

High Feed Drilling - 4 Edge Inserts

SumiDrill WDX type



- High productivity
- Excellent chip control
- Effective chip evacuation
- Low cutting forces
- Excellent hole accuracy
- Super ZX - Ultra hard coated inserts

Indexable Insert Type "SumiDrill" WDX Type



General Features

The newly designed WDX drill features indexable inserts with 4 cutting edges and a range of optimised chipbreakers; light (L) - general purpose (G) - heavy (H) for rapid chip removal.

The balanced cut design maximises feed rates and accuracy whilst the super ZX ultra hard coated inserts double the tool life.

Advantages

● Rigid - Economical - Multi-function

Drills - Bores - External Turns
Diameter range 13,0 ~ 55,0mm
Drilling depth ~ 2D - 3D - 4D

● Excellent chip control

Wide application suitability - choose from 3 styles of chipbreaker



L type
Excellent chip control
at low feed rates



G type
General purpose



H type
Strong cutting edge
at higher feed rates

Additional grooves for
optimised swarf control



Outer cutting edge Inner cutting edge
Inner cutting edge Outer cutting edge



● One insert style for both pockets

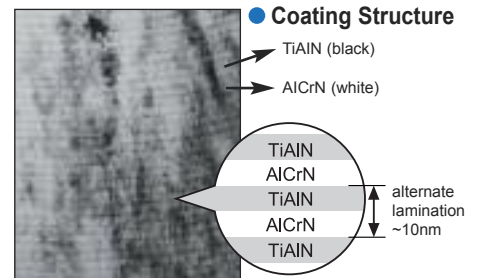
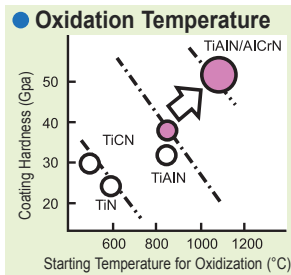
4 Edge insert provides both Inner and Outer cutting edges
Newly designed insert style simplifies insert management.

● Ultra hard Super ZX inserts double tool life

ACP300 for steels - stainless steels - difficult to cut materials
ACK300 for cast irons

● Features of Super ZX Coating

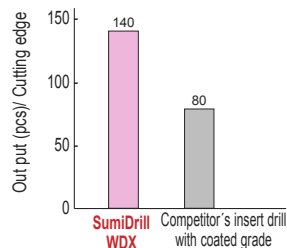
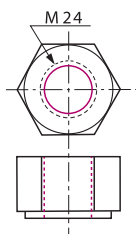
- Super-multi layered coating with ultra-thin (nanometer) layers of TiAlN and AlCrN, alternately stacked up to 1.000 layers.
- 40% increase in coating hardness and 200% increase in oxidation temperature as compared with conventional grades



Application Examples

● X 22 CrMoV 12-1 Nut

Longer Tool Life !
Stable edge condition and smooth cutting.

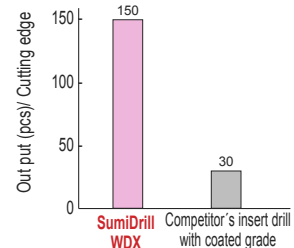
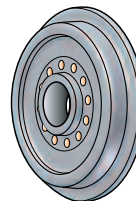


Tool: WDX 220 D2 S25
Insert: WDX 063006 - L (ACP300)
Cutting data: $v_c = 120$ m/min, $f = 0,06$ mm/rev, Wet

● High Toughness Railway Wheel

Tensile strength: ~ 900 N/mm²

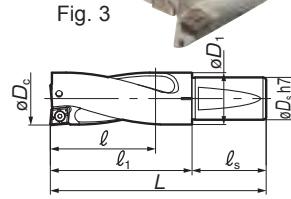
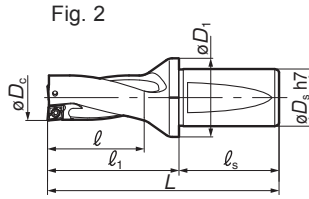
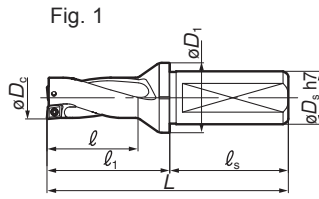
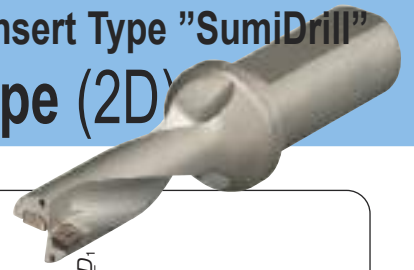
5 times longer Tool Life !
Stable machining with lower cutting force.



Tool: WDX 245 D3 S25
Insert: WDX 073506 - G (ACP300)
Cutting data: $v_c = 185$ m/min, $f = 0,1$ mm/rev, Wet

Indexable Insert Type "SumiDrill" WDX Type (2D)

