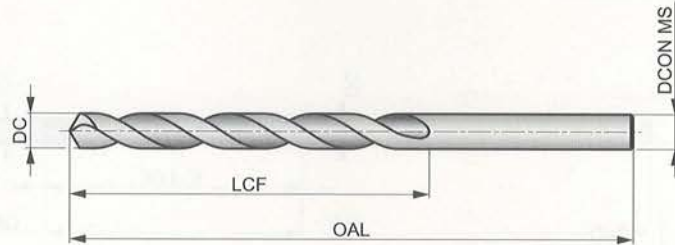


# A110



## HSS Long Series Drill, Steam Tempered Finish

For drilling deeper holes. Conventional 118° point provides strength and means an easy point to regrind, making it very cost-effective. Suitable for drilling many materials. Steam tempered finish retains cutting fluid and prevents chip to tool welding. For hand-held and machine drilling.



HSS	DIN 340	6×D
118°	ST	
λ20-35°	R	DC h8

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 175.

<b>P1.1</b> ■ 27G	<b>P1.2</b> ■ 30G	<b>P1.3</b> ■ 31G	<b>P2.1</b> ■ 23G	<b>P2.2</b> ■ 20E	<b>P2.3</b> ■ 18D	<b>P3.1</b> ■ 13E	<b>P3.2</b> ■ 11E	<b>P3.3</b> ■ 9D	<b>P4.1</b> ■ 8E	<b>P4.2</b> ■ 7D	<b>P4.3</b> ■ 5B	<b>M1.1</b> ■ 14D	<b>M1.2</b> ■ 12D
<b>M2.1</b> ■ 12D	<b>M2.2</b> ■ 10D	<b>M3.1</b> ■ 7F	<b>M3.2</b> ■ 6F	<b>M3.3</b> ■ 5F	<b>M4.1</b> ■ 4B	<b>K1.1</b> ■ 28H	<b>K1.2</b> ■ 21E	<b>K1.3</b> ■ 16E	<b>K2.1</b> ■ 18D	<b>K2.2</b> ■ 15D	<b>K2.3</b> ■ 12D	<b>K3.1</b> ■ 16D	<b>K3.2</b> ■ 12D
<b>K3.3</b> ■ 10D	<b>K4.1</b> ■ 15D	<b>K4.2</b> ■ 11D	<b>K4.3</b> ■ 8D	<b>K4.4</b> ■ 7D	<b>K4.5</b> ■ 6D	<b>K5.1</b> ■ 17D	<b>K5.2</b> ■ 13D	<b>K5.3</b> ■ 10D	<b>N1.1</b> ■ 32I	<b>N1.2</b> ■ 24I	<b>N1.3</b> ■ 16H	<b>N2.1</b> ■ 42G	<b>N2.2</b> ■ 37G
<b>N2.3</b> ■ 27G	<b>N3.1</b> ■ 54G	<b>N3.2</b> ■ 32H	<b>N3.3</b> ■ 16E	<b>N4.1</b> ■ 35I	<b>N4.2</b> ■ 26G	<b>N4.3</b> ■ 12E	<b>S1.1</b> ■ 17E	<b>S1.2</b> ■ 9C	<b>S1.3</b> ■ 4A	<b>S2.1</b> ■ 5D	<b>S2.2</b> ■ 4A	<b>S3.1</b> ■ 4D	<b>S3.2</b> ■ 3A
<b>S4.1</b> ■ 3D	<b>S4.2</b> ■ 2A												

