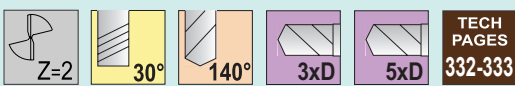


Series 1580H, 1280H

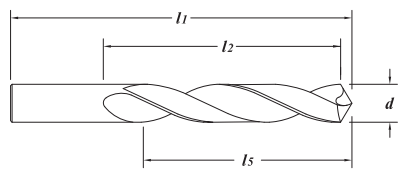
.1181" - .1719"
(3.000mm - 4.366mm)



TOLERANCES		
d	+.0000" - .0005" (+.0000 - .0127mm)	
l_1	$\leq 1/8"$	+.125" - .062" (+3.175 - 1.588mm)
	$> 1/8"$	+.125" - .125" (+3.175 - 3.175mm)
l_2	$\leq 1/8"$	+.125" - .062" (+3.175 - 1.588mm)
	$> 1/8"$	+.125" - .125" (+3.175 - 3.175mm)

Recommended for high nickel, high temperature alloys, cobalt-based alloys, stainless steels, and tool steels >40 Rc

BALIQ® ALTINOS Coating (AlTiN-based)
 High performance - high penetration solid submicron grain carbide drill
 Extended tool life and greater surface finish through faster SFM rates
 Up to 50% faster than standard carbide drills
 30° helix for better chip evacuation
 Honed cutting edge
 Live tooling recommended on lathe processes



3xD (1580H) EDP#	5xD (1280H) EDP#	d † Diameter		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100
		Decimal	Metric							
20301		.1181	3.000	46	16	10	32.90	31.47	30.04	28.61
	21301	.1181	3.000	50	19	16	34.39	32.89	31.40	29.90
20306		.1200	#31	1-13/16"	5/8"	.382"	33.24	31.79	30.35	28.90
	21306	.1200	#31	2"	3/4"	.622"	34.66	33.15	31.65	30.14
20311		.1250	1/8"	1-15/16"	11/16"	.398"	33.53	32.08	30.62	29.16
	21311	.1250	1/8"	2"	3/4"	.648"	34.94	33.42	31.90	30.38
20316		.1285	#30	1-15/16"	11/16"	.409"	33.83	32.36	30.89	29.42
	21316	.1285	#30	2-1/4"	3/4"	.666"	35.25	33.72	32.18	30.65
20321		.1360	#29	2-1/16"	3/4"	.433"	34.16	32.67	31.19	29.70
	21321	.1360	#29	2-1/4"	7/8"	.705"	35.51	33.97	32.42	30.88
20326		.1378	3.500	52	19	11	34.49	32.99	31.49	29.99
	21326	.1378	3.500	57	22	18	35.80	34.24	32.69	31.13
20331		.1405	#28	2-1/16"	3/4"	.447"	34.81	33.30	31.78	30.27
	21331	.1405	#28	2-1/4"	7/8"	.728"	36.09	34.52	32.95	31.38
20336		.1406	9/64"	2-1/16"	3/4"	.447"	35.11	33.58	32.06	30.53
	21336	.1406	9/64"	2-1/4"	7/8"	.729"	36.40	34.82	33.23	31.65
20341		.1440	#27	2-1/16"	3/4"	.458"	35.42	33.88	32.34	30.80
	21341	.1440	#27	2-1/4"	7/8"	.746"	36.64	35.05	33.45	31.86
20346		.1470	#26	2-3/16"	13/16"	.468"	35.70	34.14	32.59	31.04
	21346	.1470	#26	2-1/4"	7/8"	.762"	36.94	35.33	33.73	32.12
20351		.1495	#25	2-3/16"	13/16"	.476"	36.08	34.51	32.94	31.37
	21351	.1495	#25	2-1/4"	15/16"	.775"	37.21	35.60	33.98	32.36
20356		.1520	#24	2-3/16"	13/16"	.484"	36.36	34.78	33.20	31.62
	21356	.1520	#24	2-1/4"	15/16"	.788"	37.48	35.85	34.22	32.59
20361		.1540	#23	2-3/16"	13/16"	.490"	36.69	35.09	33.50	31.90
	21361	.1540	#23	2-1/4"	15/16"	.798"	37.80	36.16	34.51	32.87
20366		.1562	5/32"	2-3/16"	13/16"	.497"	36.97	35.37	33.76	32.15
	21366	.1562	5/32"	2-1/2"	15/16"	.809"	38.07	36.41	34.76	33.10
20371		.1570	#22	2-3/16"	13/16"	.500"	37.32	35.70	34.07	32.45
	21371	.1570	#22	2-1/2"	15/16"	.814"	38.34	36.67	35.01	33.34
20376		.1575	4.000	56	21	13	37.62	35.98	34.35	32.71
	21376	.1575	4.000	65	24	21	38.63	36.95	35.27	33.59
20381		.1590	#21	2-3/16"	13/16"	.506"	37.94	36.29	34.64	32.99
	21381	.1590	#21	2-1/2"	15/16"	.824"	38.90	37.21	35.52	33.83
20386		.1610	#20	2-3/16"	13/16"	.512"	38.26	36.60	34.93	33.27
	21386	.1610	#20	2-1/2"	15/16"	.834"	39.22	37.51	35.81	34.10
20391		.1660	#19	2-9/32"	15/16"	.528"	38.59	36.92	35.24	33.56
	21391	.1660	#19	2-1/2"	1"	.860"	39.49	37.77	36.06	34.34
20396		.1695	#18	2-9/32"	15/16"	.539"	38.89	37.20	35.51	33.82
	21396	.1695	#18	2-1/2"	1"	.878"	39.76	38.03	36.30	34.57
20401		.1719	11/64"	2-9/32"	15/16"	.547"	39.22	37.51	35.81	34.10
	21401	.1719	11/64"	2-1/2"	1"	.891"	40.04	38.30	36.56	34.82