Guide for machining tolerance: -0,05 to +0,15
Maximum depth ℓ : $2 \times D_c$



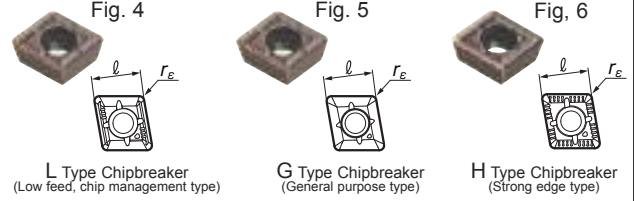
■ Holders

Cat. No.	Stock	Dimensions (mm)							Applicable Insert	Fig.
		ϕD_c	L	ℓ_1	ℓ	ϕD_1	ϕD_s	ℓ_s		
WDX 130D2S20	●	13,0	88	44	29				WDXT 042004	1
WDX 135D2S20	●	13,5	89	45	30	28,0	20	44		
WDX 140D2S20	●	14,0	90	46	31					
WDX 145D2S20	●	14,5	91	47	32					
WDX 150D2S20	●	15,0	92	48	33				WDXT 052504	1
WDX 155D2S20	●	15,5	93	49	34	30,0	20	44		
WDX 160D2S20	●	16,0	94	50	35					
WDX 165D2S20	●	16,5	95	51	36					
WDX 170D2S20	●	17,0	96	52	37				WDXT 063006	1
WDX 175D2S25	●	17,5	109	53	38	32,0	25	56		
WDX 180D2S25	●	18,0	110	54	39					
WDX 185D2S25	●	18,5	111	55	40					
WDX 190D2S25	●	19,0	112	56	41				WDXT 073506	1
WDX 195D2S25	●	19,5	113	57	42	33,0	25	56		
WDX 200D2S25	●	20,0	114	58	43					
WDX 205D2S25	●	20,5	115	59	44					
WDX 210D2S25	●	21,0	116	60	45				WDXT 094008	2
WDX 215D2S25	●	21,5	117	61	46	37,0	25	56		
WDX 220D2S25	●	22,0	118	62	47					
WDX 225D2S25	●	22,5	119	63	48					
WDX 230D2S25	●	23,0	123	67	49				WDXT 125012	3
WDX 235D2S25	●	23,5	124	68	50	41,0	32	60		
WDX 240D2S25	●	24,0	125	69	51					
WDX 245D2S25	●	24,5	126	70	52					
WDX 250D2S25	●	25,0	127	71	53				WDXT 156012	3
WDX 255D2S32	●	25,5	134	74	54	50,0	32	60		
WDX 260D2S32	●	26,0	135	75	55					
WDX 265D2S32	●	26,5	136	76	56					
WDX 270D2S32	●	27,0	137	77	57				WDXT 125012	2
WDX 275D2S32	●	27,5	138	78	58	54,0	40	70		
WDX 280D2S32	●	28,0	139	79	59					
WDX 285D2S32	●	28,5	140	80	60					
WDX 290D2S32	●	29,0	143	83	62				WDXT 156012	3
WDX 295D2S32	●	29,5	144	84	63					
WDX 300D2S40	●	30,0	158	88	64					
WDX 310D2S40	●	31,0	160	90	66					
WDX 320D2S40	●	32,0	162	92	68				WDXT 125012	2
WDX 330D2S40	●	33,0	164	94	70	54,0	40	70		
WDX 340D2S40	●	34,0	166	96	72					
WDX 350D2S40	●	35,0	168	98	74					
WDX 360D2S40	●	36,0	170	100	76				WDXT 156012	3
WDX 370D2S40	⊛	37,0	179	109	79	49,5	40	70		
WDX 380D2S40	⊛	38,0	181	111	81					
WDX 390D2S40	⊛	39,0	183	113	83					
WDX 400D2S40	⊛	40,0	185	115	85				WDXT 156012	3
WDX 410D2S40	⊛	41,0	187	117	87	49,5	40	70		
WDX 420D2S40	⊛	42,0	189	119	89					
WDX 430D2S40	⊛	43,0	191	121	91					
WDX 440D2S40	⊛	44,0	193	123	93				WDXT 156012	3
WDX 450D2S40	⊛	45,0	195	125	95	49,5	40	70		
WDX 460D2S40	⊛	46,0	197	127	97					
WDX 470D2S40	⊛	47,0	199	129	99					
WDX 480D2S40	⊛	48,0	201	131	101				WDXT 156012	3
WDX 490D2S40	⊛	49,0	203	133	103	49,5	40	70		
WDX 500D2S40	⊛	50,0	205	135	105					
WDX 510D2S40	⊛	51,0	207	137	107					
WDX 520D2S40	⊛	52,0	209	139	109				WDXT 156012	3
WDX 530D2S40	⊛	53,0	211	141	111	49,5	40	70		
WDX 540D2S40	⊛	54,0	213	143	113					
WDX 550D2S40	⊛	55,0	215	145	115					

● = Euro stock

⊛ = WDX370~550: available 2010

■ Inserts



Cat. No.	Coated Carbide		Fig.	Dimensions (mm)			Applicable Holders
	ACP300	ACK300		ℓ	Thickness	r_E	
WDXT 042004-L	●	●	4	4,2	2,0	0,4	WDX130D2S20 to WDX150D2S20
WDXT 042004-G	●	●	5				
WDXT 042004-H	●	●	6				
WDXT 052504-L	●	●	4	5,0	2,5	0,4	WDX155D2S20 to WDX180D2S25
WDXT 052504-G	●	●	5				
WDXT 052504-H	●	●	6				
WDXT 063006-L	●	●	4	6,0	3,0	0,6	WDX185D2S25 to WDX225D2S25
WDXT 063006-G	●	●	5				
WDXT 063006-H	●	●	6				
WDXT 073506-L	●	●	4	7,5	3,5	0,6	WDX230D2S25 to WDX285D2S32
WDXT 073506-G	●	●	5				
WDXT 073506-H	●	●	6				
WDXT 094008-L	●	●	4	9,6	4,0	0,8	WDX290D2S32 to WDX360D2S40
WDXT 094008-G	●	●	5				
WDXT 094008-H	●	●	6				
WDXT 125012-L	●	●	4	12,4	5,0	1,2	WDX370D2S40 to WDX450D2S40
WDXT 125012-G	●	●	5				
WDXT 125012-H	●	●	6				
WDXT 156012-L	●	●	4	15,2	6,0	1,2	WDX460D2S40 to WDX550D2S40
WDXT 156012-G	●	●	5				
WDXT 156012-H	●	●	6				

■ Spare Parts

Screw	Wrench	Wrench	Applicable Holders	Recommended Torque (Nm)
BFTX01604N	TRX06		WDX 130D2S20 ~ 150D2S20	0,5
BFTX0204N	TRX06		WDX 155D2S20 ~ 180D2S25	0,5
BFTY02206		TRD07	WDX 185D2S25 ~ 225D2S25	1,0
BFTX02506N		TRD08	WDX 230D2S25 ~ 285D2S32	1,5
BFTX03584		TRD15	WDX 290D2S32 ~ 360D2S40	3,5
BFTX0511N		TRD20	WDX 370D2S40 ~ 450D2S40	5,0
BFTX0615N		TRD25	WDX 460D2S40 ~ 550D2S40	5,0

■ Identification

● WDX Drill

WDX 200 D2 S25

Drill Diameter ($\phi 20,0$) Flute Length L/D (2D) Shank Size ($\phi 25,0$)

● WDX Drill Insert

WDXT 06 30 06 -G

Width Across Flats (6,0) Thickness x 10 (3,0) Breaker Type
Corner Radius x 10 (0,6)

Indexable Insert Type "SumiDrill" WDX Type (3D)

