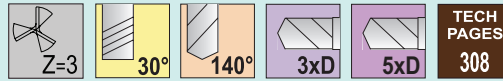


**TOLERANCES**

<i>d</i>	+0,0000 -0,0127mm (+.0000" -.0005")
<i>l1</i>	+3,175 -3,175mm (+.125" -.125")
<i>l2</i>	+3,175 -3,175mm (+.125" -.125")

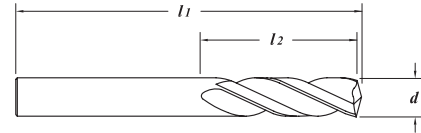
Series 1160, 1180

3,967mm - 4,914mm  
(.1562" - .1935")



HIGH PERFORMANCE  
DRILLS

**ALUMASTAR Coated**  
**ALUMASTAR-Beschichtet**  
**Recubrimiento de ALUMASTAR**  
**Revêtement ALUMASTAR**  
**Rivestimento in ALUMASTAR**  
**ALUMASTAR 涂层**



High performance solid submicron grain carbide drill  
 Designed for drilling aluminum and other soft materials <40Rc  
 No spot drilling required  
 Unique point geometry and coating for higher speeds and feeds  
 Up to 5x longer tool life than Zn coated drills  
 High performance drill point  
 Live tooling recommended on lathe processes  
 Shank tolerance: h6



Hochleistungs- Vollhartmetallbohrer aus Feinkornhartmetall  
 Entwickelt für das Bohren von Aluminium und anderen weichen Werkstoffen <40HRC  
 Anzentrieren nicht empfohlen  
 Einzigartige Spitzengeometrie und Beschichtung für höhere Schnittgeschwindigkeiten und Vorschübe  
 Bis zu 5x höhere Standzeit als Zn Beschichtete Bohrer  
 Hochleistungsspitzengeometrie  
 Empfehlung fuer den Einsatz auf der Drehmaschine  
 Schaft-Toleranz: h6



Broca de submicrograno sólido carburo de alto rendimiento  
 Diseñada para taladrado de aluminio y otros materiales blandos <40HRC  
 No requiere pretaladrado  
 Geometría de punto único y recubrimiento para altas velocidades y alimentaciones  
 Durabilidad de la herramienta hasta 5 veces mayor que en brocas con recubrimiento Zn  
 Ángulo de punta de la broca de alto rendimiento  
 Recomendación para la aplicación en torno  
 Tolerancia del vástago: h6



Forets carbure submicrograin a haute performances  
 Developpes pour le perçage des aluminium et autres matieres tendres <40HRC  
 Pas de point de centre recommande  
 Geometrie et revetement unique pour de plus grandes vitesses et avances  
 Duree de vie 5 fois plus longue que les forest revetus Zn  
 Foret a haute performance  
 Outil de filature nécessaires pour une utilisation sur un processus de tournage  
 Tolerance queue: h6



Punta in metallo duro ad alte prestazioni  
 Progettata per foratura di alluminio e altri materiali non ferrosi <40Hrc  
 Non richiede centrino  
 Geometria e rivestimento per alta velocità  
 Vita utensile fino a 5 volte superiore al rivestimento Zn  
 Punta ad alte prestazioni  
 Utensili rotanti sono consigliate se usato su un tornio  
 Tolleranza gambo: h6



高效整体硬质合金钻头  
 适合钻削铝合金和其它软性材料 <40HRC  
 不需要定位钻  
 独一无二的刀尖几何形状和涂层适合更高转速和更大进给量  
 刀具使用寿命比氮化锆 (Zn) 涂层钻头长达5倍  
 140° 高效钻尖  
 不建议在车床, 或工具必须纺纱  
 柄部公差: h6