3xD (1580H) EDP#	5xD (1280H) EDP#	d^{\dagger} Diameter		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100	
		Decimal	Metric								
20406		.1730	#17	4.394	2-9/32"	15/16"	.551"	39.54	37.82	36.10	34.38
	21406	.1730	#17	4.394	2-1/2"	1"	.897"	40.32	38.57	36.81	35.06
20411		.1770	#16	4.496	2-9/32"	15/16"	.563"	39.81	38.08	36.35	34.62
	21411	.1770	#16	4.496	2-1/2"	1"	.917"	40.63	38.86	37.10	35.33
20416		.1772		4.500	58	24	14	40.15	38.40	36.66	34.91
	21416	.1772		4.500	65	25	23	40.92	39.14	37.36	35.58
20421		.1800	#15	4.572	2-9/32"	15/16"	.573"	40.42	38.67	36.91	35.15
	21421	.1800	#15	4.572	2-3/4"	1"	.933"	41.17	39.38	37.59	35.80
20426		.1820	#14	4.623	2-9/32"	15/16"	.579"	40.79	39.02	37.24	35.47
	21426	.1820	#14	4.623	2-3/4"	1"	.943"	41.45	39.64	37.84	36.04
20431		.1850	#13	4.700	2-9/32"	15/16"	.589"	41.09	39.30	37.52	35.73
	21431	.1850	#13	4.700	2-3/4"	1-1/4"	.959"	41.76	39.94	38.13	36.31
20436		.1875	3/16"	4.763	2-13/32"	1"	.597"	41.42	39.62	37.82	36.02
	21436	.1875	3/16"	4.763	2-3/4"	1-1/4"	.972"	42.06	40.23	38.40	36.57
20441		.1890	#12	4.801	2-13/32"	1"	.601"	41.73	39.92	38.10	36.29
	21441	.1890	#12	4.801	2-3/4"	1-1/4"	.979"	42.33	40.49	38.65	36.81
20446		.1910	#11	4.851	2-13/32"	1"	.608"	42.11	40.28	38.45	36.62
	21446	.1910	#11	4.851	2-3/4"	1-1/4"	.990"	42.58	40.73	38.88	37.03
20451		.1935	#10	4.915	2-13/32"	1"	.616"	42.37	40.52	38.68	36.84
	21451	.1935	#10	4.915	2-3/4"	1-1/4"	1.003"	42.88	41.02	39.15	37.29
20456		.1960	#9	4.978	2-13/32"	1"	.624"	42.67	40.81	38.96	37.10
	21456	.1960	#9	4.978	3"	1-5/16"	1.016"	43.15	41.27	39.40	37.52
20461		.1969		5.000	61	25	16	42.90	41.03	39.17	37.30
	21461	.1969		5.000	75	33	26	43.45	41.56	39.67	37.78
20466		.1990	#8	5.055	2-13/32"	1"	.633"	43.30	41.42	39.53	37.65
	21466	.1990	#8	5.055	3"	1-5/16"	1.031"	43.68	41.78	39.88	37.98
