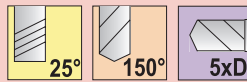


TOLERANCES

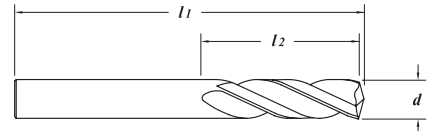
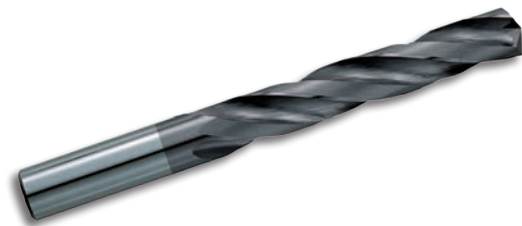
d	+0,0000 -0,0127mm (+.0000" -.0005")	
l_1	$\leq 1/8"$	+3,175 -1,588mm (+.125" -.062")
	$> 1/8"$	+3,175 -3,175mm (+.125" -.125")
l_2	$\leq 1/8"$	+3,175 -1,588mm (+.125" -.062")
	$> 1/8"$	+3,175 -3,175mm (+.125" -.125")

.1094" - .2165"
(2,78mm - 5,00mm)



DRILLS

Balinit® HARDLUBE Coated
Balinit® HARDLUBE-Beschichtet
Recubrimiento de Balinit® HARDLUBE
Revêtement Balinit® HARDLUBE
Rivestimento in Balinit® HARDLUBE
Balinit® HARDLUBE 涂层



Solid submicron grain carbide drill
 Near reamer finishes
 Excellent heat resistance and lubricity
 Up to 40% faster than uncoated
 Tighter tolerance holes
 Improved roundness and straightness
Recommended for cast aluminum, cast iron and materials with high silicon content
 Live tooling recommended on lathe processes
 Shank tolerance: -0,0025 / -0,0100mm (-.0001" -.0004")



Vollhartmetallbohrer aus Feinkornhartmetall
 Nahe an geriebenen Oberflächen
 Exzellente Hitzebeständigkeit und Schmiereigenschaften
 Bis zu 40% schneller als unbeschichtete Werkzeuge
 Bessere Bohrungstoleranzen
 Verbessertes Rundlauf und Genauigkeit
Empfohlen für Aluminiumguss, Grauguss und Werkstoffe mit hohem Silizium Gehalt
 Empfehlung fuer den Einsatz auf der Drehmaschine
 Schaft-Toleranz: -0,0025 / -0,0100mm (-.0001" -.0004")



Broca de submicrograno sólido carburo
 Acabado similar al esmerinado
 Excelente resistencia térmica y lubricación
 Hasta un 40% más rápido que sin recubrimiento
 Orificios de alta tolerancia y precisión
 Mejor acabado redondeado y recto
Recomendado para aluminio fundido, hierro fundido y materiales con alto contenido de silicio
 Recomendación para la aplicación en torno
 Tolerancia del vástago: -0,0025 / -0,0100mm (-.0001" -.0004")



Forets carbure submicrograin
 Tolerances de trous plus serrés
 Excellente résistance a la haute temperature et glissement
 40% plus rapide que le non revetu
 Amelioration de la circularité et de la rectitude
Recommander pour fonte d'aluminium, fonte grise et matieres a haute teneur en silicium
 Outillage aluminé est conseillé pendant les process avec le tour
 Tolerance de la tige: -0,0025 / -0,0100mm (-.0001" -.0004")



Super sub-micrograno metallo duro
 Ottimo grado di finitura
 Eccellente resistenza al calore e autolubrificante
 Fino al 40% più veloce rispetto al non rivestito
 Alta tolleranza dei fori
 Migliore rotondità e linearità
Raccomandata per lavorazioni su alluminio, ghisa e materiali ad alto contenuto di silicio
 Giri consigliati per forature su tornio
 Tolleranza gambo: -0,0025 / -0,0100mm (-.0001" -.0004")



整体硬质合金钻头
 接近较孔光洁度
 耐热性和润滑性特好
 跟无涂层刀具相比可提高速度高达 40%
 紧公差孔
 提高正圆度和直线度
推荐加工铸铝、铸铁和硅含量高的材质
 推荐在车床加工中
 柄部公差: -0,0025 / -0,0100mm (-.0001" -.0004")

