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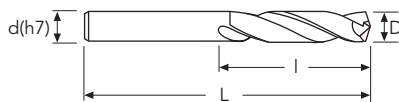


3XD

980SUTA (h8)

Ø mm	1~3	3.1~6	6.1~10	10.1~18	18.1~20
tol. D µ	0 / -14	0 / -18	0 / -22	0 / -27	0 / -33

980SUTA



d = D



D(h8)	I	L	Stock	
mm 2.00	12	44	●	
2.10	12	44	●	
2.20	13	45	●	
2.30	13	45	●	
2.40	14	46	●	
2.50	14	46	●	
2.60	14	46	●	
2.70	16	48	●	
2.80	16	48	●	
2.90	16	48	●	
3.00	16	48	●	
3.10	18	50	●	
3.20	18	50	●	
3.30	18	50	●	
3.40	20	52	●	
3.50	20	52	●	
3.60	20	52	●	
3.70	20	52	●	
3.80	22	54	●	
3.90	22	54	●	
4.00	22	54	●	
4.10	22	66	●	
4.20	22	66	●	
4.30	24	68	●	
4.40	24	68	●	
4.50	24	68	●	
4.60	24	68	●	
4.70	24	68	●	
4.80	26	70	●	
4.90	26	70	●	
5.00	26	70	●	
5.10	26	70	●	
5.20	26	70	●	
5.30	26	70	●	
5.40	28	72	●	
5.50	28	72	●	

* ≤ mm 4 = 130°

● stock standard ○ non-standard stock ■ stock exhaustion



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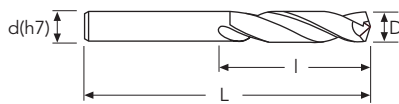


3XD

980SUTA (h8)

Ø mm	1~3	3.1~6	6.1~10	10.1~18	18.1~20
tol. D µ	0 / -14	0 / -18	0 / -22	0 / -27	0 / -33

980SUTA



d = D



D(h8)	I	L	Stock
mm 5.60	28	72	●
5.70	28	72	●
5.80	28	72	●
5.90	28	72	●
6.00	28	72	●
6.10	31	75	●
6.20	31	75	●
6.30	31	75	●
6.40	31	75	●
6.50	31	75	●
6.60	31	75	●
6.70	31	75	●
6.80	34	78	●
6.90	34	78	●
7.00	34	78	●
7.10	34	78	●
7.20	34	78	●
7.30	34	78	●
7.40	34	78	●
7.50	34	78	●
7.60	37	81	●
7.70	37	81	●
7.80	37	81	●
7.90	37	81	●
8.00	37	81	●
8.10	37	87	●
8.20	37	87	●
8.30	37	87	●
8.40	37	87	●
8.50	37	87	●
8.60	40	90	●
8.70	40	90	●
8.80	40	90	●
8.90	40	90	●
9.00	40	90	●
9.10	40	90	●

● stock standard ○ non-standard stock ■ stock exhaustion

TYPHOON

C-SD-TA

LFTA

SUTA

HSS-
HSS/CO
DRILLS

UH
RED

MEX
ORANGE

HF
EVO

MEF
ENDLESS

ALU

MDC

G2

MDTA

ULTRA
MILLS

HSS/CO

CARBIDE
BURRS

PARAMETERS



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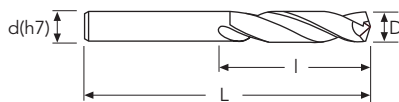


3XD

980SUTA (h8)

Ø mm	1~3	3.1~6	6.1~10	10.1~18	18.1~20
tol. D µ	0 / -14	0 / -18	0 / -22	0 / -27	0 / -33

980SUTA



d = D



D(h8)	I	L	Stock	
mm 9.20	40	90	●	
9.30	40	90	●	
9.40	40	90	●	
9.50	40	90	●	
9.60	43	93	●	
9.70	43	93	●	
9.80	43	93	●	
9.90	43	93	●	
10.00	43	93	●	
10.10	43	100	●	
10.20	43	100	●	
10.30	43	100	●	
10.40	43	100	●	
10.50	43	100	●	
10.60	43	100	●	
10.70	47	104	●	
10.80	47	104	●	
10.90	47	104	●	
11.00	47	104	●	
11.10	47	104	●	
11.20	47	104	●	
11.30	47	104	●	
11.40	47	104	●	
11.50	47	104	●	
11.60	47	104	●	
11.70	47	104	●	
11.80	47	104	●	
11.90	51	108	●	
12.00	51	108	●	
12.10	51	108	●	
12.20	51	108	●	
12.30	51	108	●	
12.40	51	108	●	
12.50	51	108	●	
12.60	51	108	●	
12.70	51	108	●	

