

GUHRING



RT 100 T AL *deep hole drill for* **ALUMINUM**

GUHRING – YOUR WORLDWIDE PARTNER

GUHRING'S DEEP HOLE AL SOLUTION

The RT 100 T AL solid carbide deep hole twist drill was designed specifically for machining aluminum alloys.

It features specialized web thinning with highly polished surface finish on point and flutes, resulting in optimal drilling performance. Low machining temperature reduces the potential of built-up edges when drilling non-ferrous metals.

Pilot drilling is required for the RT 100 T AL deep hole drills, and the Guhring series 5768 drill (page 3) is the perfect pilot drill choice.

Sharp, micro-treated cutting edges

for ideal cutting performance;
excels in aluminum with <7% silicon.

Highly polished flute (Rz 0.5 μ) reduces the risk of chip adhesion, maximizing chip evacuation

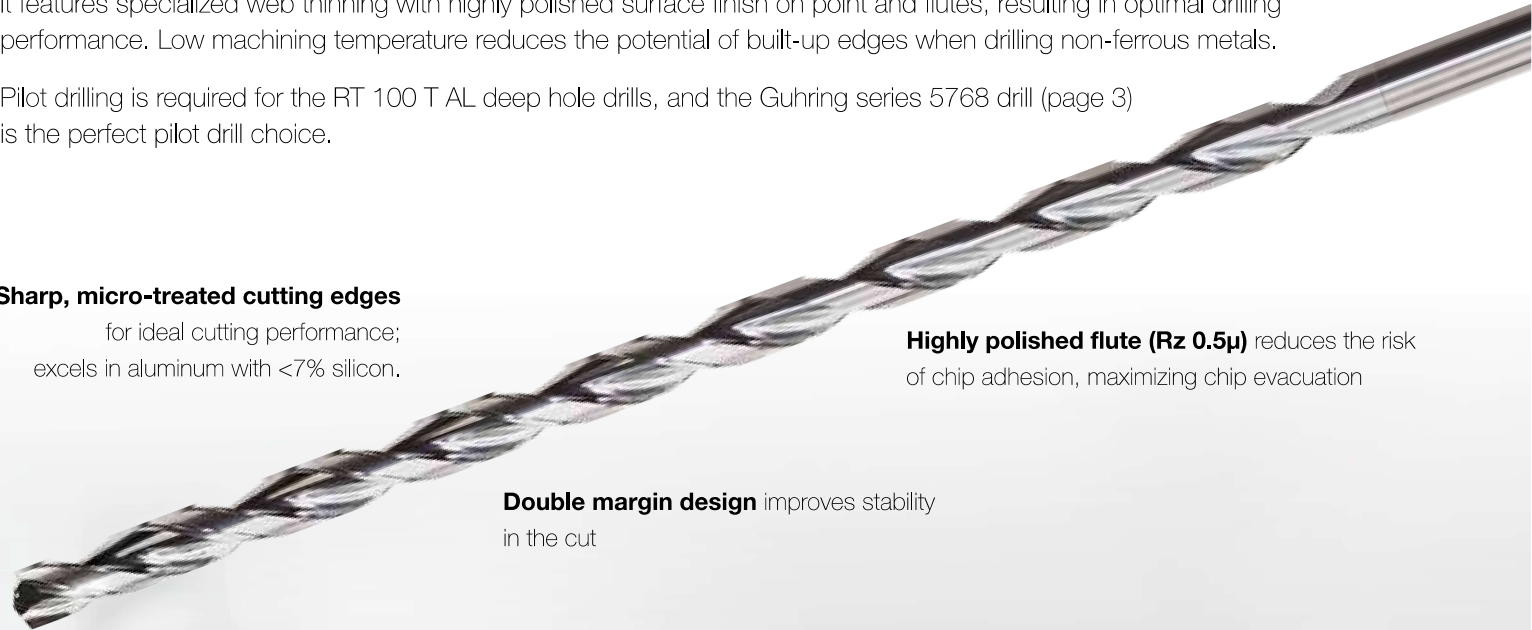
Double margin design improves stability in the cut