20471		.2010	#7	5.105	2-13/32"	1"	.640"	43.42	41.54	39.65	37.76
	21471	.2010	#7	5.105	3"	1-5/16"	1.042"	43.87	41.97	40.06	38.15
20476		.2031	13/64"	5.159	2-13/64"	1"	.646"	43.71	41.81	39.91	38.01
	21476	.2031	13/64"	5.159	3"	1-5/16"	1.053"	44.19	42.27	40.35	38.43
20481		.2040	#6	5.182	2-13/32"	1"	.649"	44.01	42.10	40.18	38.27
	21481	.2040	#6	5.182	3"	1-3/8"	1.057"	44.52	42.58	40.65	38.71
20486		.2055	#5	5.220	2-13/32"	1"	.654"	44.33	42.41	40.48	38.55
	21486	.2055	#5	5.220	3"	1-3/8"	1.065"	44.82	42.87	40.92	38.97
20491		.2090	#4	5.309	2-13/32"	1"	.665"	44.60	42.66	40.72	38.78
	21491	.2090	#4	5.309	3"	1-3/8"	1.083"	45.11	43.15	41.19	39.23
20496		.2130	#3	5.410	2-5/8"	1-3/32"	.678"	44.90	42.94	40.99	39.04
	21496	.2130	#3	5.410	3"	1-3/8"	1.104"	45.43	43.45	41.48	39.50
20501		.2165		5.500	67	28	18	45.18	43.22	41.25	39.29
	21501	.2165		5.500	75	35	29	45.70	43.71	41.73	39.74
20506		.2188	7/32"	5.558	2-5/8"	1-3/32"	.696"	45.55	43.57	41.59	39.61
	21506	.2188	7/32"	5.558	3"	1-3/8"	1.134"	45.99	43.99	41.99	39.99
20511		.2210	#2	5.613	2-5/8"	1-3/32"	.703"	45.89	43.89	41.90	39.90
	21511	.2210	#2	5.613	3"	1-3/8"	1.145"	46.98	44.94	42.89	40.85
20516		.2280	#1	5.791	2-5/8"	1-3/32"	.726"	46.24	44.23	42.22	40.21
	21516	.2280	#1	5.791	3"	1-3/8"	1.182"	47.22	45.17	43.11	41.06
20521		.2340	A	5.944	2-5/8"	1-3/32"	.745"	46.55	44.53	42.50	40.48
	21521	.2340	A	5.944	3-1/4"	1-1/2"	1.213"	47.92	45.84	43.75	41.67
20526		.2344	15/64"	5.954	2-5/8"	1-3/32"	.746"	46.91	44.87	42.83	40.79
	21526	.2344	15/64"	5.954	3-1/4"	1-1/2"	1.215"	48.05	45.96	43.87	41.78
20531		.2362		6.000	67	28	19	47.23	45.18	43.12	41.07
	21531	.2362		6.000	80	38	31	48.20	46.10	44.01	41.91
20536		.2380	B	6.045	2-3/4"	1-7/32"	.757"	47.55	45.49	43.42	41.35
	21536	.2380	B	6.045	3-1/4"	1-5/8"	1.233"	48.33	46.23	44.13	42.03

