressing	Always dress wet
Vitrified Wheels	CBN High Conc.	—	Rotary Truing	Always dress wet
CVSG Wheels	CBN	Single Pt.Gem quality Dressers	Rotary Truing	

Different Dressing Ratios for Bond Types

Wheel Type	Truing Operation	Truing Mode	Wheel/Truer speed ratio $q=V_r/V_s$	Depth of Truing Pass	Truer Traverse Feed (mm/rev)
Resin Bond Wheel	Roughing	Counter-directional	-0,5 to -0,75	0,005 (max)	0,1 to 0,2
Resin Bond Wheel	Roughing	Uni-directional	0,5 to 0,75	0,003 (max)	0,1 to 0,2