● stock standard ○ non-standard stock ■ stock exhaustion

n

Vf

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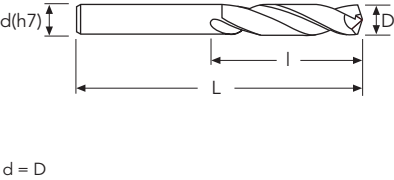
OSAWA
NORM

3XD

980SUTA (h8)

Ø mm	1~3	3.1~6	6.1~10	10.1~18	18.1~20
tol. D µ	0 / -14	0 / -18	0 / -22	0 / -27	0 / -33





d(h7)

L

I

D

d = D



SUTA



HSSE

PV10



120°



38°

D(h8)	I	L	Stock
mm 12.80	51	108	●
12.90	51	108	●
13.00	51	108	●

● stock standard ○ non-standard stock ■ stock exhaustion

TYPHOON
C-SD-TA
LFTA
SUTA
HSS- HSS/CO DRILLS
UH RED
MEX ORANGE
HF EVO
MEF ENDLESS
ALU
MDC
G2
MDTA
ULTRA MILLS
HSS/CO
CARBIDE BURRS
PARAMETERS

238LFTA														
MATERIAL GROUPS	1	2	3	3	4	5	6	9	10	13	14	15	16	17
HRC	~22		22~27		27~35									
N/mm²	500~800		800~900		900~1100									
Vc [m/min]	30~35		25~30		20~25		15~18		25~30		50~60		35~45	
Ø mm.	n	fn	n	fn	n	fn	n	fn	n	fn	n	fn	n	fn
2	5500	0.067	4500	0.050	3600	0.042	2560	0.033	4500	0.060	8900	0.067	6400	0.058
5	2200	0.170	1800	0.130	1450	0.110	1040	0.084	1800	0.150	3600	0.170	2560	0.150
8	1350	0.240	1120	0.180	880	0.150	640	0.120	1120	0.210	2250	0.240	1600	0.210
12	920	0.340	750	0.260	600	0.210	430	0.170	750	0.300	1480	0.340	1070	0.300
16	680	0.420	560	0.330	450	0.260	320	0.210	560	0.380	1120	0.420	800	0.380
20	550	0.470	450	0.380	360	0.300	260	0.240	450	0.420	900	0.470	640	0.420

980SUTA - 990SUTA*														
MATERIAL GROUPS	1	2	9	10	15	16	18	19	20	17	22	26		
HRC														
N/mm²	~600													
Vc [m/min]	35~45		18~22		16~20		70~90		30~40		8~10		13~15	
Ø mm.	n	fn	n	fn	n	fn	n	fn	n	fn	n	fn	n	fn
2	6300	0.080	3100	0.070	2600	0.070	11000	0.090	5600	0.060	1250	0.03	2080	0.06
3	4200	0.130	2100	0.080	1800	0.080	7000	0.130	3800	0.080	850	0.05	1440	0.06
4	3200	0.140	1600	0.100	1300	0.100	7100	0.180	2800	0.100	630	0.06	1040	0.08
5	2500	0.160	1250	0.150	1100	0.140	5500	0.220	2300	0.130	500	0.08	840	0.11
6	2100	0.180	1100	0.180	900	0.170	4600	0.260	1900	0.150	430	0.09	720	0.14
8	1550	0.220	800	0.240	650	0.220	3500	0.340	1400	0.200	320	0.12	520	0.18
10	1250	0.260	650	0.300	550	0.260	2800	0.400	1100	0.250	260	0.15	440	0.21
12	1100	0.320	550	0.360	450	0.330	2300	0.500	950	0.300	210	0.18	360	0.26
14	900	0.360	450	0.440	400	0.360	2100	0.550	800	0.330	193	0.22	320	0.29
16	800	0.400	400	0.480	350	0.400	1800	0.620	700	0.350	178	0.24	280	0.32
18	700	0.450	350	0.500	300	0.430	1600	0.700	620	0.400	167	0.26	240	0.34
20	620	0.470	320	0.530	260	0.460	1500	0.750	560	0.400	159	0.28	208	0.37

*fn = -10%~15%

TYPHOON

C-SD-TA

LFTA

SUTA

HSS-
HSS/CO
DRILLS

UH
RED

MEX
ORANGE

HF
EVO

MEF
ENDLESS

ALU

MDC

G2

MDTA

ULTRA
MILLS

HSS/CO

CARBIDE
BURRS

PARAMETERS