Guide for machining tolerance: -0,00 to +0,20
Maximum depth l : $3 \times D_c$

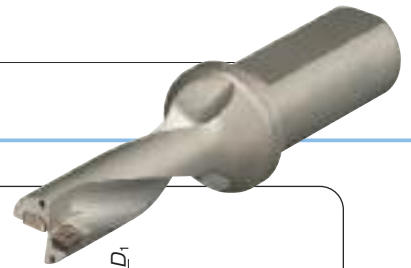


Fig. 1

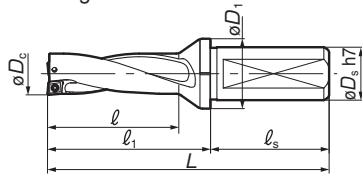


Fig. 2

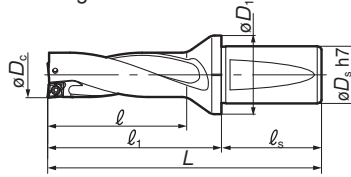
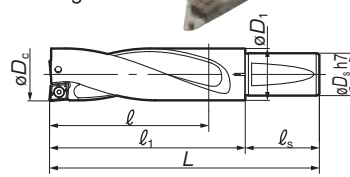


Fig. 3



■ Holders

Cat. No.	Stock	Dimensions (mm)						Applicable Insert	Fig.	
		ϕD_c	L	l_1	l	ϕD_1	ϕD_s			l_s
WDX 130D3S20	●	13,0	101,0	57,0	42,0				WDXT 042004	
WDX 135D3S20	●	13,5	102,5	58,5	43,5					
WDX 140D3S20	●	14,0	104,0	60,0	45,0	28,0	20	44		
WDX 145D3S20	●	14,5	105,5	61,5	46,5					
WDX 150D3S20	●	15,0	107,0	63,0	48,0					
WDX 155D3S20	●	15,5	108,5	64,5	49,5					WDXT 052504
WDX 160D3S20	●	16,0	110,0	66,0	51,0	30,0	20	44		
WDX 165D3S20	●	16,5	111,5	67,5	52,5					
WDX 170D3S20	●	17,0	113,0	69,0	54,0					
WDX 175D3S25	●	17,5	126,5	70,5	55,5	32,0	25	56		
WDX 180D3S25	●	18,0	128,0	72,0	57,0				WDXT 063006	
WDX 185D3S25	●	18,5	129,5	73,5	58,5					
WDX 190D3S25	●	19,0	131,0	75,0	60,0					
WDX 195D3S25	●	19,5	132,5	76,5	61,5					
WDX 200D3S25	●	20,0	134,0	78,0	63,0					
WDX 205D3S25	●	20,5	135,5	79,5	64,5	33,0	25	56		
WDX 210D3S25	●	21,0	137,0	81,0	66,0					
WDX 215D3S25	●	21,5	138,5	82,5	67,5					
WDX 220D3S25	●	22,0	140,0	84,0	69,0					
WDX 225D3S25	●	22,5	141,5	85,5	70,5					WDXT 073506
WDX 230D3S25	●	23,0	146,0	90,0	72,0					
WDX 235D3S25	●	23,5	147,5	91,5	73,5					
WDX 240D3S25	●	24,0	149,0	93,0	75,0	37,0	25	56		
WDX 245D3S25	●	24,5	150,5	94,5	76,5					
WDX 250D3S25	●	25,0	152,0	96,0	78,0					
WDX 255D3S32	●	25,5	159,5	99,5	79,5					
WDX 260D3S32	●	26,0	161,0	101,0	81,0					
WDX 265D3S32	●	26,5	162,5	102,5	82,5					
WDX 270D3S32	●	27,0	164,0	104,0	84,0	41,0	32	60		
WDX 275D3S32	●	27,5	165,5	105,5	85,5				WDXT 094008	
WDX 280D3S32	●	28,0	167,0	107,0	87,0					
WDX 285D3S32	●	28,5	168,5	108,5	88,5					
WDX 290D3S32	●	29,0	172,0	112,0	91,0	50,0	32	60		
WDX 295D3S32	●	29,5	173,5	113,5	92,5					
WDX 300D3S40	●	30,0	188,0	118,0	94,0					
WDX 310D3S40	●	31,0	191,0	121,0	97,0					
WDX 320D3S40	●	32,0	194,0	124,0	100,0					
WDX 330D3S40	●	33,0	197,0	127,0	103,0	54,0	40	70		
WDX 340D3S40	●	34,0	200,0	130,0	106,0					
WDX 350D3S40	●	35,0	203,0	133,0	109,0					
WDX 360D3S40	●	36,0	206,0	136,0	112,0				WDXT 125012	
WDX 370D3S40	⊕	37,0	216,0	146,0	116,0					
WDX 380D3S40	⊕	38,0	219,0	149,0	119,0					
WDX 390D3S40	⊕	39,0	222,0	152,0	122,0					
WDX 400D3S40	⊕	40,0	225,0	155,0	125,0					
WDX 410D3S40	⊕	41,0	228,0	158,0	128,0	49,5	40	70		
WDX 420D3S40	⊕	42,0	231,0	161,0	131,0					
WDX 430D3S40	⊕	43,0	234,0	164,0	134,0					
WDX 440D3S40	⊕	44,0	237,0	167,0	137,0					
WDX 450D3S40	⊕	45,0	240,0	170,0	140,0					
WDX 460D3S40	⊕	46,0	243,0	173,0	143,0					
WDX 470D3S40	⊕	47,0	246,0	176,0	146,0					
WDX 480D3S40	⊕	48,0	249,0	179,0	149,0					
WDX 490D3S40	⊕	49,0	252,0	182,0	152,0					
WDX 500D3S40	⊕	50,0	255,0	185,0	155,0				WDXT 156012	
WDX 510D3S40	⊕	51,0	258,0	188,0	158,0	49,5	40	70		
WDX 520D3S40	⊕	52,0	261,0	191,0	161,0					
WDX 530D3S40	⊕	53,0	264,0	194,0	164,0					
WDX 540D3S40	⊕	54,0	267,0	197,0	167,0					
WDX 550D3S40	⊕	55,0	270,0	200,0	170,0					