continued →

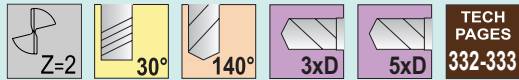
Series 1580H, 1280H (continued)

.2420" - .3438"
(6.147mm - 8.733mm)

3xD (1580H) EDP#	5xD (1280H) EDP#	d^{\dagger} Diameter		l_1 Overall Length	l_2 Flute Length	l_5 Max Drill Depth	1-11	12-24	25-49	50-100	
		Decimal	Metric								
20541		.2420	C	6.147	2-3/4"	1-7/32"	.770"	47.93	45.85	43.76	41.68
	21541	.2420	C	6.147	3-1/4"	1-5/8"	1.254"	48.67	46.55	44.44	42.32
20546		.2460	D	6.248	2-3/4"	1-7/32"	.783"	48.20	46.10	44.01	41.91
	21546	.2460	D	6.248	3-1/4"	1-5/8"	1.275"	48.98	46.85	44.72	42.59
20551		.2500	1/4" / E	6.350	2-3/4"	1-7/32"	.796"	48.62	46.51	44.39	42.28
	21551	.2500	1/4" / E	6.350	3-1/4"	1-5/8"	1.296"	49.25	47.11	44.97	42.83
20556		.2559		6.500	70	31	21	49.39	47.25	45.10	42.95
	21556	.2559		6.500	80	41	34	50.13	47.95	45.77	43.59
20561		.2570	F	6.528	2-3/4"	1-7/32"	.818"	50.17	47.99	45.81	43.63
	21561	.2570	F	6.528	3-1/4"	1-11/16"	1.332"	50.99	48.77	46.56	44.34
20566		.2610	G	6.629	2-3/4"	1-7/32"	.831"	50.93	48.72	46.50	44.29
	21566	.2610	G	6.629	3-1/2"	1-11/16"	1.353"	51.87	49.61	47.36	45.10
20571		.2656	17/64"	6.746	2-15/16"	1-11/32"	.845"	51.70	49.46	47.21	44.96
	21571	.2656	17/64"	6.746	3-1/2"	1-11/16"	1.376"	52.70	50.41	48.12	45.83
20576		.2660	H	6.756	2-15/16"	1-11/32"	.846"	52.46	50.18	47.90	45.62
	21576	.2660	H	6.756	3-1/2"	1-11/16"	1.378"	53.60	51.27	48.94	46.61
20581		.2720	I	6.909	2-15/16"	1-11/32"	.866"	53.25	50.93	48.62	46.30
	21581	.2720	I	6.909	3-1/2"	1-11/16"	1.410"	54.46	52.10	49.73	47.36
20586		.2756		7.000	75	34	22	54.03	51.68	49.33	46.98
	21586	.2756		7.000	88	43	36	55.30	52.90	50.49	48.09
20591		.2770	J	7.036	2-15/16"	1-11/32"	.881"	54.77	52.39	50.01	47.63
	21591	.2770	J	7.036	3-1/2"	1-11/16"	1.435"	56.18	53.74	51.29	48.85
20596		.2810	K	7.137	2-15/16"	1-11/32"	.894"	55.56	53.14	50.73	48.31
	21596	.2810	K	7.137	3-1/2"	1-3/4"	1.456"	57.07	54.59	52.11	49.63
20601		.2812	9/32"	7.142	2-15/16"	1-11/32"	.895"	56.33	53.88	51.43	48.98