	3xD (1160) EDP#	5xD (1180) EDP#	<i>d</i> † Diameter		<i>l1</i> Overall Length	<i>l2</i> Flute Length	
			Decimal	Metric			
NEW	70631		.1562	5/32"	3.967	2-1/16"	9/16"
NEW		70161	.1562	5/32"	3.967	2-1/2"	1"
NEW	70633		.1570	#22	3.988	2-1/8"	5/8"
NEW		70163	.1570	#22	3.988	2-1/2"	1"
NEW	70635		.1575		4.000	54	16
		70166	.1575		4.000	65	24
NEW	70637		.1590	#21	4.039	2-1/8"	5/8"
NEW		70177	.1590	#21	4.039	2-1/2"	1"
NEW	70639		.1610	#20	4.089	2-1/8"	5/8"
NEW		70179	.1610	#20	4.089	2-1/2"	1"
NEW	70641		.1660	#19	4.216	2-1/8"	5/8"
NEW		70181	.1660	#19	4.216	2-3/4"	1-1/8"
NEW	70643		.1695	#18	4.305	2-1/8"	5/8"
NEW		70183	.1695	#18	4.305	2-3/4"	1-1/8"
NEW	70645		.1719	11/64"	4.366	2-1/8"	5/8"
NEW		70185	.1719	11/64"	4.366	2-3/4"	1-1/8"
NEW	70647		.1730	#17	4.394	2-3/16"	11/16"
NEW		70187	.1730	#17	4.394	2-3/4"	1-1/8"
NEW	70649		.1770	#16	4.496	2-3/16"	11/16"
NEW		70189	.1770	#16	4.496	2-3/4"	1-1/8"
NEW	70651		.1772		4.500	55	18
NEW		70191	.1772		4.500	65	25
NEW	70653		.1800	#15	4.572	2-3/16"	11/16"
NEW		70196	.1800	#15	4.572	2-3/4"	1-1/4"
NEW	70655		.1820	#14	4.623	2-3/16"	11/16"
NEW		70201	.1820	#14	4.623	2-3/4"	1-1/4"
NEW	70657		.1850	#13	4.700	2-3/16"	11/16"
NEW		70206	.1850	#13	4.700	2-3/4"	1-1/4"
NEW	70659		.1875	3/16"	4.763	2-3/16"	11/16"
		70211	.1875	3/16"	4.763	2-3/4"	1-1/4"
NEW	70661		.1890	#12	4.801	2-1/4"	3/4"
		70216	.1890	#12	4.801	2-3/4"	1-1/4"
NEW	70663		.1910	#11	4.851	2-1/4"	3/4"
		70221	.1910	#11	4.851	2-3/4"	1-1/4"
NEW	70665		.1935	#10	4.914	2-1/4"	3/4"
		70226	.1935	#10	4.914	2-3/4"	1-1/4"

continued →

# Series 1160, 1180 (continued)

4,978mm - 6,756mm  
(.1960" - .2660")

HIGH PERFORMANCE  
DRILLS

	3xD (1160) EDP#	5xD (1180) EDP#	$d$ † Diameter		$l_1$ Overall Length	$l_2$ Flute Length	
			Decimal	Metric			
NEW	70667		.1960	#9	4.978	2-1/4"	3/4"
NEW		70229	.1960	#9	4.978	3"	1-5/16"
NEW	70669		.1969		5.000	57	19
		70231	.1969		5.000	75	32
NEW	70671		.1990	#8	5.055	2-1/4"	3/4"
		70236	.1990	#8	5.055	3"	1-5/16"
NEW	70673		.2010	#7	5.105	2-1/4"	3/4"
		70241	.2010	#7	5.105	3"	1-5/16"
NEW	70675		.2031	13/64"	5.159	2-1/4"	3/4"
		70246	.2031	13/64"	5.159	3"	1-5/16"
NEW	70677		.2040	#6	5.182	2-3/8"	7/8"
		70251	.2040	#6	5.182	3"	1-3/8"
NEW	70679		.2055	#5	5.220	2-3/8"	7/8"
		70256	.2055	#5	5.220	3"	1-3/8"
NEW	70681		.2090	#4	5.309	2-3/8"	7/8"
		70261	.2090	#4	5.309	3"	1-3/8"
NEW	70683		.2130	#3	5.410	2-3/8"	7/8"
		70266	.2130	#3	5.410	3"	1-3/8"
NEW	70685		.2165		5.500	60	22
		70271	.2165		5.500	75	35
NEW	70687		.2188	7/32"	5.558	2-3/8"	7/8"
		70276	.2188	7/32"	5.558	3"	1-3/8"
NEW	70689		.2210	#2	5.613	2-7/16"	15/16"
		70281	.2210	#2	5.613	3"	1-3/8"
NEW	70691		.2280	#1	5.791	2-7/16"	15/16"
		70286	.2280	#1	5.791	3"	1-3/8"
NEW	70693		.2340	A	5.944	2-7/16"	15/16"
NEW		70294	.2340	A	5.944	3-1/4"	1-1/2"
NEW	70695		.2344	15/64"	5.954	2-7/16"	15/16"
		70296	.2344	15/64"	5.954	3-1/4"	1-1/2"
NEW	70697		.2362		6.000	64	26
		70301	.2362		6.000	82	38
NEW	70699		.2380	B	6.045	2-1/2"	1"
		70306	.2380	B	6.045	3-1/4"	1-5/8"
NEW	70701		.2420	C	6.147	2-1/2"	1"
		70311	.2420	C	6.147	3-1/4"	1-5/8"
NEW	70703		.2460	D	6.248	2-1/2"	1"
		70316	.2460	D	6.248	3-1/4"	1-5/8"
NEW	70705		.2500	1/4" / E	6.350	2-1/2"	1"
		70321	.2500	1/4" / E	6.350	3-1/4"	1-5/8"
NEW	70707		.2510		6.375	2-1/2"	1"
NEW		70911	.2510		6.375	3-1/4"	1-5/8"
NEW	70709		.2559		6.500	66	28
		70326	.2559		6.500	82	41
NEW	70711		.2570	F	6.528	2-5/8"	1-1/8"
		70331	.2570	F	6.528	3-1/4"	1-11/16"
NEW	70713		.2610	G	6.629	2-5/8"	1-1/8"
		70336	.2610	G	6.629	3-1/2"	1-11/16"
NEW	70715		.2656	17/64"	6.746	2-5/8"	1-1/8"
		70341	.2656	17/64"	6.746	3-1/2"	1-11/16"
NEW	70717		.2660	H	6.756	2-11/16"	1-3/16"
		70346	.2660	H	6.756	3-1/2"	1-11/16"