● = Euro stock

⊕ = WDX370~550: available 2010

■ Inserts

Cat. No.	Coated Carbide		Fig.	Dimensions (mm)			Applicable Holders
	ACP300	ACK300		l	Thickness	r_ϵ	
WDXT 042004-L	●	●	4				WDX130D3S20 to WDX150D3S20
WDXT 042004-G	●	●	5	4,2	2,0	0,4	
WDXT 042004-H	●	●	6				
WDXT 052504-L	●	●	4				WDX155D3S20 to WDX180D3S25
WDXT 052504-G	●	●	5	5,0	2,5	0,4	
WDXT 052504-H	●	●	6				
WDXT 063006-L	●	●	4				WDX185D3S25 to WDX225D3S25
WDXT 063006-G	●	●	5	6,0	3,0	0,6	
WDXT 063006-H	●	●	6				
WDXT 073506-L	●	●	4				WDX230D3S25 to WDX285D3S32
WDXT 073506-G	●	●	5	7,5	3,5	0,6	
WDXT 073506-H	●	●	6				
WDXT 094008-L	●	●	4				WDX290D3S32 to WDX360D3S40
WDXT 094008-G	●	●	5	9,6	4,0	0,8	
WDXT 094008-H	●	●	6				
WDXT 125012-L	●	●	4				WDX370D3S40 to WDX450D3S40
WDXT 125012-G	●	●	5	12,4	5,0	1,2	
WDXT 125012-H	●	●	6				
WDXT 156012-L	●	●	4				WDX460D3S40 to WDX550D3S40
WDXT 156012-G	●	●	5	15,2	6,0	1,2	
WDXT 156012-H	●	●	6				

■ Spare Parts

Screw	Wrench	Wrench	Applicable Holders	Recommended Torque (Nm)
BFTX01604N	TRX06		WDX 130D3S20 ~ 150D3S20	0,5
BFTX0204N	TRX06		WDX 155D3S20 ~ 180D3S25	0,5
BFTY02206		TRD07	WDX 185D3S25 ~ 225D3S25	1,0
BFTX02506N		TRD08	WDX 230D3S25 ~ 285D3S32	1,5
BFTX03584		TRD15	WDX 290D3S32 ~ 360D3S40	3,5
BFTX0511N		TRD20	WDX 370D3S40 ~ 450D3S40	5,0
BFTX0615N		TRD25	WDX 460D3S40 ~ 550D3S40	5,0

■ Identification

● WDX Drill

WDX 200 D3 S25

Drill Diameter ($\phi 20,0$)

Flute Length L/D (3D)

Shank Size ($\phi 25,0$)

● WDX Drill Insert

WDXT 06 30 06 -G

Width Across Flats (6,0)

Thickness x 10 (3,0)

Breaker Type

Corner Radius x 10 (0,6)

Indexable Insert Type "SumiDrill" WDX Type (4D)



Guide for machining tolerance: -0,00 to +0,25
Maximum depth ℓ : $4 \times D_c$

Fig. 1

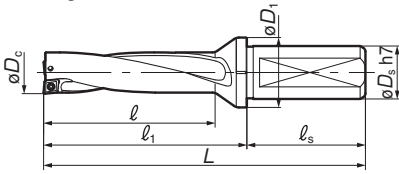


Fig. 2

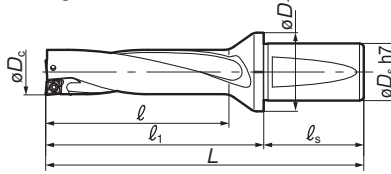
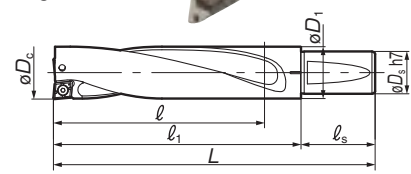


Fig. 3



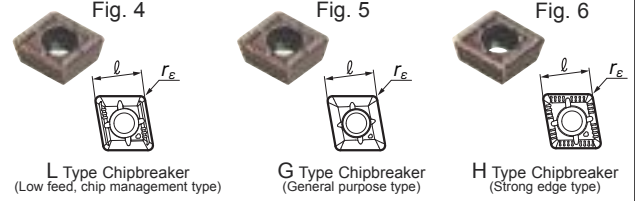
■ Holders

Cat. No.	Stock	Dimensions (mm)							Applicable Insert	Fig.
		øD _c	L	ℓ ₁	ℓ	øD ₁	øD _s	ℓ _s		
WDX 130D4S20	●	13,0	114	70	55	28,0	20	44	WDX 042004	1
WDX 135D4S20	●	13,5	116	72	57					
WDX 140D4S20	●	14,0	118	74	59					
WDX 145D4S20	●	14,5	120	76	61					
WDX 150D4S20	●	15,0	122	78	63	30,0	20	44	WDX 052504	1
WDX 155D4S20	●	15,5	124	80	65					
WDX 160D4S20	●	16,0	126	82	67					
WDX 165D4S20	●	16,5	128	84	69					
WDX 170D4S20	●	17,0	130	86	71	32,0	25	56	WDX 063006	1
WDX 175D4S25	●	17,5	144	88	73					
WDX 180D4S25	●	18,0	146	90	75					
WDX 185D4S25	●	18,5	148	92	77					
WDX 190D4S25	●	19,0	150	94	79	33,0	25	56	WDX 073506	1
WDX 195D4S25	●	19,5	152	96	81					
WDX 200D4S25	●	20,0	154	98	83					
WDX 205D4S25	●	20,5	156	100	85					
WDX 210D4S25	●	21,0	158	102	87	37,0	25	56	WDX 094008	2
WDX 215D4S25	●	21,5	160	104	89					
WDX 220D4S25	●	22,0	162	106	91					
WDX 225D4S25	●	22,5	164	108	93					
WDX 230D4S25	●	23,0	169	113	95	41,0	32	60	WDX 125012	3
WDX 235D4S25	●	23,5	171	115	97					
WDX 240D4S25	●	24,0	173	117	99					
WDX 245D4S25	●	24,5	175	119	101					
WDX 250D4S25	●	25,0	177	121	103	49,5	40	70	WDX 156012	3
WDX 255D4S32	●	25,5	185	125	105					
WDX 260D4S32	●	26,0	187	127	107					
WDX 265D4S32	●	26,5	189	129	109					
WDX 270D4S32	●	27,0	191	131	111	50,0	32	60	WDX 094008	2
WDX 275D4S32	●	27,5	193	133	113					
WDX 280D4S32	●	28,0	195	135	115					
WDX 285D4S32	●	28,5	197	137	117					
WDX 290D4S32	●	29,0	201	141	120	54,0	40	70	WDX 125012	3
WDX 295D4S32	●	29,5	203	143	122					
WDX 300D4S40	●	30,0	218	148	124					
WDX 310D4S40	●	31,0	222	152	128					
WDX 320D4S40	●	32,0	226	156	132	49,5	40	70	WDX 156012	3
WDX 330D4S40	●	33,0	230	160	136					
WDX 340D4S40	●	34,0	234	164	140					
WDX 350D4S40	●	35,0	238	168	144					
WDX 360D4S40	●	36,0	242	172	148	49,5	40	70	WDX 156012	3
WDX 370D4S40	⊛	37,0	253	183	153					
WDX 380D4S40	⊛	38,0	257	187	157					
WDX 390D4S40	⊛	39,0	261	191	161					
WDX 400D4S40	⊛	40,0	265	195	165	49,5	40	70	WDX 156012	3
WDX 410D4S40	⊛	41,0	269	199	169					
WDX 420D4S40	⊛	42,0	273	203	173					
WDX 430D4S40	⊛	43,0	277	207	177					
WDX 440D4S40	⊛	44,0	281	211	181	49,5	40	70	WDX 156012	3
WDX 450D4S40	⊛	45,0	285	215	185					
WDX 460D4S40	⊛	46,0	289	219	189					
WDX 470D4S40	⊛	47,0	293	223	193					
WDX 480D4S40	⊛	48,0	297	227	197	49,5	40	70	WDX 156012	3
WDX 490D4S40	⊛	49,0	301	231	201					
WDX 500D4S40	⊛	50,0	305	235	205					
WDX 510D4S40	⊛	51,0	309	239	209					
WDX 520D4S40	⊛	52,0	313	243	213	49,5	40	70	WDX 156012	3
WDX 530D4S40	⊛	53,0	317	247	217					
WDX 540D4S40	⊛	54,0	321	251	221					
WDX 550D4S40	⊛	55,0	325	255	225					