ADVANTAGES:

- **Reduction of machining time**
- **Ideal chip control and evacuation**
- **Optimum drilling results with excellent hole quality**
- **Ultimate performance when machining non-ferrous metals**

Available from stock in 15xD, 20xD and 25xD lengths, diameters from 3 to 14mm

**Customized solutions
available on request.**





RT 100 T AL - Deep hole drill for aluminum



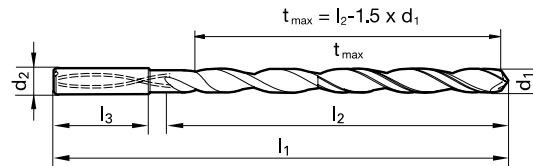
Tool material	Solid carbide
Coating	Uncoated
Shank form	HA

Material	Suitability
P Steel	
M Stainless steel	
K Cast iron	
N Aluminum	●
S Ni / Ti alloys	
H Hardened steel	

facet point grind • main cutting edge form concave • optimized flute design • maximum diameter of coolant ducts • observe coolant pressure • for piloting we recommend RT 100 AI, Series 5768

aluminum and Al-alloys

●=Optimal ○=Limited



Series										6515
d1	d1	d1	d1	d2	l1	l2	t _{max}	l3	Code	EDP No.
inch	fract. in	wire/ltr	mm	mm	mm	mm	mm	mm	no.	
0.1181			3.00	6.00	95.00	55.00	50.50	36.00	3.000	9065150030000
0.1220			3.10	6.00	106.00	66.00	61.35	36.00	3.100	9065150031000
0.1248	1/8		3.17	6.00	106.00	66.00	61.25	36.00	3.170	9065150031700
0.1260			3.20	6.00	106.00	66.00	61.20	36.00	3.200	9065150032000
0.1280			3.25	6.00	106.00	66.00	61.13	36.00	3.250	9065150032500
0.1299			3.30	6.00	106.00	66.00	61.05	36.00	3.300	9065150033000
0.1339			3.40	6.00	106.00	66.00	60.90	36.00	3.400	9065150034000
0.1378			3.50	6.00	116.00	76.00	70.75	36.00	3.500	9065150035000
0.1406	9/64		3.57	6.00	116.00	76.00	70.65	36.00	3.570	9065150035700
0.1417			3.60	6.00	116.00	76.00	70.60	36.00	3.600	9065150036000
0.1457			3.70	6.00	116.00	76.00	70.45	36.00	3.700	9065150037000
0.1496			3.80	6.00	116.00	76.00	70.30	36.00	3.800	9065150038000
0.1535			3.90	6.00	116.00	76.00	70.15	36.00	3.900	9065150039000
0.1563	5/32		3.97	6.00	116.00	76.00	70.05	36.00	3.970	9065150039700
0.1575			4.00	6.00	116.00	76.00	70.00	36.00	4.000	9065150040000
0.1614			4.10	6.00	133.00	93.00	86.85	36.00	4.100	9065150041000
0.1654			4.20	6.00	133.00	93.00	86.70	36.00	4.200	9065150042000
0.1693			4.30	6.00	133.00	93.00	86.55	36.00	4.300	9065150043000
0.1720	11/64		4.37	6.00	133.00	93.00	86.45	36.00	4.370	9065150043700
0.1732			4.40	6.00	133.00	93.00	86.40	36.00	4.400	9065150044000
0.1772			4.50	6.00	133.00	93.00	86.25	36.00	4.500	9065150045000
0.1811			4.60	6.00	133.00	93.00	86.10	36.00	4.600	9065150046000
0.1831			4.65	6.00	133.00	93.00	86.03	36.00	4.650	9065150046500
0.1850		#13	4.70	6.00	133.00	93.00	85.95	36.00	4.700	9065150047000
0.1874	3/16		4.76	6.00	133.00	93.00	85.86	36.00	4.760	9065150047600
0.1890		#12	4.80	6.00	133.00	93.00	85.80	36.00	4.800	9065150048000
0.1929			4.90	6.00	133.00	93.00	85.65	36.00	4.900	9065150049000
0.1969			5.00	6.00	133.00	93.00	85.50	36.00	5.000	9065150050000
0.2008			5.10	6.00	150.00	110.00	102.35	36.00	5.100	9065150051000
0.2031	13/64		5.16	6.00	150.00	110.00	102.26	36.00	5.160	9065150051600
0.2047			5.20	6.00	150.00	110.00	102.20	36.00	5.200	9065150052000
0.2087			5.30	6.00	150.00	110.00	102.05	36.00	5.300	9065150053000
0.2126			5.40	6.00	150.00	110.00	101.90	36.00	5.400	9065150054000
0.2165			5.50	6.00	150.00	110.00	101.75	36.00	5.500	9065150055000
0.2185			5.55	6.00	150.00	110.00	101.68	36.00	5.550	9065150055500
0.2189	7/32		5.56	6.00	150.00	110.00	101.66	36.00	5.560	9065150055600



