

DISCOVER OUR

DRILLING



Drilling

NOMENCLATURE

CROMSON «DRILL»

CUTTING FLUID

0 - External
1 - Internal

CRDR-HP-C2105-0300-Cr85

APPLICATIONS

G- General
HP- High Performance
AC- Accuracy
SF- Surface Finish
SP- Spot Drill

TOOL TYPE

C1000- EFFICIENCY
C2100- CROMINOX
C3100- MINIATURE
C4100- CROMSTEEL
C5100- CONCENTRICITY (Double margin)
C6100- HIGH PRECISION QUALITY
C7100- DRILL & REAM (Triple margin)
C8100- CROMALU
C9100- HIGH PERFORMANCE

COATING

Cr10- Uncoated
Cr15- AlTiN
Cr65- TiAlN
Cr85- TiAlN+

Summary application chart-Drilling

Work Material	Hardness Rockwell (HRc) Hardness Brinnel (BHN) Tensile Strength (N/mm2)			Series #		
	HRc	BHN	N/mm2	EFFICIENCY C1100 C1000	CROMINOX C2100	MINIATURE C3100
Non-alloy steel, cast steel 1018, 1108, 1161, 12L14, 1522, 1572	up to 8 up to 15 over 15	up to 178 up to 205 over 205	up to 600 up to 700 over 700			
Alloyed steel 5132, 4130, 8620, 4340, 5140, 6150 Stainless steel 410, 416	up to 27 up to 31 over 31	up to 266 up to 297 over 297	up to 900 up to 1000 over 1000			
Stainless steel moderate 17-4PH, 15-5PH, 316L						
Stainless and acid resistant steel (Cr-Ni-Alloys) 304, 316, 17CrNi16-2						
Cast iron, grey cast iron alloy GG10-GG40, A48	up to 14 up to 24 over 24	up to 200 up to 250 over 2050	up to 680 up to 850 over 850			
Spheroidal graphite cast iron, cast iron with vermicular graphite, malleable iron GGG40. GGG80	up to 8 over 8	up to 178 over 178	up to 600 over 650			
Aluminum (Si content >10%) 6061, 2025, 208, 360						
Aluminum (Si content <10%) 413, 385, A390						
Copper, brass, bronze beryllium copper, naval brass, AMPCO						
Titanium alloy TiAl4V						
High temperature alloy Inconel, haynes, waspaloy, hastelloy						
Chilled cast iron	38-48	350-450	1173-1527			
Hardened steel 50-60 HRc	50-55 56-60 61-65		1614-1870			



Highly recommended

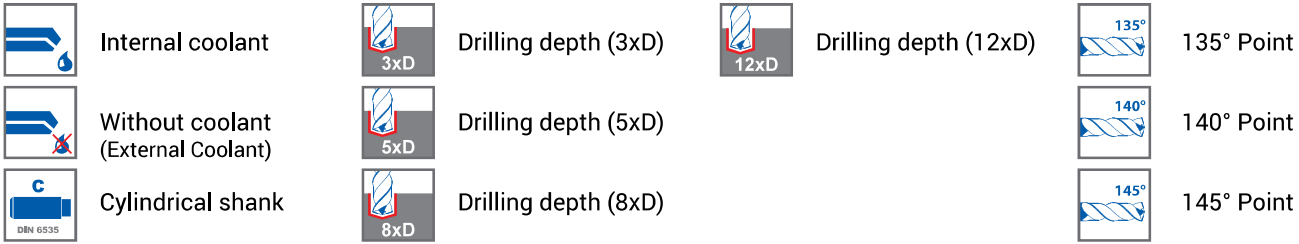


Suitable for some applications



Series #					
CROMSTEEL C4100	CONCENTRICITY C5100	HIGH PRECISION C6100	DRILLREAM C7100	CROMALU C8100	HIGH PERFORMANCE C9100

Explanation of Drilling symbols



GENERAL INFORMATION REGARDING THE CATALOG

d1 = Tool diameter (metric / imperial)

l1 = Overall length

l3 = Cutting length (maximum drilling)

d2 = Shank diameter

l2 = Groove length

l4 = Shank length

Grades chart & Drilling application

CROMSON offers a variety of coatings upon special request to meet the demands of every customer's needs and application. Through extensive testing, research and real world applications, CROMSON has worked to develop a full range of high performance coatings, available to our customers. These coating options allow us to address a multitude of situations with optimal results.