● = Euro stock

⊛ = WDX370~550: available 2010

■ Inserts



Cat. No.	Coated Carbide		Fig.	Dimensions (mm)			Applicable Holders
	ACP300	ACK300		ℓ	Thickness	r _E	
WDX 042004-L	●	●	4	4,2	2,0	0,4	WDX130D4S20 to WDX150D4S20
WDX 042004-G	●	●	5				
WDX 042004-H	●	●	6				
WDX 052504-L	●	●	4	5,0	2,5	0,4	WDX155D4S20 to WDX180D4S25
WDX 052504-G	●	●	5				
WDX 052504-H	●	●	6				
WDX 063006-L	●	●	4	6,0	3,0	0,6	WDX185D4S25 to WDX225D4S25
WDX 063006-G	●	●	5				
WDX 063006-H	●	●	6				
WDX 073506-L	●	●	4	7,5	3,5	0,6	WDX230D4S25 to WDX285D4S32
WDX 073506-G	●	●	5				
WDX 073506-H	●	●	6				
WDX 094008-L	●	●	4	9,6	4,0	0,8	WDX290D4S32 to WDX360D4S40
WDX 094008-G	●	●	5				
WDX 094008-H	●	●	6				
WDX 125012-L	●	●	4	12,4	5,0	1,2	WDX370D4S40 to WDX450D4S40
WDX 125012-G	●	●	5				
WDX 125012-H	●	●	6				
WDX 156012-L	●	●	4	15,2	6,0	1,2	WDX460D4S40 to WDX550D4S40
WDX 156012-G	●	●	5				
WDX 156012-H	●	●	6				

■ Spare Parts

Screw	Wrench	Wrench	Applicable Holders	Recommended Torque (Nm)
BFTX01604N	TRX06		WDX 130D4S20 ~ 150D4S20	0,5
BFTX0204N	TRX06		WDX 155D4S20 ~ 180D4S25	0,5
BFTY02206		TRD07	WDX 185D4S25 ~ 225D4S25	1,0
BFTX02506N		TRD08	WDX 230D4S25 ~ 285D4S32	1,5
BFTX03584		TRD15	WDX 290D4S32 ~ 360D4S40	3,5
BFTX0511N		TRD20	WDX 370D4S40 ~ 450D4S40	5,0
BFTX0615N		TRD25	WDX 460D4S40 ~ 550D4S40	5,0

■ Identification

● WDX Drill

WDX 200 D4 S25


Drill Diameter (ø20,0) Flute Length L/D (4D) Shank Size (ø25,0)

● WDX Drill Insert


WDX 06 30 06 -G

Width Across Flats (6,0) Thickness x 10 (3,0) Breaker Type
Corner Radius x 10 (0,6)


Recommended Cutting Conditions (2D)

Material Group			 Chip breaker	Cutting Speed					Feed rate (mm/rev) [min. - optimal - max.]			
ISO	Work material	Hardness (HB)		Vc (m/min)	ø13,0 ~ ø18,0	ø18,5 ~ ø29,0	ø29,5 ~ ø36,0	ø37,0 ~ ø55,0				
P	Carbon steel	125	L	150 - 220 - 250	0,04 - 0,08 - 0,12	0,04 - 0,08 - 0,12	0,04 - 0,08 - 0,13	0,05 - 0,10 - 0,15				
		190	G	150 - 220 - 250	0,08 - 0,13 - 0,24	0,08 - 0,13 - 0,24	0,08 - 0,14 - 0,26	0,09 - 0,16 - 0,29				
		250	G	125 - 170 - 230	0,06 - 0,11 - 0,18	0,06 - 0,11 - 0,18	0,06 - 0,12 - 0,19	0,07 - 0,13 - 0,22				
		270	G	125 - 170 - 230	0,08 - 0,13 - 0,22	0,08 - 0,14 - 0,24	0,08 - 0,14 - 0,23	0,09 - 0,16 - 0,26				
		300	G	100 - 130 - 170	0,06 - 0,11 - 0,17	0,06 - 0,12 - 0,18	0,06 - 0,12 - 0,18	0,07 - 0,13 - 0,20				
	Low alloyed steel	180	L	150 - 180 - 220	0,05 - 0,08 - 0,14	0,05 - 0,08 - 0,14	0,05 - 0,08 - 0,16	0,06 - 0,09 - 0,17				
		275	G	125 - 150 - 200	0,06 - 0,11 - 0,17	0,06 - 0,11 - 0,17	0,06 - 0,12 - 0,18	0,07 - 0,13 - 0,20				
		300	G	100 - 140 - 170	0,06 - 0,11 - 0,17	0,06 - 0,11 - 0,17	0,06 - 0,12 - 0,18	0,07 - 0,13 - 0,20				
		350	G	80 - 120 - 150	0,06 - 0,11 - 0,17	0,06 - 0,11 - 0,17	0,06 - 0,12 - 0,18	0,07 - 0,13 - 0,20				
		200	G	100 - 150 - 200	0,08 - 0,13 - 0,24	0,08 - 0,13 - 0,24	0,08 - 0,14 - 0,26	0,09 - 0,16 - 0,29				
High alloyed steel	325	G	80 - 120 - 160	0,06 - 0,11 - 0,18	0,06 - 0,11 - 0,18	0,06 - 0,12 - 0,19	0,07 - 0,13 - 0,22					
	200	L/G	100 - 150 - 200	0,06 - 0,11 - 0,18	0,06 - 0,11 - 0,18	0,06 - 0,12 - 0,19	0,07 - 0,13 - 0,22					
M	Stainless steel, martensitic / ferritic martensitic / tempered austenitic / quenched austenitic / ferritic(Duplex)	240	L/G	90 - 120 - 150	0,06 - 0,11 - 0,18	0,06 - 0,11 - 0,18	0,06 - 0,12 - 0,19	0,07 - 0,13 - 0,22				
		180	L/G	100 - 150 - 200	0,04 - 0,08 - 0,18	0,06 - 0,11 - 0,18	0,06 - 0,12 - 0,19	0,07 - 0,13 - 0,22				
		230	L/G	80 - 120 - 150	0,04 - 0,08 - 0,18	0,06 - 0,11 - 0,18	0,06 - 0,12 - 0,19	0,07 - 0,13 - 0,22				
		200	L/G	100 - 150 - 200	0,06 - 0,11 - 0,18	0,06 - 0,11 - 0,18	0,06 - 0,12 - 0,19	0,07 - 0,13 - 0,22				
K	Cast iron, GG	180	H	120 - 160 - 200	0,09 - 0,20 - 0,32	0,10 - 0,22 - 0,36	0,11 - 0,24 - 0,39	0,12 - 0,26 - 0,44				
		260	H	120 - 160 - 200	0,09 - 0,20 - 0,32	0,10 - 0,22 - 0,36	0,11 - 0,24 - 0,39	0,12 - 0,26 - 0,44				
	Nodular cast iron, GGG	160	H	90 - 120 - 250	0,09 - 0,20 - 0,32	0,10 - 0,22 - 0,36	0,11 - 0,24 - 0,39	0,12 - 0,26 - 0,44				
		250	H	90 - 120 - 150	0,09 - 0,20 - 0,32	0,10 - 0,22 - 0,36	0,11 - 0,24 - 0,39	0,12 - 0,26 - 0,44				
S	Heat resistant alloys	200	L/G	25 - 50 - 70	0,06 - 0,11 - 0,18	0,06 - 0,11 - 0,18	0,06 - 0,12 - 0,19	0,07 - 0,13 - 0,22				