Series										6515
d1	d1	d1	d1	d2	I1	I2	t _{max}	I3	Code	EDP No.
inch	fract. in	wire/ltr	mm	mm	mm	mm	mm	mm	no.	
0.2205			5.60	6.00	150.00	110.00	101.60	36.00	5.600	9065150056000
0.2244			5.70	6.00	150.00	110.00	101.45	36.00	5.700	9065150057000
0.2283			5.80	6.00	150.00	110.00	101.30	36.00	5.800	9065150058000
0.2323			5.90	6.00	150.00	110.00	101.15	36.00	5.900	9065150059000
0.2343	15/64		5.95	6.00	150.00	110.00	101.08	36.00	5.950	9065150059500
0.2362			6.00	6.00	150.00	110.00	101.00	36.00	6.000	9065150060000
0.2402			6.10	8.00	167.00	127.00	117.85	36.00	6.100	9065150061000
0.2441			6.20	8.00	167.00	127.00	117.70	36.00	6.200	9065150062000
0.2480			6.30	8.00	167.00	127.00	117.55	36.00	6.300	9065150063000
0.2500	1/4	E	6.35	8.00	167.00	127.00	117.48	36.00	6.350	9065150063500
0.2520			6.40	8.00	167.00	127.00	117.40	36.00	6.400	9065150064000
0.2559			6.50	8.00	167.00	127.00	117.25	36.00	6.500	9065150065000
0.2598			6.60	8.00	167.00	127.00	117.10	36.00	6.600	9065150066000
0.2638			6.70	8.00	167.00	127.00	116.95	36.00	6.700	9065150067000
0.2657	17/64		6.75	8.00	167.00	127.00	116.88	36.00	6.750	9065150067500
0.2677			6.80	8.00	167.00	127.00	116.80	36.00	6.800	9065150068000
0.2717			6.90	8.00	167.00	127.00	116.65	36.00	6.900	9065150069000
0.2756			7.00	8.00	167.00	127.00	116.50	36.00	7.000	9065150070000
0.2795			7.10	8.00	183.00	143.00	132.35	36.00	7.100	9065150071000
0.2811	9/32		7.14	8.00	183.00	143.00	132.29	36.00	7.140	9065150071400
0.2835			7.20	8.00	183.00	143.00	132.20	36.00	7.200	9065150072000
0.2874			7.30	8.00	183.00	143.00	132.05	36.00	7.300	9065150073000
0.2913			7.40	8.00	183.00	143.00	131.90	36.00	7.400	9065150074000
0.2953			7.50	8.00	183.00	143.00	131.75	36.00	7.500	9065150075000
0.2969	19/64		7.54	8.00	183.00	143.00	131.69	36.00	7.540	9065150075400
0.2992			7.60	8.00	183.00	143.00	131.60	36.00	7.600	9065150076000
0.3031			7.70	8.00	183.00	143.00	131.45	36.00	7.700	9065150077000
0.3071			7.80	8.00	183.00	143.00	131.30	36.00	7.800	9065150078000
0.3110			7.90	8.00	183.00	143.00	131.15	36.00	7.900	9065150079000
