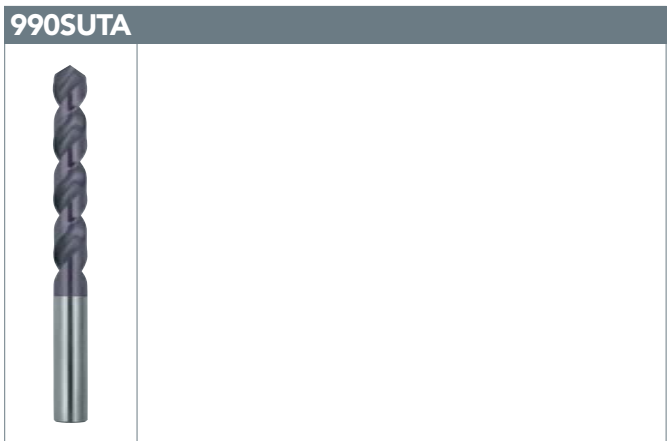


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OSAWA
NORM

5XD



990SUTA (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 2.00	24	56	●
2.10	24	56	●
2.20	27	59	●
2.30	27	59	●
2.40	30	62	●
2.50	30	62	●
2.60	30	62	●
2.70	33	65	●
2.80	33	65	●
2.90	33	65	●
3.00	33	65	●
3.10	36	68	●
3.20	36	68	●
3.30	36	68	●
3.40	39	71	●
3.50	39	71	●
3.60	39	71	●
3.70	39	71	●
3.80	43	75	●
3.90	43	75	●
4.00	43	75	●
4.10	43	87	●
4.20	43	87	●
4.30	47	91	●
4.40	47	91	●
4.50	47	91	●
4.60	47	91	●
4.70	47	91	●
4.80	52	96	●
4.90	52	96	●
5.00	52	96	●
5.10	52	96	●
5.20	52	96	●
5.30	52	96	●
5.40	57	101	●
5.50	57	101	●

* ≤ mm 4 = 130°

● stock standard ○ non-standard stock ■ stock exhaustion

n **Vf**
PAGE 249

**OSAWA
NORM**

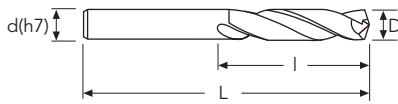
5XD

990SUTA



990SUTA (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 = D

SUTA
HSSE
PV10
120°
38°

D(h8)	I	L	Stock
mm 5.60	57	101	●
5.70	57	101	●
5.80	57	101	●
5.90	57	101	●
6.00	57	101	●
6.10	63	107	●
6.20	63	107	●
6.30	63	107	●
6.40	63	107	●
6.50	63	107	●
6.60	63	107	●
6.70	63	107	●
6.80	69	113	●
6.90	69	113	●
7.00	69	113	●
7.10	69	113	●
7.20	69	113	●
7.30	69	113	●
7.40	69	113	●
7.50	69	113	●
7.60	75	119	●
7.70	75	119	●
7.80	75	119	●
7.90	75	119	●
8.00	75	119	●
8.10	75	125	●
8.20	75	125	●
8.30	75	125	●
8.40	75	125	●
8.50	75	125	●
8.60	81	131	●
8.70	81	131	●
8.80	81	131	●
8.90	81	131	●
9.00	81	131	●
9.10	81	131	●

● 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

PAGE 249

OSAWA
NORM

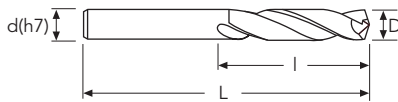
5XD

990SUTA



990SUTA (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 = D



D(h8)	I	L	Stock
mm 9.20	81	131	●
9.30	81	131	●
9.40	81	131	●
9.50	81	131	●
9.60	87	137	●
9.70	87	137	●
9.80	87	137	●
9.90	87	137	●
10.00	87	137	●
10.10	87	144	●
10.20	87	144	●
10.30	87	144	●
10.40	87	144	●
10.50	87	144	●
10.60	87	144	●
10.70	94	151	●
10.80	94	151	●
10.90	94	151	●
11.00	94	151	●
11.10	94	151	●
11.20	94	151	●
11.30	94	151	●
11.40	94	151	●
11.50	94	151	●
11.60	94	151	●
11.70	94	151	●
11.80	94	151	●
11.90	101	158	●
12.00	101	158	●
12.10	101	158	●
12.20	101	158	●
12.30	101	158	●
12.40	101	158	●
12.50	101	158	●
12.60	101	158	●
12.70	101	158	●

● stock standard ○ non-standard stock ■ stock exhaustion

n **Vf**
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**OSAWA
NORM**

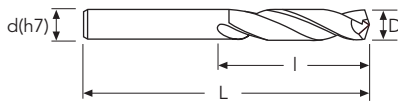
5XD

990SUTA



990SUTA (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 = D



D(h8)	I	L	Stock
mm 12.80	101	158	●
12.90	101	158	●
13.00	101	158	●
13.50	106	166	●
14.00	106	166	●
14.10	109	169	●
14.50	109	169	●
15.00	109	169	●
15.50	112	172	●
15.60	112	172	●
16.00	112	172	●
16.50	115	181	●
17.00	115	181	●
17.50	118	184	●
17.60	118	184	●
18.00	118	184	●
18.50	122	188	●
19.00	122	188	●
19.50	125	191	●
20.00	125	191	●

● 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 18 19 20			17	
HRC	~22		22~27		27~35										
N/mm ²	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	~600														
N/mm ²															
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