Recommended Cutting Conditions (3D)

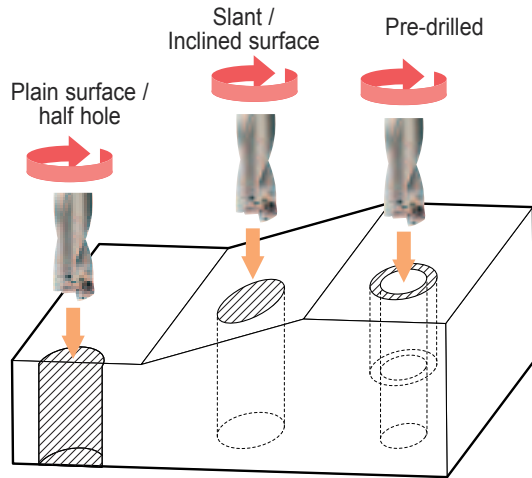
Material Group			 Chip breaker	Cutting Speed					Feed rate (mm/rev) [min. - optimal - max.]			
ISO	Work material	Hardness (HB)		Vc (m/min)	ø13,0 ~ ø18,0	ø18,5 ~ ø29,0	ø29,5 ~ ø36,0	ø37,0 ~ ø55,0				
P	Carbon steel	125	L	150 - 220 - 250	0,04 - 0,07 - 0,1	0,04 - 0,07 - 0,10	0,04 - 0,08 - 0,11	0,05 - 0,09 - 0,12				
		190	G	150 - 220 - 250	0,08 - 0,12 - 0,2	0,08 - 0,12 - 0,20	0,08 - 0,13 - 0,22	0,09 - 0,14 - 0,24				
		250	G	125 - 170 - 230	0,06 - 0,1 - 0,15	0,06 - 0,10 - 0,15	0,06 - 0,11 - 0,16	0,07 - 0,12 - 0,18				
		270	G	125 - 170 - 230	0,08 - 0,12 - 0,18	0,08 - 0,12 - 0,18	0,08 - 0,13 - 0,19	0,09 - 0,14 - 0,22				
		300	G	100 - 130 - 170	0,06 - 0,10 - 0,14	0,06 - 0,10 - 0,14	0,06 - 0,11 - 0,15	0,07 - 0,12 - 0,17				
	Low alloyed steel	180	L	150 - 180 - 220	0,05 - 0,07 - 0,12	0,05 - 0,07 - 0,12	0,05 - 0,08 - 0,13	0,06 - 0,08 - 0,15				
		275	G	125 - 150 - 200	0,06 - 0,10 - 0,14	0,06 - 0,10 - 0,14	0,06 - 0,11 - 0,15	0,07 - 0,12 - 0,17				
		300	G	100 - 140 - 170	0,06 - 0,10 - 0,14	0,06 - 0,10 - 0,14	0,06 - 0,11 - 0,15	0,07 - 0,12 - 0,17				
		350	G	80 - 120 - 150	0,06 - 0,10 - 0,14	0,06 - 0,10 - 0,14	0,06 - 0,11 - 0,15	0,07 - 0,12 - 0,17				
		200	G	100 - 150 - 200	0,08 - 0,12 - 0,2	0,08 - 0,12 - 0,20	0,08 - 0,13 - 0,22	0,09 - 0,14 - 0,24				
High alloyed steel	325	G	80 - 120 - 160	0,06 - 0,10 - 0,15	0,06 - 0,10 - 0,15	0,06 - 0,11 - 0,16	0,07 - 0,12 - 0,18					
	200	L/G	100 - 150 - 200	0,06 - 0,10 - 0,15	0,06 - 0,10 - 0,15	0,06 - 0,11 - 0,16	0,07 - 0,12 - 0,18					
M	Stainless steel, martensitic / ferritic martensitic / tempered austenitic / quenched austenitic / ferritic(Duplex)	240	L/G	90 - 120 - 150	0,06 - 0,10 - 0,15	0,06 - 0,10 - 0,15	0,06 - 0,11 - 0,16	0,07 - 0,12 - 0,18				
		180	L/G	100 - 150 - 200	0,04 - 0,10 - 0,15	0,06 - 0,10 - 0,15	0,06 - 0,11 - 0,16	0,07 - 0,12 - 0,18				
		230	L/G	80 - 120 - 150	0,04 - 0,10 - 0,15	0,06 - 0,10 - 0,15	0,06 - 0,11 - 0,16	0,07 - 0,12 - 0,18				
		200	L/G	100 - 150 - 200	0,06 - 0,10 - 0,15	0,06 - 0,10 - 0,15	0,06 - 0,11 - 0,16	0,07 - 0,12 - 0,18				
K	Cast iron, GG	180	H	120 - 160 - 200	0,09 - 0,18 - 0,27	0,10 - 0,20 - 0,30	0,11 - 0,22 - 0,32	0,12 - 0,24 - 0,36				
		260	H	120 - 160 - 200	0,09 - 0,18 - 0,27	0,10 - 0,20 - 0,30	0,11 - 0,22 - 0,32	0,12 - 0,24 - 0,36				
	Nodular cast iron, GGG	160	H	90 - 120 - 250	0,09 - 0,18 - 0,27	0,10 - 0,20 - 0,30	0,11 - 0,22 - 0,32	0,12 - 0,24 - 0,36				
		250	H	90 - 120 - 150	0,09 - 0,18 - 0,27	0,10 - 0,20 - 0,30	0,11 - 0,22 - 0,32	0,12 - 0,24 - 0,36				
S	Heat resistant alloys	200	L/G	25 - 50 - 70	0,06 - 0,10 - 0,15	0,06 - 0,10 - 0,15	0,06 - 0,11 - 0,16	0,07 - 0,12 - 0,18				