	3xD (1160) EDP#	5xD (1180) EDP#	$d \pm$ Diameter		$l_1$ Overall Length	$l_2$ Flute Length	
			Decimal	Metric			
<b>NEW</b>	70719		.2720	I	6.909	2-11/16"	1-3/16"
		70351	.2720	I	6.909	3-1/2"	1-11/16"
<b>NEW</b>	70721		.2756		7.000	68	30
		70356	.2756		7.000	88	43
<b>NEW</b>	70723		.2770	J	7.036	2-11/16"	1-3/16"
		70361	.2770	J	7.036	3-1/2"	1-11/16"
<b>NEW</b>	70725		.2812	9/32"	7.142	2-11/16"	1-3/16"
		70371	.2812	9/32"	7.142	3-1/2"	1-3/4"
<b>NEW</b>	70727		.2900	L	7.366	2-3/4"	1-1/4"
		70376	.2900	L	7.366	3-1/2"	1-3/4"
<b>NEW</b>	70728		.2950	M	7.493	2-3/4"	1-1/4"
<b>NEW</b>		70378	.2950	M	7.493	3-3/4"	1-7/8"
<b>NEW</b>	70729		.2953		7.500	70	32
		70381	.2953		7.500	95	44
<b>NEW</b>	70731		.2969	19/64"	7.541	2-3/4"	1-1/4"
		70386	.2969	19/64"	7.541	3-3/4"	1-7/8"
<b>NEW</b>	70733		.3020	N	7.671	2-15/16"	1-7/16"
		70391	.3020	N	7.671	3-3/4"	1-7/8"
<b>NEW</b>	70735		.3125	5/16"	7.938	2-15/16"	1-7/16"
		70396	.3125	5/16"	7.938	3-3/4"	1-7/8"
<b>NEW</b>	70737		.3150		8.000	76	36
		70401	.3150		8.000	95	48
<b>NEW</b>	70739		.3160	O	8.026	2-15/16"	1-7/16"
		70406	.3160	O	8.026	3-3/4"	1-7/8"
<b>NEW</b>	70741		.3230	P	8.204	2-15/16"	1-7/16"
		70411	.3230	P	8.204	3-3/4"	2-3/32"
<b>NEW</b>	70743		.3281	21/64"	8.334	2-15/16"	1-7/16"
		70416	.3281	21/64"	8.334	4"	2-3/32"
<b>NEW</b>	70745		.3320	Q	8.433	3"	1-7/16"
		70421	.3320	Q	8.433	4"	2-3/32"
<b>NEW</b>	70747		.3346		8.500	76	36
		70426	.3346		8.500	100	53
<b>NEW</b>	70749		.3390	R	8.611	3"	1-7/16"
		70431	.3390	R	8.611	4"	2-3/32"
<b>NEW</b>	70751		.3438	11/32"	8.733	3"	1-7/16"
		70436	.3438	11/32"	8.733	4"	2-3/16"
<b>NEW</b>	70753		.3480	S	8.839	3-1/16"	1-1/2"
		70441	.3480	S	8.839	4"	2-3/16"
<b>NEW</b>	70755		.3543		9.000	78	38
		70446	.3543		9.000	100	55
<b>NEW</b>	70757		.3580	T	9.093	3-1/16"	1-1/2"
		70451	.3580	T	9.093	4-1/4"	2-9/32"
<b>NEW</b>	70759		.3594	23/64"	9.129	3-1/16"	1-1/2"
		70456	.3594	23/64"	9.129	4-1/4"	2-9/32"
<b>NEW</b>	70761		.3680	U	9.347	3-1/8"	1-9/16"
		70461	.3680	U	9.347	4-1/4"	2-9/32"
<b>NEW</b>	70763		.3740		9.500	79	39
		70466	.3740		9.500	108	58
<b>NEW</b>	70765		.3750	3/8"	9.525	3-1/8"	1-9/16"
		70471	.3750	3/8"	9.525	4-1/4"	2-3/8"
<b>NEW</b>	70767		.3760		9.550	3-1/8"	1-9/16"
<b>NEW</b>		70913	.3760		9.550	4-1/4"	2-3/8"
<b>NEW</b>	70769		.3770	V	9.576	3-1/4"	1-5/8"
		70476	.3770	V	9.576	4-1/4"	2-3/8"

continued →

# Series 1160, 1180 (continued)

9,804mm - 15,000mm  
(.3860" - .5906")