Please refer to the chart below for the various coatings available.

CROMSON GRADE

	Cr10	Cr15	Cr65	Cr85	CrXX
Proprietary	Uncoated	AlTiN	TiAlN	TiAlN+	DLC
Coating process		PVD	PVD	PVD	
Layer structure		Nano structure	Nano structure	Nano structure	
Hardness (HV)		3300	3300	3300	
Coefficient of friction (fetting)		0.30-0.35	0.20	0.25	
Thermal stability (C)		900	600	900	
General Information		Excellent thermal and chemical resistance allows for dry cutting and improvements in performance of carbide drills. High hardness of the coating gives great protection against abrasive wear and erosion.	CROMSON Cr65 coating processed further to help reduce the coefficient of friction even further. For extremely difficult drilling applications with a high tendency for material adhesion and built-up edge.	Offers all the advantages of TiAlN with a reduced coefficient of friction. Therefore ideal coating for drills: excellent chip removal and reduced cutting forces.	Available on request (SPECIAL)

HIGH PRECISION C6000 SERIES

- ⊙ Reliable machining and optimal guiding are key features of tools for drilling. With the HIGH PRECISION series, CROMSON offers a drill technology that optimally combines these tasks in one tool in a special manner
- ⊙ With a total of four (4) cutting edges and two (2) guiding chamfers, considerably higher performance and very good bore quality are achieved with the HIGH PRECISION concept
- ⊙ The HIGH PRECISION can be used both for drilling solid material and also for gun boring
- ⊙ During this process two solid cutting edges and two gun boring cutting edges machine the material. The surface finish qualities achieved as well as the concentricity and a high level of dimensional consistency guarantee the best results

Work Material	Hardness Rockwell (HRc) Hardness Brinnel (BHN) Tensile Strength (N/mm2)			C6100
	HRc	BHN	N/mm2	
Alloyed steel 5132, 4130, 8620, 4340, 5140, 6150 Stainless steel 410, 416	up to 27 up to 31 over 31	up to 266 up to 297 over 297	up to 900 up to 1000 over 1000	
Stainless steel moderate 17-4PH, 15-5PH, 316L				
Stainless and acid resistant steel (Cr-Ni-Alloys) 304, 316, 17CrNi16-2				
Cast iron, grey cast iron alloy GG10-GG40, A48	up to 14 up to 24 - over 24	up to 200 up to 250 - over 2050	up to 680 up to 850 - over 850	
Spheroidal graphite cast iron, cast iron with vermicular graphite, malleable iron GGG40, GGG80	up to 8 over 8	up to 178 over 178	up to 600 over 650	
Aluminum (Si content >10%) 6061, 2025, 208.360				
Aluminum (Si content <10%) 413, 385, A390				
Titanium alloy TiAl4V				
High temperature alloy, inconel, haynes, waspaloy, hastelloy				



Highly recommended



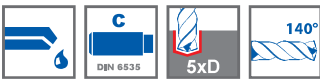
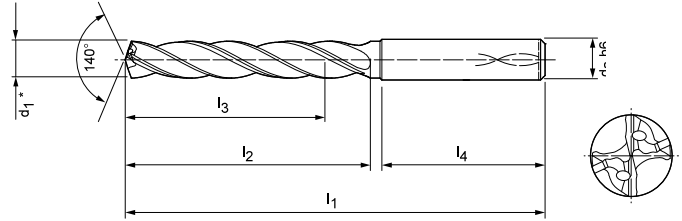
Suitable for some applications.