Recommended Cutting Conditions (4D)

Material Group			 Chip breaker	Cutting Speed					Feed rate (mm/rev) [min. - optimal - max.]			
ISO	Work material	Hardness (HB)		Vc (m/min)	ø13,0 ~ ø18,0	ø18,5 ~ ø29,0	ø29,5 ~ ø36,0	ø37,0 ~ ø55,0				
P	Carbon steel	125	L	150 - 220 - 250	0,04 - 0,07 - 0,09	0,04 - 0,07 - 0,09	0,04 - 0,07 - 0,09	0,05 - 0,08 - 0,10				
		190	G	150 - 220 - 250	0,08 - 0,11 - 0,17	0,08 - 0,11 - 0,17	0,08 - 0,12 - 0,18	0,09 - 0,14 - 0,21				
		250	G	125 - 170 - 230	0,06 - 0,10 - 0,13	0,06 - 0,10 - 0,13	0,06 - 0,10 - 0,14	0,07 - 0,11 - 0,15				
		270	G	125 - 170 - 230	0,08 - 0,11 - 0,15	0,08 - 0,11 - 0,15	0,08 - 0,12 - 0,17	0,09 - 0,14 - 0,19				
		300	G	100 - 130 - 170	0,06 - 0,10 - 0,12	0,06 - 0,10 - 0,12	0,06 - 0,10 - 0,13	0,07 - 0,11 - 0,14				
	Low alloyed steel	180	L	150 - 180 - 220	0,05 - 0,07 - 0,10	0,05 - 0,07 - 0,10	0,05 - 0,07 - 0,11	0,06 - 0,08 - 0,12				
		275	G	125 - 150 - 200	0,06 - 0,10 - 0,12	0,06 - 0,10 - 0,12	0,06 - 0,10 - 0,13	0,07 - 0,11 - 0,14				
		300	G	100 - 140 - 170	0,06 - 0,10 - 0,12	0,06 - 0,10 - 0,12	0,06 - 0,10 - 0,13	0,07 - 0,11 - 0,14				
		350	G	80 - 120 - 150	0,06 - 0,10 - 0,12	0,06 - 0,10 - 0,12	0,06 - 0,10 - 0,13	0,07 - 0,11 - 0,14				
		200	G	100 - 150 - 200	0,08 - 0,11 - 0,17	0,08 - 0,11 - 0,17	0,08 - 0,12 - 0,18	0,09 - 0,14 - 0,21				
High alloyed steel	325	G	80 - 120 - 160	0,06 - 0,10 - 0,13	0,06 - 0,10 - 0,13	0,06 - 0,10 - 0,14	0,07 - 0,11 - 0,15					
	200	L/G	100 - 150 - 200	0,06 - 0,10 - 0,13	0,06 - 0,10 - 0,13	0,06 - 0,10 - 0,14	0,07 - 0,11 - 0,15					
M	Stainless steel, martensitic / ferritic martensitic / tempered austenitic / quenched austenitic / ferritic(Duplex)	240	L/G	90 - 120 - 150	0,06 - 0,10 - 0,13	0,06 - 0,10 - 0,13	0,06 - 0,10 - 0,14	0,07 - 0,11 - 0,15				
		180	L/G	100 - 150 - 200	0,04 - 0,10 - 0,13	0,06 - 0,10 - 0,13	0,06 - 0,10 - 0,14	0,07 - 0,11 - 0,15				
		230	L/G	80 - 120 - 150	0,04 - 0,10 - 0,13	0,06 - 0,10 - 0,13	0,06 - 0,10 - 0,14	0,07 - 0,11 - 0,15				
		200	L/G	100 - 150 - 200	0,06 - 0,10 - 0,13	0,06 - 0,10 - 0,13	0,06 - 0,10 - 0,14	0,07 - 0,11 - 0,15				
K	Cast iron, GG	180	H	120 - 160 - 200	0,09 - 0,17 - 0,23	0,10 - 0,19 - 0,26	0,11 - 0,21 - 0,28	0,12 - 0,23 - 0,31				
		260	H	120 - 160 - 200	0,09 - 0,17 - 0,23	0,10 - 0,19 - 0,26	0,11 - 0,21 - 0,28	0,12 - 0,23 - 0,31				
	Nodular cast iron, GGG	160	H	90 - 120 - 250	0,09 - 0,17 - 0,23	0,10 - 0,19 - 0,26	0,11 - 0,21 - 0,28	0,12 - 0,23 - 0,31				
		250	H	90 - 120 - 150	0,09 - 0,17 - 0,23	0,10 - 0,19 - 0,26	0,11 - 0,21 - 0,28	0,12 - 0,23 - 0,31				
S	Heat resistant alloys	200	L/G	25 - 50 - 70	0,06 - 0,10 - 0,13	0,06 - 0,10 - 0,13	0,06 - 0,10 - 0,14	0,07 - 0,11 - 0,15				