	21601	.2812	9/32"	7.142	3-1/2"	1-3/4"	1.457"	57.94	55.42	52.90	50.38
20606		.2900	L	7.366	2-15/16"	1-11/32"	.923"	57.10	54.62	52.13	49.65
	21606	.2900	L	7.366	3-1/2"	1-3/4"	1.503"	58.73	56.18	53.62	51.07
20611		.2950	M	7.493	2-15/16"	1-11/32"	.939"	58.21	55.68	53.15	50.62
	21611	.2950	M	7.493	3-3/4"	1-3/4"	1.529"	59.57	56.98	54.39	51.80
20616		.2953		7.500	75	34	24	58.21	55.68	53.15	50.62
	21616	.2953		7.500	95	44	39	59.57	56.98	54.39	51.80
20621		.2969	19/64"	7.541	3-3/32"	1-15/32"	.945"	58.72	56.17	53.61	51.06
	21621	.2969	19/64"	7.541	3-3/4"	1-7/8"	1.539"	60.17	57.55	54.94	52.32
20626		.3020	N	7.671	3-3/32"	1-15/32"	.961"	61.35	58.69	56.02	53.35
	21626	.3020	N	7.671	3-3/4"	1-7/8"	1.565"	62.55	59.83	57.11	54.39
20631		.3125	5/16"	7.938	3-3/32"	1-15/32"	.994"	61.57	58.89	56.22	53.54
	21631	.3125	5/16"	7.938	3-3/4"	1-7/8"	1.619"	62.74	60.02	57.29	54.56
20636		.3150		8.000	79	37	25	64.98	62.15	59.33	56.50
	21636	.3150		8.000	95	48	41	66.14	63.26	60.39	57.51
20641		.3160	O	8.026	3-3/32"	1-15/32"	1.006"	64.98	62.15	59.33	56.50
	21641	.3160	O	8.026	3-3/4"	1-7/8"	1.638"	66.14	63.26	60.39	57.51
20646		.3230	P	8.204	3-3/32"	1-15/32"	1.028"	65.45	62.60	59.76	56.91
	21646	.3230	P	8.204	3-3/4"	2-3/32"	1.674"	66.38	63.49	60.61	57.72
20651		.3281	21/64"	8.334	3-3/32"	1-15/32"	1.044"	66.65	63.76	60.86	57.96
	21651	.3281	21/64"	8.334	4"	2-3/32"	1.700"	67.00	64.09	61.17	58.26
20656		.3320	Q	8.433	3-3/32"	1-15/32"	1.056"	67.85	64.90	61.95	59.00
	21656	.3320	Q	8.433	4"	2-3/32"	1.720"	68.33	65.36	62.39	59.42
20661		.3346		8.500	79	37	27	68.14	65.18	62.21	59.25
	21661	.3346		8.500	100	53	44	68.83	65.84	62.84	59.85
20666		.3390	R	8.611	3-5/16"	1-9/16"	1.079"	69.98	66.94	63.89	60.85
	21666	.3390	R	8.611	4"	2-3/32"	1.757"	70.73	67.65	64.58	61.50
20671		.3438	11/32"	8.733	3-5/16"	1-9/16"	1.094"	71.51	68.40	65.29	62.18
	21671	.3438	11/32"	8.733	4"	2-3/16"	1.782"	73.20	70.02	66.83	63.65