0.3126	5/16		7.94	8.00	183.00	143.00	131.09	36.00	7.940	9065150079400
0.3150			8.00	8.00	183.00	143.00	131.00	36.00	8.000	9065150080000
0.3189			8.10	10.00	204.00	160.00	147.85	40.00	8.100	9065150081000
0.3228			8.20	10.00	204.00	160.00	147.70	40.00	8.200	9065150082000
0.3268			8.30	10.00	204.00	160.00	147.55	40.00	8.300	9065150083000
0.3280	21/64		8.33	10.00	204.00	160.00	147.51	40.00	8.330	9065150083300
0.3307			8.40	10.00	204.00	160.00	147.40	40.00	8.400	9065150084000
0.3346			8.50	10.00	204.00	160.00	147.25	40.00	8.500	9065150085000
0.3386			8.60	10.00	204.00	160.00	147.10	40.00	8.600	9065150086000
0.3425			8.70	10.00	204.00	160.00	146.95	40.00	8.700	9065150087000
0.3437	11/32		8.73	10.00	204.00	160.00	146.91	40.00	8.730	9065150087300
0.3465			8.80	10.00	204.00	160.00	146.80	40.00	8.800	9065150088000
0.3504			8.90	10.00	204.00	160.00	146.65	40.00	8.900	9065150089000
0.3543			9.00	10.00	204.00	160.00	146.50	40.00	9.000	9065150090000
0.3583			9.10	10.00	221.00	177.00	163.35	40.00	9.100	9065150091000
0.3594	23/64		9.13	10.00	221.00	177.00	163.31	40.00	9.130	9065150091300
0.3622			9.20	10.00	221.00	177.00	163.20	40.00	9.200	9065150092000
0.3642			9.25	10.00	221.00	177.00	163.13	40.00	9.250	9065150092500
0.3661			9.30	10.00	221.00	177.00	163.05	40.00	9.300	9065150093000
0.3677			9.34	10.00	221.00	177.00	162.99	40.00	9.340	9065150093400
0.3701			9.40	10.00	221.00	177.00	162.90	40.00	9.400	9065150094000
0.3740			9.50	10.00	221.00	177.00	162.75	40.00	9.500	9065150095000
0.3748	3/8		9.52	10.00	221.00	177.00	162.72	40.00	9.520	9065150095200
0.3780			9.60	10.00	221.00	177.00	162.60	40.00	9.600	9065150096000
0.3819			9.70	10.00	221.00	177.00	162.45	40.00	9.700	9065150097000
0.3858			9.80	10.00	221.00	177.00	162.30	40.00	9.800	9065150098000
0.3898			9.90	10.00	221.00	177.00	162.15	40.00	9.900	9065150099000
0.3906	25/64		9.92	10.00	221.00	177.00	162.12	40.00	9.920	9065150099200
0.3937			10.00	10.00	221.00	177.00	162.00	40.00	10.000	9065150100000
0.3976			10.10	12.00	247.00	198.00	182.85	45.00	10.100	9065150101000