HIGH PERFORMANCE  
DRILLS

	3xD (1160) EDP#	5xD (1180) EDP#	$d$ † Diameter		$l_1$ Overall Length	$l_2$ Flute Length
			Decimal	Metric		
<b>NEW</b>	70771		.3860	W	9.804	3-1/4"
		70481	.3860	W	9.804	4-1/2"
<b>NEW</b>	70773		.3906	25/64"	9.921	3-1/4"
		70486	.3906	25/64"	9.921	4-1/2"
<b>NEW</b>	70775		.3937		10.000	85
		70491	.3937		10.000	114
<b>NEW</b>	70777		.3970	X	10.084	3-5/16"
		70496	.3970	X	10.084	4-1/2"
<b>NEW</b>	70779		.4040	Y	10.262	3-5/16"
		70501	.4040	Y	10.262	4-1/2"
<b>NEW</b>	70781		.4062	13/32"	10.317	3-5/16"
		70506	.4062	13/32"	10.317	4-1/2"
<b>NEW</b>	70783		.4134		10.500	85
		70511	.4134		10.500	114
<b>NEW</b>	70785		.4219	27/64"	10.716	3-3/8"
		70516	.4219	27/64"	10.716	4-1/2"
<b>NEW</b>	70787		.4331		11.000	87
		70521	.4331		11.000	114
<b>NEW</b>	70789		.4375	7/16"	11.113	3-7/16"
		70526	.4375	7/16"	11.113	4-3/4"
<b>NEW</b>	70791		.4528		11.500	90
		70531	.4528		11.500	120
<b>NEW</b>	70793		.4531	29/64"	11.509	3-9/16"
		70536	.4531	29/64"	11.509	4-3/4"
<b>NEW</b>	70795		.4688	15/32"	11.909	3-11/16"
		70541	.4688	15/32"	11.909	4-3/4"
<b>NEW</b>	70797		.4724		12.000	93
		70546	.4724		12.000	120
<b>NEW</b>	70799		.4844	31/64"	12.304	3-11/16"
		70551	.4844	31/64"	12.304	5-5/16"
<b>NEW</b>	70801		.4921		12.500	95
		70556	.4921		12.500	135
<b>NEW</b>	70803		.5000	1/2"	12.700	3-3/4"
		70561	.5000	1/2"	12.700	5-3/8"
<b>NEW</b>	70805		.5010		12.725	3-3/4"
<b>NEW</b>	70915		.5010		12.725	5-3/8"
<b>NEW</b>	70807		.5118		13.000	107
		70566	.5118		13.000	136
<b>NEW</b>	70809		.5156	33/64"	13.096	4-1/4"
		70571	.5156	33/64"	13.096	5-3/8"
<b>NEW</b>	70811		.5312	17/32"	13.492	4-1/4"
		70576	.5312	17/32"	13.492	5-11/16"
<b>NEW</b>	70813		.5469	35/64"	13.891	4-1/4"
		70581	.5469	35/64"	13.891	5-13/16"
<b>NEW</b>	70815		.5512		14.000	107
		70586	.5512		14.000	148
<b>NEW</b>	70817		.5625	9/16"	14.287	4-1/2"
		70591	.5625	9/16"	14.287	5-15/16"
<b>NEW</b>	70819		.5781	37/64"	14.684	4-1/2"
		70596	.5781	37/64"	14.684	6"
<b>NEW</b>	70821		.5906		15.000	115
		70601	.5906		15.000	152

	3xD (1160) EDP#	5xD (1180) EDP#	$d \dagger$ Diameter		$l_1$ Overall Length	$l_2$ Flute Length	
			Decimal	Metric			
<b>NEW</b>	70823		.5938	19/32"	15.082	4-1/2"	2-1/2"
		70606	.5938	19/32"	15.082	6"	3-9/16"
<b>NEW</b>	70825		.6094	39/64"	15.478	4-1/2"	2-9/16"
		70611	.6094	39/64"	15.478	6-3/16"	3-11/16"
<b>NEW</b>	70827		.6250	5/8"	15.875	4-1/2"	2-5/8"
		70616	.6250	5/8"	15.875	6-5/16"	3-3/4"
<b>NEW</b>	70829		.6299		16.000	115	66
		70621	.6299		16.000	160	95



*Blank Prep*