TOLERANCES

<i>d</i>	+.0000" - .0005" (+.0000 - .0127mm)	
<i>l1</i>	≤ 1/8"	+ .125" - .062" (+3.175 - 1.588mm)
	> 1/8"	+ .125" - .125" (+3.175 - 3.175mm)
<i>l2</i>	≤ 1/8"	+ .125" - .062" (+3.175 - 1.588mm)
	> 1/8"	+ .125" - .125" (+3.175 - 3.175mm)



Series 1580H, 1280H (continued)

.3480" - .4531"
(8.839mm - 11.509mm)

Recommended for high nickel, high temperature alloys, cobalt-based alloys, stainless steels, and tool steels >40 Rc

BALIQU® ALTINOS Coating (AlTiN-based)

High performance - high penetration solid submicron grain carbide drill



HIGH PERFORMANCE
DRILLS

3xD (1580H) EDP#	5xD (1280H) EDP#	<i>d</i> † Diameter		<i>l1</i> Overall Length	<i>l2</i> Flute Length	<i>l5</i> Max Drill Depth	1-11	12-24	25-49	50-100	
		Decimal	Metric								
20676		.3480	S	8.839	3-5/16"	1-9/16"	1.107"	73.88	70.66	67.45	64.24
	21676	.3480	S	8.839	4"	2-3/16"	1.803"	76.06	72.75	69.45	66.14
20681		.3543		9.000	84	40	29	75.75	72.46	69.16	65.87
	21681	.3543		9.000	100	56	47	76.51	73.18	69.86	66.53
20686		.3580	T	9.093	3-5/16"	1-9/16"	1.139"	78.72	75.30	71.87	68.45
	21686	.3580	T	9.093	4-1/4"	2-9/32"	1.855"	79.53	76.08	72.62	69.16
20691		.3594	23/64"	9.129	3-5/16"	1-9/16"	1.144"	79.21	75.77	72.32	68.88
	21691	.3594	23/64"	9.129	4-1/4"	2-9/32"	1.862"	80.02	76.54	73.06	69.58
20696		.3680	U	9.347	3-5/16"	1-9/16"	1.171"	80.86	77.34	73.83	70.31
	21696	.3680	U	9.347	4-1/4"	2-9/32"	1.907"	84.57	80.89	77.22	73.54
20701		.3740		9.500	84	40	30	81.54	77.99	74.45	70.90
	21701	.3740		9.500	105	58	49	85.40	81.69	77.97	74.26
20706		.3750	3/8"	9.525	3-1/2"	1-11/16"	1.193"	82.02	78.45	74.89	71.32
	21706	.3750	3/8"	9.525	4-1/4"	2-3/8"	1.943"	86.25	82.50	78.75	75.00
20711		.3770	V	9.576	3-1/2"	1-11/16"	1.200"	85.17	81.47	77.76	74.06
	21711	.3770	V	9.576	4-1/4"	2-3/8"	1.954"	88.37	84.52	80.68	76.84
20716		.3860	W	9.804	3-1/2"	1-11/16"	1.228"	86.66	82.90	79.13	75.36
	21716	.3860	W	9.804	4-1/2"	2-3/8"	2.000"	89.93	86.02	82.11	78.20
20721		.3906	25/64"	9.921	3-1/2"	1-11/16"	1.243"	87.75	83.93	80.12	76.30
	21721	.3906	25/64"	9.921	4-1/2"	2-3/8"	2.024"	91.01	87.05	83.10	79.14
20726		.3937		10.000	89	43	32	90.40	86.47	82.54	78.61
	21726	.3937		10.000	115	60	52	93.76	89.68	85.61	81.53
20731		.3970	X	10.084	3-1/2"	1-11/16"	1.263"	91.63	87.65	83.66	79.68
	21731	.3970	X	10.084	4-1/2"	2-1/2"	2.057"	94.90	90.77	86.65	82.52
20736		.4040	Y	10.262	3-1/2"	1-11/16"	1.286"	92.23	88.22	84.21	80.20
	21736	.4040	Y	10.262	4-1/2"	2-9/16"	2.094"	97.76	93.51	89.26	85.01
20741		.4062	13/32"	10.317	3-1/2"	1-11/16"	1.293"	95.08	90.95	86.81	82.68
	21741	.4062	13/32"	10.317	4-1/2"	2-9/16"	2.105"	98.61	94.33	90.04	85.75
20746		.4130	Z	10.490	3-1/2"	1-11/16"	1.314"	95.97	91.80	87.62	83.45
	21746	.4130	Z	10.490	4-1/2"	2-5/8"	2.140"	99.51	95.18	90.86	86.53
20751		.4134		10.500	89	43	33	95.97	91.80	87.62	83.45
	21751	.4134		10.500	115	67	54	99.51	95.18	90.86	86.53
20756		.4219	27/64"	10.716	3-3/4"	1-13/16"	1.343"	96.88	92.66	88.45	84.24
	21756	.4219	27/64"	10.716	4-1/2"	2-11/16"	2.186"	100.41	96.04	91.68	87.31
20761		.4331		11.000	95	46	35	103.98	99.46	94.94	90.42
	21761	.4331		11.000	115	68	57	107.73	103.05	98.36	93.68
20766		.4375	7/16"	11.113	3-3/4"	1-13/16"	1.392"	103.98	99.46	94.94	90.42
	21766	.4375	7/16"	11.113	4-3/4"	2-13/16"	2.267"	108.17	103.47	98.76	94.06
20771		.4528		11.500	95	46	37	111.61	106.76	101.90	97.05
	21771	.4528		11.500	120	71	60	115.59	110.56	105.54	100.51
20776		.4531	29/64"	11.509	3-3/4"	1-13/16"	1.442"	111.61	106.76	101.90	97.05
	21776	.4531	29/64"	11.509	4-3/4"	2-7/8"	2.348"	115.59	110.56	105.54	100.51

continued →

Series 1580H, 1280H (continued)

.4688" - .6299"
(11.908mm - 16.000mm)