Series										6515
d1	d1	d1	d1	d2	I1	I2	t _{max}	I3	Code	EDP No.
inch	fract. in	wire/ltr	mm	mm	mm	mm	mm	mm	no.	
0.4016			10.20	12.00	247.00	198.00	182.70	45.00	10.200	9065150102000
0.4055			10.30	12.00	247.00	198.00	182.55	45.00	10.300	9065150103000
0.4063	13/32		10.32	12.00	247.00	198.00	182.52	45.00	10.320	9065150103200
0.4094			10.40	12.00	247.00	198.00	182.40	45.00	10.400	9065150104000
0.4134			10.50	12.00	247.00	198.00	182.25	45.00	10.500	9065150105000
0.4173			10.60	12.00	247.00	198.00	182.10	45.00	10.600	9065150106000
0.4213			10.70	12.00	247.00	198.00	181.95	45.00	10.700	9065150107000
0.4252			10.80	12.00	247.00	198.00	181.80	45.00	10.800	9065150108000
0.4291			10.90	12.00	247.00	198.00	181.65	45.00	10.900	9065150109000
0.4331			11.00	12.00	247.00	198.00	181.50	45.00	11.000	9065150110000
0.4370			11.10	12.00	263.00	214.00	197.35	45.00	11.100	9065150111000
0.4374	7/16		11.11	12.00	263.00	214.00	197.34	45.00	11.110	9065150111100
0.4409			11.20	12.00	263.00	214.00	197.20	45.00	11.200	9065150112000
0.4449			11.30	12.00	263.00	214.00	197.05	45.00	11.300	9065150113000
0.4488			11.40	12.00	263.00	214.00	196.90	45.00	11.400	9065150114000
0.4528			11.50	12.00	263.00	214.00	196.75	45.00	11.500	9065150115000
0.4567			11.60	12.00	263.00	214.00	196.60	45.00	11.600	9065150116000
0.4606			11.70	12.00	263.00	214.00	196.45	45.00	11.700	9065150117000
0.4646			11.80	12.00	263.00	214.00	196.30	45.00	11.800	9065150118000
0.4685			11.90	12.00	263.00	214.00	196.15	45.00	11.900	9065150119000
0.4689	15/32		11.91	12.00	263.00	214.00	196.14	45.00	11.910	9065150119100
0.4724			12.00	12.00	263.00	214.00	196.00	45.00	12.000	9065150120000
0.4764			12.10	14.00	297.00	248.00	229.85	45.00	12.100	9065150121000
0.4803			12.20	14.00	297.00	248.00	229.70	45.00	12.200	9065150122000
0.4921			12.50	14.00	297.00	248.00	229.25	45.00	12.500	9065150125000
0.4961			12.60	14.00	297.00	248.00	229.10	45.00	12.600	9065150126000
0.5000	1/2		12.70	14.00	297.00	248.00	228.95	45.00	12.700	9065150127000
0.5039			12.80	14.00	297.00	248.00	228.80	45.00	12.800	9065150128000
0.5079			12.90	14.00	297.00	248.00	228.65	45.00	12.900	9065150129000
0.5118			13.00	14.00	297.00	248.00	228.50	45.00	13.000	9065150130000
0.5157	33/64		13.10	14.00	297.00	248.00	228.35	45.00	13.100	9065150131000
0.5236			13.30	14.00	297.00	248.00	228.05	45.00	13.300	9065150133000
0.5276			13.40	14.00	297.00	248.00	227.90	45.00	13.400	9065150134000
0.5315			13.50	14.00	297.00	248.00	227.75	45.00	13.500	9065150135000
0.5394			13.70	14.00	297.00	248.00	227.45	45.00	13.700	9065150137000
0.5433			13.80	14.00	297.00	248.00	227.30	45.00	13.800	9065150138000
0.5512			14.00	14.00	297.00	248.00	227.00	45.00	14.000	9065150140000