DC <= 1mm; 1/16" Bright.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A110.5	—	0.50	0.0197	12.0	32.0	0.50
A110.6	—	0.60	0.0236	15.0	35.0	0.60
A110.7	—	0.70	0.0276	21.0	42.0	0.70
A1101/32	1/32	0.79	0.0313	25.0	46.0	0.79
A110.8	—	0.80	0.0315	25.0	46.0	0.80
A110.9	—	0.90	0.0354	29.0	51.0	0.90
A1101.0	—	1.00	0.0394	33.0	56.0	1.00
A1101.1	—	1.10	0.0433	37.0	60.0	1.10
A1101.2	—	1.20	0.0472	41.0	65.0	1.20
A1101.3	—	1.30	0.0512	41.0	65.0	1.30
A1101.4	—	1.40	0.0551	45.0	70.0	1.40
A1101.5	—	1.50	0.0591	45.0	70.0	1.50
A1101/16	1/16	1.59	0.0625	50.0	76.0	1.59
A1101.6	—	1.60	0.0630	50.0	76.0	1.60
A1101.7	—	1.70	0.0669	50.0	76.0	1.70
A1101.75	—	1.75	0.0689	53.0	80.0	1.75
A1101.8	—	1.80	0.0709	53.0	80.0	1.80
A1101.9	—	1.90	0.0748	53.0	80.0	1.90
A1105/64	5/64	1.98	0.0781	56.0	85.0	1.98
A1102.0	—	2.00	0.0787	56.0	85.0	2.00
A1102.05	—	2.05	0.0807	56.0	85.0	2.05
A1102.1	—	2.10	0.0827	56.0	85.0	2.10
A1102.2	—	2.20	0.0866	59.0	90.0	2.20
A1102.25	—	2.25	0.0886	59.0	90.0	2.25

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A1102.3	—	2.30	0.0906	59.0	90.0	2.30
A1103/32	3/32	2.38	0.0938	62.0	95.0	2.38
A1102.4	—	2.40	0.0945	62.0	95.0	2.40
A1102.5	—	2.50	0.0984	62.0	95.0	2.50
A1102.6	—	2.60	0.1024	62.0	95.0	2.60
A1102.7	—	2.70	0.1063	66.0	100.0	2.70
A1107/64	7/64	2.78	0.1094	66.0	100.0	2.78
A1102.8	—	2.80	0.1102	66.0	100.0	2.80
A1102.9	—	2.90	0.1142	66.0	100.0	2.90
A1103.0	—	3.00	0.1181	66.0	100.0	3.00
A1103.1	—	3.10	0.1220	69.0	106.0	3.10
A1101/8	1/8	3.18	0.1250	69.0	106.0	3.18
A1103.2	—	3.20	0.1260	69.0	106.0	3.20
A1103.25	—	3.25	0.1280	69.0	106.0	3.25
A1103.3	—	3.30	0.1299	69.0	106.0	3.30
A1103.4	—	3.40	0.1339	73.0	112.0	3.40
A1103.5	—	3.50	0.1378	73.0	112.0	3.50
A1109/64	9/64	3.57	0.1406	73.0	112.0	3.57
A1103.6	—	3.60	0.1417	73.0	112.0	3.60
A1103.7	—	3.70	0.1457	73.0	112.0	3.70
A1103.75	—	3.75	0.1476	73.0	112.0	3.75
A1103.8	—	3.80	0.1496	78.0	119.0	3.80
A1103.9	—	3.90	0.1535	78.0	119.0	3.90
A1105/32	5/32	3.97	0.1563	78.0	119.0	3.97