3xD (1580H) EDP#	5xD (1280H) EDP#	d † Diameter		l_1	l_2	l_5	1-11	12-24	25-49	50-100	
		Decimal	Metric	Overall Length	Flute Length	Max Drill Depth					
20781		.4688	15/32"	11.908	4"	1-15/16"	1.492"	117.27	112.17	107.07	101.97
	21781	.4688	15/32"	11.908	4-3/4"	2-7/8"	2.429"	121.39	116.12	110.84	105.56
20786		.4724		12.000	102	49	38	117.61	112.50	107.38	102.27
	21786	.4724		12.000	120	73	62	121.76	116.47	111.17	105.88
20791		.4844	31/64"	12.304	4"	1-15/16"	1.541"	118.43	113.28	108.13	102.98
	21791	.4844	31/64"	12.304	5-5/16"	3"	2.510"	123.12	117.77	112.41	107.06
20796		.4921		12.500	102	49	40	119.60	114.40	109.20	104.00
	21796	.4921		12.500	135	76	65	124.59	119.17	113.76	108.34
20801		.5000	1/2"	12.700	4"	1-15/16"	1.591"	120.37	115.14	109.90	104.67
	21801	.5000	1/2"	12.700	5-3/8"	3-1/16"	2.591"	124.84	119.42	113.99	108.56
20806		.5118		13.000	107	53	41	131.93	126.19	120.46	114.72
	21806	.5118		13.000	135	78	67	135.76	129.86	123.95	118.05
20811		.5156	33/64"	13.096	4-7/32"	2-3/32"	1.641"	135.06	129.18	123.31	117.44
	21811	.5156	33/64"	13.096	5-3/8"	3-1/8"	2.672"	138.93	132.89	126.85	120.81
20816		.5312	17/32"	13.492	4-7/32"	2-3/32"	1.690"	138.16	132.15	126.15	120.14
	21816	.5312	17/32"	13.492	5-11/16"	3-5/16"	2.753"	142.20	136.02	129.83	123.65
20821		.5315		13.500	110	56	43	141.29	135.15	129.00	122.86
	21821	.5315		13.500	145	84	70	145.34	139.02	132.70	126.38
20826		.5469	35/64"	13.891	4-5/16"	2-7/32"	1.740"	144.38	138.11	131.83	125.55
	21826	.5469	35/64"	13.891	5-13/16"	3-3/8"	2.834"	148.50	142.04	135.59	129.13
20831		.5512		14.000	110	56	45	147.50	141.09	134.67	128.26
	21831	.5512		14.000	145	86	73	151.71	145.11	138.52	131.92
20836		.5625	9/16"	14.288	4-9/16"	2-15/32"	1.790"	158.78	151.88	144.97	138.07
	21836	.5625	9/16"	14.288	5-15/16"	3-1/2"	2.915"	163.04	155.95	148.86	141.77
20841		.5709		14.500	116	63	46	161.76	154.73	147.69	140.66
	21841	.5709		14.500	150	89	75	166.04	158.82	151.60	144.38
20846		.5781	37/64"	14.684	4-15/16"	2-9/16"	1.840"	164.66	157.50	150.34	143.18
	21846	.5781	37/64"	14.684	6"	3-1/2"	2.996"	169.02	161.67	154.32	146.97
20851		.5906		15.000	125	65	48	167.69	160.40	153.11	145.82
	21851	.5906		15.000	150	90	78	172.19	164.70	157.22	149.73
20856		.5938	19/32"	15.083	4-15/16"	2-9/16"	1.890"	168.60	161.27	153.94	146.61
	21856	.5938	19/32"	15.083	6"	3-9/16"	3.077"	173.08	165.55	158.03	150.50
20861		.6094	39/64"	15.479	5-1/16"	2-13/16"	1.939"	169.46	162.10	154.73	147.36
	21861	.6094	39/64"	15.479	6-3/16"	3-11/16"	3.158"	187.57	179.41	171.26	163.10
20866		.6102		15.500	129	71	49	170.34	162.93	155.53	148.12
	21866	.6102		15.500	160	94	80	188.43	180.24	172.04	163.85
20871		.6250	5/8"	15.875	5-1/4"	3-1/8"	1.989"	171.20	163.76	156.31	148.87
	21871	.6250	5/8"	15.875	6-5/16"	3-3/4"	3.239"	189.31	181.08	172.85	164.62
20876		.6299		16.000	133	79	51	175.32	167.70	160.07	152.45
	21876	.6299		16.000	160	95	83	193.56	185.14	176.73	168.31