CARBIDE DRILL

TECHNICAL DETAILS

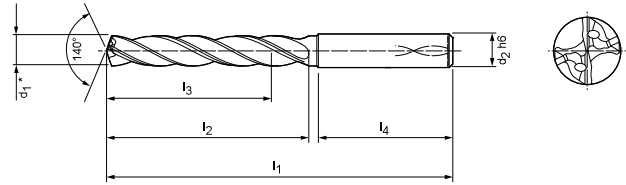
Tool Diameter Range 0.2362-0.7874 in
6.00-20.00 mm

Bore tolerance IT9 (achievable)
Shank form Cyl. (DIN 6535)
Number of flutes 4
Number of margins 2
Point geometry Special point
Point angle 140°
Helix angle 30°
Coolant Internal



EDP Cromson	Cromson Description	Diam (d1) mm	Diam (d1) in	Diam (d2)	Margin length (l2)	OAL (l1)	Shank length (l4)	Cromson Grade	# Flutes
75104980	CRDR-AC-C6105-0600 Cr85	6.000	0.2362	6	44	82	36	Cr85	4
75104985	CRDR-AC-C6105-0610 Cr85	6.100	0.2402	8	53	91	36	Cr85	4
75104990	CRDR-AC-C6105-0620 Cr85	6.200	0.2441	8	53	91	36	Cr85	4
75104995	CRDR-AC-C6105-0630 Cr85	6.300	0.2480	8	53	91	36	Cr85	4
75104998	CRDR-AC-C6105-0635 Cr85	6.350	1/4	8	53	91	36	Cr85	4
75105000	CRDR-AC-C6105-0640 Cr85	6.400	0.2520	8	53	91	36	Cr85	4
75105005	CRDR-AC-C6105-0650 Cr85	6.500	0.2559	8	53	91	36	Cr85	4
75105010	CRDR-AC-C6105-0660 Cr85	6.600	0.2598	8	53	91	36	Cr85	4
75105015	CRDR-AC-C6105-0670 Cr85	6.700	0.2638	8	53	91	36	Cr85	4
75105018	CRDR-AC-C6105-0675 Cr85	6.750	17/64	8	53	91	36	Cr85	4
75105020	CRDR-AC-C6105-0680 Cr85	6.800	0.2677	8	53	91	36	Cr85	4
75105025	CRDR-AC-C6105-0690 Cr85	6.900	0.2717	8	53	91	36	Cr85	4
75105030	CRDR-AC-C6105-0700 Cr85	7.000	0.2756	8	53	91	36	Cr85	4
75105035	CRDR-AC-C6105-0710 Cr85	7.100	0.2795	8	53	91	36	Cr85	4
75105038	CRDR-AC-C6105-0714 Cr85	7.140	9/32	8	53	91	36	Cr85	4
75105040	CRDR-AC-C6105-0720 Cr85	7.200	0.2835	8	53	91	36	Cr85	4
75105045	CRDR-AC-C6105-0730 Cr85	7.300	0.2874	8	53	91	36	Cr85	4
75105050	CRDR-AC-C6105-0740 Cr85	7.400	0.2913	8	53	91	36	Cr85	4
75105055	CRDR-AC-C6105-0750 Cr85	7.500	0.2953	8	53	91	36	Cr85	4
75105058	CRDR-AC-C6105-0754 Cr85	7.540	19/64	8	53	91	36	Cr85	4
75105060	CRDR-AC-C6105-0760 Cr85	7.600	0.2992	8	53	91	36	Cr85	4
75105065	CRDR-AC-C6105-0770 Cr85	7.700	0.3031	8	53	91	36	Cr85	4
75105070	CRDR-AC-C6105-0780 Cr85	7.800	0.3071	8	53	91	36	Cr85	4
75105075	CRDR-AC-C6105-0790 Cr85	7.900	0.3110	8	53	91	36	Cr85	4
75105078	CRDR-AC-C6105-0794 Cr85	7.940	5/16	8	53	91	36	Cr85	4
75105080	CRDR-AC-C6105-0800 Cr85	8.000	0.3150	8	53	91	36	Cr85	4
75105085	CRDR-AC-C6105-0810 Cr85	8.100	0.3189	10	61	103	40	Cr85	4
75105090	CRDR-AC-C6105-0820 Cr85	8.200	0.3228	10	61	103	40	Cr85	4
75105095	CRDR-AC-C6105-0830 Cr85	8.300	0.3268	10	61	103	40	Cr85	4
75105098	CRDR-AC-C6105-0833 Cr85	8.330	21/64	10	61	103	40	Cr85	4
75105100	CRDR-AC-C6105-0840 Cr85	8.400	0.3307	10	61	103	40	Cr85	4