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A1104.0	--	4.00	0.1575	78.0	119.0	4.00
A1104.1	--	4.10	0.1614	78.0	119.0	4.10
A1104.2	--	4.20	0.1654	78.0	119.0	4.20
A1104.25	--	4.25	0.1673	78.0	119.0	4.25
A1104.3	--	4.30	0.1693	82.0	126.0	4.30
A11011/64	11/64	4.37	0.1719	82.0	126.0	4.37
A1104.4	--	4.40	0.1732	82.0	126.0	4.40
A1104.5	--	4.50	0.1772	82.0	126.0	4.50
A1104.6	--	4.60	0.1811	82.0	126.0	4.60
A1104.7	--	4.70	0.1850	82.0	126.0	4.70
A1104.75	--	4.75	0.1870	82.0	126.0	4.75
A1103/16	3/16	4.76	0.1875	87.0	132.0	4.76
A1104.8	--	4.80	0.1890	87.0	132.0	4.80
A1104.9	--	4.90	0.1929	87.0	132.0	4.90
A1105.0	--	5.00	0.1969	87.0	132.0	5.00
A1105.1	--	5.10	0.2008	87.0	132.0	5.10
A11013/64	13/64	5.16	0.2031	87.0	132.0	5.16
A1105.2	--	5.20	0.2047	87.0	132.0	5.20
A1105.25	--	5.25	0.2067	87.0	132.0	5.25
A1105.3	--	5.30	0.2087	87.0	132.0	5.30
A1105.4	--	5.40	0.2126	91.0	139.0	5.40
A1105.5	--	5.50	0.2165	91.0	139.0	5.50
A1107/32	7/32	5.56	0.2188	91.0	139.0	5.56
A1105.6	--	5.60	0.2205	91.0	139.0	5.60
A1105.7	--	5.70	0.2244	91.0	139.0	5.70
A1105.75	--	5.75	0.2264	91.0	139.0	5.75
A1105.8	--	5.80	0.2283	91.0	139.0	5.80
A1105.9	--	5.90	0.2323	91.0	139.0	5.90
A11015/64	15/64	5.95	0.2344	91.0	139.0	5.95
A1106.0	--	6.00	0.2362	91.0	139.0	6.00
A1106.1	--	6.10	0.2402	97.0	148.0	6.10
A1106.2	--	6.20	0.2441	97.0	148.0	6.20
A1106.25	--	6.25	0.2461	97.0	148.0	6.25
A1106.3	--	6.30	0.2480	97.0	148.0	6.30
A1101/4	1/4	6.35	0.2500	97.0	148.0	6.35
A1106.4	--	6.40	0.2520	97.0	148.0	6.40
A1106.5	--	6.50	0.2559	97.0	148.0	6.50
A1106.6	--	6.60	0.2598	97.0	148.0	6.60
A1106.7	--	6.70	0.2638	97.0	148.0	6.70
A11017/64	17/64	6.75	0.2656	102.0	156.0	6.75
A1106.75	--	6.75	0.2657	102.0	156.0	6.75
A1106.8	--	6.80	0.2677	102.0	156.0	6.80
A1106.9	--	6.90	0.2717	102.0	156.0	6.90
A1107.0	--	7.00	0.2756	102.0	156.0	7.00
A1107.1	--	7.10	0.2795	102.0	156.0	7.10
A1109/32	9/32	7.14	0.2813	102.0	156.0	7.14
A1107.2	--	7.20	0.2835	102.0	156.0	7.20
A1107.25	--	7.25	0.2854	102.0	156.0	7.25
A1107.3	--	7.30	0.2874	102.0	156.0	7.30
A1107.4	--	7.40	0.2913	102.0	156.0	7.40
A1107.5	--	7.50	0.2953	102.0	156.0	7.50
A1107.6	--	7.60	0.2992	109.0	165.0	7.60
A1107.7	--	7.70	0.3031	109.0	165.0	7.70
A1107.75	--	7.75	0.3051	109.0	165.0	7.75
A1107.8	--	7.80	0.3071	109.0	165.0	7.80
A1107.9	--	7.90	0.3110	109.0	165.0	7.90
A1105/16	5/16	7.94	0.3125	109.0	165.0	7.94
A1108.0	--	8.00	0.3150	109.0	165.0	8.00
A1108.1	--	8.10	0.3189	109.0	165.0	8.10
A1108.2	--	8.20	0.3228	109.0	165.0	8.20
A1108.25	--	8.25	0.3248	109.0	165.0	8.25
A1108.3	--	8.30	0.3268	109.0	165.0	8.30
A1108.4	--	8.40	0.3307	109.0	165.0	8.40
A1108.5	--	8.50	0.3346	109.0	165.0	8.50
A1108.6	--	8.60	0.3386	115.0	175.0	8.60