Multi-Purpose Functionality

● Applications for machining centre

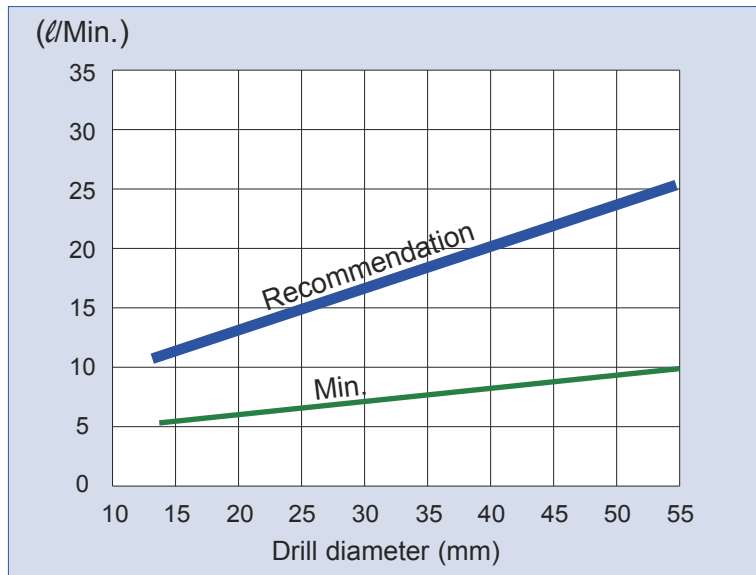


Recommended conditions - reduce feed rate to 70%

● Hole profile

Drill Diameter	t (mm)
14,0 - 18,0	0,4
18,5 - 28,5	0,6
29,0 - 36,0	0,8
37,0 - 55,0	1,2

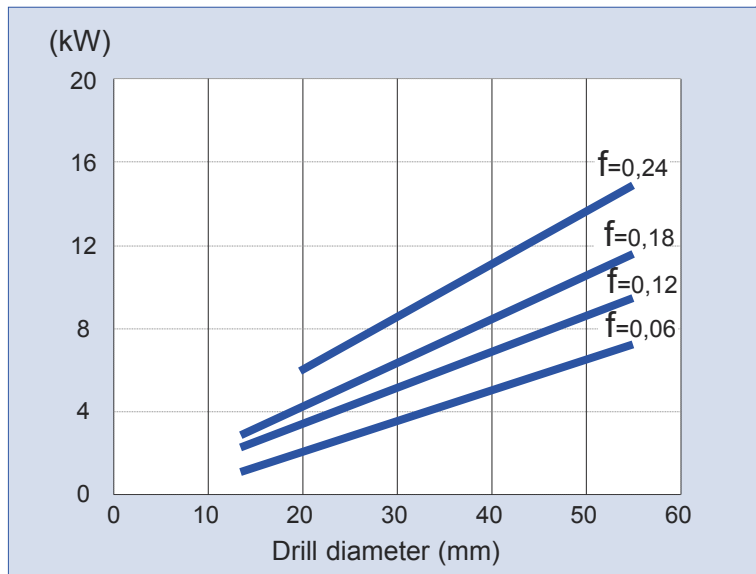
Recommended Coolant Volume



It is important to provide an adequate supply of coolant at the recommended volume in order to ensure smooth chip removal. This chart shows the recommended coolant volume required for each drill.



Required Machine Power



Work piece : C50
 Drill : WDX200D3S25
 Insert : WDX063006G
 Cutting speed : Vc = 180m/min

Indexable Insert "SumiDrill" WDX Type

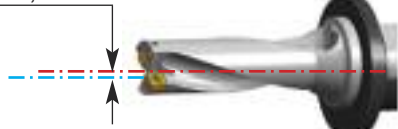
Applications for Lathes

Setting Instruction

Ensure the face of the drill flange is hard against the face of the tool holder.

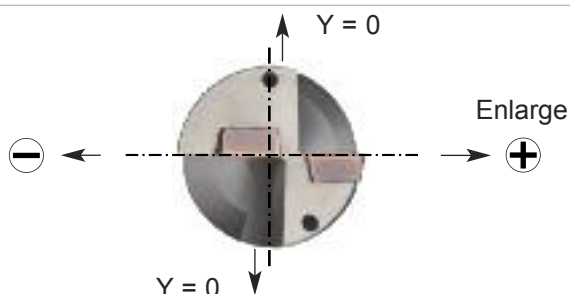
Align the centreline of the drill to the centreline of the lathes Y axis

Max. +/- 0,03mm



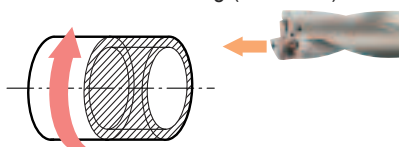
Drilling Over Holes

Offset the lathes X axis within the maximum amount stated in the table

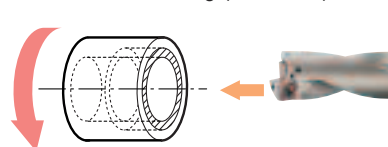


Turning by lathes

Outer turning (max. 2xD)



Inner turning (max. 2xD)



Recommended conditions - reduce feed rate to 50%

Drill description	Max.Offset (mm)	Drill description	Max.Offset (mm)
WDX130...	0,35	WDX280...	0,15
WDX135...	0,30	WDX285...	0,10
WDX140...	0,25	WDX290...	1,00
WDX145...	0,20	WDX295...	0,95
WDX150...	0,15	WDX300...	0,90
WDX155...	0,40	WDX310...	0,80
WDX160...	0,40	WDX320...	0,70
WDX165...	0,35	WDX330...	0,55
WDX170...	0,30	WDX340...	0,45
WDX175...	0,25	WDX350...	0,35
WDX180...	0,20	WDX360...	0,20
WDX185...	0,50	WDX370...	1,00
WDX190...	0,45	WDX380...	1,00
WDX195...	0,40	WDX390...	0,90
WDX200...	0,30	WDX400...	0,80
WDX205...	0,30	WDX410...	0,70
WDX210...	0,20	WDX420...	0,60
WDX215...	0,15	WDX430...	0,50
WDX220...	0,10	WDX440...	0,50
WDX225...	0,06	WDX450...	0,40
WDX230...	0,70	WDX460...	1,50
WDX235...	0,70	WDX470...	1,40
WDX240...	0,60	WDX480...	1,30
WDX245...	0,50	WDX490...	1,20
WDX250...	0,50	WDX500...	1,10
WDX255...	0,45	WDX510...	1,00
WDX260...	0,40	WDX520...	0,90
WDX265...	0,35	WDX530...	0,80
WDX270...	0,25	WDX540...	0,60
WDX275...	0,20	WDX550...	0,50

Recommended conditions - reduce feed rate to 30%

SUMITOMO

CARBIDE - CBN - DIAMOND

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