EDP Cromson	Cromson Description	Diam (d1) mm	Diam (d1) in	Diam (d2)	Margin length (l2)	OAL (l1)	Shank length (l4)	Cromson Grade	# Flutes
75105105	CRDR-AC-C6105-0850 Cr85	8.500	0.3346	10	61	103	40	Cr85	4
75105110	CRDR-AC-C6105-0860 Cr85	8.600	0.3386	10	61	103	40	Cr85	4
75105115	CRDR-AC-C6105-0870 Cr85	8.700	0.3425	10	61	103	40	Cr85	4
75105118	CRDR-AC-C6105-0873 Cr85	8.730	11/32	10	61	103	40	Cr85	4
75105120	CRDR-AC-C6105-0880 Cr85	8.800	0.3465	10	61	103	40	Cr85	4
75105125	CRDR-AC-C6105-0890 Cr85	8.900	0.3504	10	61	103	40	Cr85	4
75105130	CRDR-AC-C6105-0900 Cr85	9.000	0.3543	10	61	103	40	Cr85	4
75105135	CRDR-AC-C6105-0910 Cr85	9.100	0.3583	10	61	103	40	Cr85	4
75105138	CRDR-AC-C6105-0913 Cr85	9.130	23/64	10	61	103	40	Cr85	4
75105140	CRDR-AC-C6105-0920 Cr85	9.200	0.3622	10	61	103	40	Cr85	4
75105145	CRDR-AC-C6105-0930 Cr85	9.300	0.3661	10	61	103	40	Cr85	4
75105150	CRDR-AC-C6105-0940 Cr85	9.400	0.3701	10	61	103	40	Cr85	4
75105155	CRDR-AC-C6105-0950 Cr85	9.500	0.3740	10	61	103	40	Cr85	4
75105158	CRDR-AC-C6105-0953 Cr85	9.530	3/8	10	61	103	40	Cr85	4
75105160	CRDR-AC-C6105-0960 Cr85	9.600	0.3780	10	61	103	40	Cr85	4
75105165	CRDR-AC-C6105-0970 Cr85	9.700	0.3819	10	61	103	40	Cr85	4
75105170	CRDR-AC-C6105-0980 Cr85	9.800	0.3858	10	61	103	40	Cr85	4
75105175	CRDR-AC-C6105-0990 Cr85	9.900	0.3898	10	61	103	40	Cr85	4
75105178	CRDR-AC-C6105-0992 Cr85	9.920	25/64	10	61	103	40	Cr85	4
75105180	CRDR-AC-C6105-1000 Cr85	10.000	0.3937	10	61	103	40	Cr85	4
75105185	CRDR-AC-C6105-1010 Cr85	10.100	0.3976	12	71	118	45	Cr85	4
75105190	CRDR-AC-C6105-1020 Cr85	10.200	0.4016	12	71	118	45	Cr85	4
75105195	CRDR-AC-C6105-1030 Cr85	10.300	0.4055	12	71	118	45	Cr85	4
75105198	CRDR-AC-C6105-1032 Cr85	10.320	13/32	12	71	118	45	Cr85	4
75105200	CRDR-AC-C6105-1040 Cr85	10.400	0.4094	12	71	118	45	Cr85	4
75105205	CRDR-AC-C6105-1050 Cr85	10.500	0.4134	12	71	118	45	Cr85	4
75105210	CRDR-AC-C6105-1060 Cr85	10.600	0.4173	12	71	118	45	Cr85	4
75105215	CRDR-AC-C6105-1070 Cr85	10.700	0.4213	12	71	118	45	Cr85	4
75105218	CRDR-AC-C6105-1072 Cr85	10.720	27/64	12	71	118	45	Cr85	4
75105220	CRDR-AC-C6105-1080 Cr85	10.800	0.4252	12	71	118	45	Cr85	4
75105225	CRDR-AC-C6105-1090 Cr85	10.900	0.4291	12	71	118	45	Cr85	4
75105230	CRDR-AC-C6105-1100 Cr85	11.000	0.4331	12	71	118	45	Cr85	4
75105235	CRDR-AC-C6105-1110 Cr85	11.100	0.4370	12	71	118	45	Cr85	4
75105238	CRDR-AC-C6105-1111 Cr85	11.110	7/16	12	71	118	45	Cr85	4
75105240	CRDR-AC-C6105-1120 Cr85	11.200	0.4409	12	71	118	45	Cr85	4
75105245	CRDR-AC-C6105-1130 Cr85	11.300	0.4449	12	71	118	45	Cr85	4
75105250	CRDR-AC-C6105-1140 Cr85	11.400	0.4488	12	71	118	45	Cr85	4
75105255	CRDR-AC-C6105-1150 Cr85	11.500	0.4528	12	71	118	45	Cr85	4
75105260	CRDR-AC-C6105-1160 Cr85	11.600	0.4567	12	71	118	45	Cr85	4
75105265	CRDR-AC-C6105-1170 Cr85	11.700	0.4606	12	71	118	45	Cr85	4
75105270	CRDR-AC-C6105-1180 Cr85	11.800	0.4646	12	71	118	45	Cr85	4
75105275	CRDR-AC-C6105-1190 Cr85	11.900	0.4685	12	71	118	45	Cr85	4
75105280	CRDR-AC-C6105-1200 Cr85	12.000	0.4724	12	71	118	45	Cr85	4
75105285	CRDR-AC-C6105-1250 Cr85	12.500	0.4921	14	77	124	45	Cr85	4
75105290	CRDR-AC-C6105-1300 Cr85	13.000	0.5118	14	77	124	45	Cr85	4
75105295	CRDR-AC-C6105-1350 Cr85	13.500	0.5315	14	77	124	45	Cr85	4
75105300	CRDR-AC-C6105-1380 Cr85	13.800	0.5433	14	77	124	45	Cr85	4
75105305	CRDR-AC-C6105-1400 Cr85	14.000	0.5512	14	77	124	45	Cr85	4
75105308	CRDR-AC-C6105-1429 Cr85	14.290	9/16	16	83	133	48	Cr85	4