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A1108.7	--	8.70	0.3425	115.0	175.0	8.70
A11011/32	11/32	8.73	0.3438	115.0	175.0	8.73
A1108.75	--	8.75	0.3445	115.0	175.0	8.75
A1108.8	--	8.80	0.3465	115.0	175.0	8.80
A1108.9	--	8.90	0.3504	115.0	175.0	8.90
A1109.0	--	9.00	0.3543	115.0	175.0	9.00
A1109.1	--	9.10	0.3583	115.0	175.0	9.10
A1109.2	--	9.20	0.3622	115.0	175.0	9.20
A1109.25	--	9.25	0.3642	115.0	175.0	9.25
A1109.3	--	9.30	0.3661	115.0	175.0	9.30
A1109.4	--	9.40	0.3701	115.0	175.0	9.40
A1109.5	--	9.50	0.3740	115.0	175.0	9.50
A1103/8	3/8	9.52	0.3750	121.0	184.0	9.52
A1109.6	--	9.60	0.3780	121.0	184.0	9.60
A1109.7	--	9.70	0.3819	121.0	184.0	9.70
A1109.75	--	9.75	0.3839	121.0	184.0	9.75
A1109.8	--	9.80	0.3858	121.0	184.0	9.80
A1109.9	--	9.90	0.3898	121.0	184.0	9.90
A11010.0	--	10.00	0.3937	121.0	184.0	10.00
A11010.1	--	10.10	0.3976	121.0	184.0	10.10
A11010.2	--	10.20	0.4016	121.0	184.0	10.20
A11010.25	--	10.25	0.4035	121.0	184.0	10.25
A11010.3	--	10.30	0.4055	121.0	184.0	10.30
A11013/32	13/32	10.32	0.4063	121.0	184.0	10.32
A11010.5	--	10.50	0.4134	121.0	184.0	10.50
A11010.75	--	10.75	0.4232	128.0	195.0	10.75
A11010.8	--	10.80	0.4252	128.0	195.0	10.80
A11011.0	--	11.00	0.4331	128.0	195.0	11.00
A1107/16	7/16	11.11	0.4375	128.0	195.0	11.11
A11011.25	--	11.25	0.4429	128.0	195.0	11.25
A11011.4	--	11.40	0.4488	128.0	195.0	11.40
A11011.5	--	11.50	0.4528	128.0	195.0	11.50
A11011.75	--	11.75	0.4626	128.0	195.0	11.75
A11012.0	--	12.00	0.4724	134.0	205.0	12.00
A11012.1	--	12.10	0.4764	134.0	205.0	12.10
A11012.25	--	12.25	0.4823	134.0	205.0	12.25
A11012.5	--	12.50	0.4921	134.0	205.0	12.50
A1101/2	1/2	12.70	0.5000	134.0	205.0	12.70
A11013.0	--	13.00	0.5118	134.0	205.0	13.00
A11017/32	17/32	13.49	0.5313	140.0	214.0	13.49
A11013.5	--	13.50	0.5315	140.0	214.0	13.50
A11014.0	--	14.00	0.5512	140.0	214.0	14.00
A1109/16	9/16	14.29	0.5625	144.0	220.0	14.29
A11014.5	--	14.50	0.5709	144.0	220.0	14.50
A11015.0	--	15.00	0.5906	144.0	220.0	15.00
A11015.5	--	15.50	0.6102	149.0	227.0	15.50
A1105/8	5/8	15.88	0.6250	149.0	227.0	15.88
A11016.0	--	16.00	0.6299	149.0	227.0	16.00
A11016.5	--	16.50	0.6496	154.0	235.0	16.50
A11017.0	--	17.00	0.6693	154.0	235.0	17.00
A11011/16	11/16	17.46	0.6875	158.0	241.0	17.46
A11017.5	--	17.50	0.6890	158.0	241.0	17.50
A11018.0	--	18.00	0.7087	158.0	241.0	18.00
A11018.5	--	18.50	0.7283	162.0	247.0	18.50
A11019.0	--	19.00	0.7480	162.0	247.0	19.00
A1103/4	3/4	19.05	0.7500	166.0	254.0	19.05
A11019.5	--	19.50	0.7677	166.0	254.0	19.50
A11020.0	--	20.00	0.7874	166.0	254.0	20.00
A11021.0	--	21.00	0.8268	171.0	261.0	21.00
A11022.0	--	22.00	0.8661	176.0	268.0	22.00
A1107/8	7/8	22.22	0.8750	176.0	268.0	22.22
A11015/16	15/16	23.81	0.9375	185.0	282.0	23.81
A1101	1"	25.40	1.0000	190.0	290.0	25.40