EDP#	d † Diameter		l_1 Overall Length	l_2 Flute Length
	Decimal	Metric		
90276	.1094	7/64"	2,78	2-1/4"
90281	.1100	#35	2,79	2-1/4"
90286	.1110	#34	2,82	2-1/4"
90291	.1130	#33	2,87	2-1/4"
90296	.1160	#32	2,95	2-1/4"
90301	.1181	3,00	57	32
90306	.1200	#31	3,05	2-1/4"
90311	.1250	1/8"	3,17	2-1/4"
90316	.1285	#30	3,26	2-1/4"
90321	.1360	#29	3,45	2-1/2"
90326	.1378	3,50	63	35
90331	.1405	#28	3,57	2-1/2"
90336	.1406	9/64"	3,57	2-1/2"
90341	.1440	#27	3,66	2-1/2"
90346	.1470	#26	3,73	2-1/2"
90351	.1495	#25	3,80	2-1/2"
90356	.1520	#24	3,86	2-1/2"
90361	.1540	#23	3,91	2-1/2"
90366	.1562	5/32"	3,97	2-1/2"
90371	.1570	#22	3,99	2-1/2"
90376	.1575	4,00	63	35
90381	.1590	#21	4,04	2-1/2"
90386	.1610	#20	4,09	2-1/2"
90391	.1660	#19	4,22	2-3/4"
90396	.1695	#18	4,30	2-3/4"
90401	.1719	11/64"	4,37	2-3/4"
90406	.1730	#17	4,39	2-3/4"
90411	.1770	#16	4,49	2-3/4"
90416	.1772	4,50	70	41
90421	.1800	#15	4,57	2-3/4"
90426	.1820	#14	4,62	2-3/4"
90431	.1850	#13	4,70	2-3/4"
90436	.1875	3/16"	4,76	2-3/4"
90441	.1890	#12	4,80	2-3/4"
90446	.1910	#11	4,85	2-3/4"
90451	.1935	#10	4,91	2-3/4"
90456	.1960	#9	4,98	3"
90461	.1969	5,00	76	44
90466	.1990	#8	5,05	3"
90471	.2010	#7	5,10	3"
90476	.2031	13/64"	5,16	3"
90481	.2040	#6	5,18	3"
90486	.2055	#5	5,22	3"
90491	.2090	#4	5,31	3"
90496	.2130	#3	5,41	3"
90501	.2165	5,50	76	44

1100H / z = 3 (continued)

.2188" - .5000"
(5,56mm - 12,70mm)

EDP#	d^{\dagger} Diameter		l_1 Overall Length	l_2 Flute Length	
	Decimal	Metric			
90506	.2188	7/32"	5,56	3"	1-3/4"
90511	.2210	#2	5,61	3"	1-3/4"
90516	.2280	#1	5,79	3"	1-3/4"
90521	.2340	A	5,94	3-1/4"	2"
90526	.2344	15/64"	5,95	3-1/4"	2"
90531	.2362		6,00	82	50
90536	.2380	B	6,04	3-1/4"	2"
90541	.2420	C	6,15	3-1/4"	2"
90546	.2460	D	6,25	3-1/4"	2"
90551	.2500	1/4" / E	6,35	3-1/4"	2"
90556	.2559		6,50	82	50
90561	.2570	F	6,53	3-1/4"	2"
90566	.2610	G	6,63	3-1/2"	2-1/8"
90571	.2656	17/64"	6,75	3-1/2"	2-1/8"
90576	.2660	H	6,76	3-1/2"	2-1/8"
90581	.2720	I	6,91	3-1/2"	2-1/8"
90586	.2756		7,00	88	54
90591	.2770	J	7,03	3-1/2"	2-1/8"
90596	.2810	K	7,14	3-1/2"	2-1/8"
90601	.2812	9/32"	7,14	3-1/2"	2-1/8"
90606	.2900	L	7,37	3-1/2"	2-1/8"
90611	.2950	M	7,49	3-3/4"	2-3/8"
90616	.2953		7,50	95	60
90621	.2969	19/64"	7,54	3-3/4"	2-3/8"
90626	.3020	N	7,67	3-3/4"	2-3/8"
90631	.3125	5/16"	7,94	3-3/4"	2-3/8"
90636	.3150		8,00	95	60
90641	.3160	O	8,03	3-3/4"	2-3/8"
90646	.3230	P	8,20	3-3/4"	2-3/8"
90651	.3281	21/64"	8,33	4"	2-1/2"
90656	.3320	Q	8,43	4"	2-1/2"
90661	.3346		8,50	101	63
90666	.3390	R	8,61	4"	2-1/2"
90671	.3438	11/32"	8,73	4"	2-1/2"
90676	.3480	S	8,84	4"	2-1/2"
90681	.3543		9,00	101	63
90686	.3580	T	9,09	4-1/4"	2-3/4"
90691	.3594	23/64"	9,13	4-1/4"	2-3/4"
90696	.3680	U	9,35	4-1/4"	2-3/4"
90701	.3740		9,50	107	70
90706	.3750	3/8"	9,52	4-1/4"	2-3/4"
90711	.3770	V	9,57	4-1/4"	2-3/4"
90716	.3860	W	9,80	4-1/2"	2-7/8"
90721	.3906	25/64"	9,92	4-1/2"	2-7/8"
90726	.3937		10,00	114	73
90731	.3970	X	10,08	4-1/2"	2-7/8"
90736	.4040	Y	10,26	4-1/2"	2-7/8"
90741	.4062	13/32"	10,32	4-1/2"	2-7/8"
90746	.4130	Z	10,49	4-1/2"	2-7/8"
90751	.4134		10,50	114	73
90756	.4219	27/64"	10,72	4-1/2"	2-7/8"
90761	.4331		11,00	114	73
90766	.4375	7/16"	11,11	4-1/2"	2-7/8"
90771	.4528		11,50	120	76
90776	.4531	29/64"	11,51	4-3/4"	3"
90781	.4688	15/32"	11,91	4-3/4"	3"
90786	.4724		12,00	120	76
90791	.4844	31/64"	12,30	4-3/4"	3"
90796	.4921		12,50	120	76
90801	.5000	1/2"	12,70	4-3/4"	3"