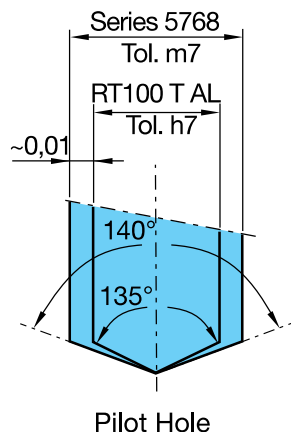


6515, 6516, 6517 (RT 100 T AL) Operating Parameters

Material group	Hardness		SFM	Feed Rate - IPR					
	HRc	Bhn		1/8 in. 3.170 mm	1/4 in. 6.350 mm	3/8 in. 9.520 mm	1/2 in. 12.700 mm	5/8 in. 15.870 mm	3/4 in. 19.050 mm
Aluminium and Al-alloys	-	≤ 120	395	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
Al wrought alloys	-	≤ 200	395	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
Al cast alloys ≤ 10 % Si	-	≤ 180	460	0.0065	0.0125	0.0155	0.0195	0.0250	0.0250
> 10 % Si	-	≤ 180	395	0.0065	0.0125	0.0155	0.0195	0.0250	0.0250
Magnesium alloys	-	≤ 120	510	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
Copper, low-alloyed	-	≤ 150	395	0.0025	0.0040	0.0065	0.0065	0.0080	0.0100
Brass, short-chipping	-	≤ 180	460	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
long-chipping	-	≤ 180	460	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
Bronze, short-chipping	-	≤ 180	395	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
	≤ 25	≤ 255	395	0.0040	0.0065	0.0100	0.0100	0.0125	0.0155
Bronze, long-chipping	≤ 25	≤ 255							
	≤ 32	≤ 301							
Duroplastics			330	0.0020	0.0030	0.0050	0.0050	0.0065	0.0080
Thermoplastics			330	0.0020	0.0030	0.0050	0.0050	0.0065	0.0080
Reinforced plastics - Kevlar									
Reinforced plastics - GFK / CFK									

5768 (Recommended pilot drill) Operating Parameters

Material group	Hardness		SFM	Feed Rate - IPR					
	HRc	Bhn		1/8 in. 3.170 mm	1/4 in. 6.350 mm	3/8 in. 9.520 mm	1/2 in. 12.700 mm	5/8 in. 15.870 mm	3/4 in. 19.050 mm
Aluminium and Al-alloys	-	≤ 120	1150	0.0065	0.0125	0.0155	0.0195	0.0250	0.0250
Al wrought alloys	-	≤ 200	1150	0.0065	0.0125	0.0155	0.0195	0.0250	0.0250
Al cast alloys ≤ 10 % Si	-	≤ 180	1050	0.0065	0.0100	0.0155	0.0155	0.0195	0.0250
> 10 % Si	-	≤ 180	920	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
Magnesium alloys	-	≤ 120	1050	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
Copper, low-alloyed	-	≤ 150	625	0.0050	0.0080	0.0125	0.0125	0.0155	0.0195
Brass, short-chipping	-	≤ 180	525	0.0040	0.0065	0.0100	0.0100	0.0125	0.0155
long-chipping	-	≤ 180	525	0.0040	0.0065	0.0100	0.0100	0.0125	0.0155
Bronze, short-chipping	-	≤ 180	525	0.0040	0.0065	0.0100	0.0100	0.0125	0.0155
	≤ 25	≤ 255	525	0.0040	0.0065	0.0100	0.0100	0.0125	0.0155
Bronze, long-chipping	≤ 25	≤ 255	490	0.0040	0.0065	0.0100	0.0100	0.0125	0.0155
	≤ 32	≤ 301	490	0.0040	0.0065	0.0100	0.0100	0.0125	0.0155
Duroplastics			330	0.0020	0.0030	0.0050	0.0050	0.0065	0.0080
Thermoplastics			330	0.0020	0.0030	0.0050	0.0050	0.0065	0.0080
Reinforced plastics - Kevlar									
Reinforced plastics - GFK / CFK			330	0.0015	0.0025	0.0040	0.0040	0.0050	0.0065



Recommended drilling procedure for RT100 T AL drills:

- Machine a pilot hole with an m7 toleranced Gühring series 5768 drill to a pilot depth of 2xD to 3xD.
- Enter the pilot hole at a speed of approx. 300 RPM, and with a feed rate of approx. 20 IPM stopping just shy of the bottom of the hole.
- Start high coolant pressure and increase RPM to recommended value.
- Feed drill at recommended feed rate to final hole depth. No peck cycle required.
- For through holes with oblique exit, reduce the feed rate to 40% approx. 1 mm prior to break-through.
- After reaching hole depth, turn off coolant, reduce machine spindle speed to 300RPM and withdraw the drill at a maximum feed rate of 200IPM.