EDP Cromson	Cromson Description	Diam (d1) mm	Diam (d1) in	Diam (d2)	Margin length (l2)	OAL (l1)	Shank length (l4)	Cromson Grade	# Flutes
75105310	CRDR-AC-C6105-1450 Cr85	14.500	0.5709	16	83	133	48	Cr85	4
75105313	CRDR-AC-C6105-1468 Cr85	14.680	37/64	16	83	133	48	Cr85	4
75105315	CRDR-AC-C6105-1500 Cr85	15.000	0.5906	16	83	133	48	Cr85	4
75105318	CRDR-AC-C6105-1508 Cr85	15.080	19/32	16	83	133	48	Cr85	4
75105320	CRDR-AC-C6105-1550 Cr85	15.500	0.6102	16	83	133	48	Cr85	4
75105325	CRDR-AC-C6105-1580 Cr85	15.800	0.6220	16	83	133	48	Cr85	4
75105328	CRDR-AC-C6105-1588 Cr85	15.880	5/8	16	83	133	48	Cr85	4
75105330	CRDR-AC-C6105-1600 Cr85	16.000	0.6299	16	83	133	48	Cr85	4
75105335	CRDR-AC-C6105-1650 Cr85	16.500	0.6496	18	93	143	48	Cr85	4
75105338	CRDR-AC-C6105-1667 Cr85	16.670	21/32	18	93	143	48	Cr85	4
75105340	CRDR-AC-C6105-1700 Cr85	17.000	0.6693	18	93	143	48	Cr85	4
75105343	CRDR-AC-C6105-1746 Cr85	17.460	11/16	18	93	143	48	Cr85	4
75105344	CRDR-AC-C6105-1786 Cr85	17.860	45/64	18	93	143	48	Cr85	4
75105345	CRDR-AC-C6105-1800 Cr85	18.000	0.7087	18	93	143	48	Cr85	4
75105348	CRDR-AC-C6105-1826 Cr85	18.260	23/32	20	101	153	50	Cr85	4
75105350	CRDR-AC-C6105-1850 Cr85	18.500	0.7283	20	101	153	50	Cr85	4
75105355	CRDR-AC-C6105-1880 Cr85	18.800	0.7402	20	101	153	50	Cr85	4
75105360	CRDR-AC-C6105-1900 Cr85	19.000	0.7480	20	101	153	50	Cr85	4
75105363	CRDR-AC-C6105-1905 Cr85	19.050	3/4	20	101	153	50	Cr85	4
75105365	CRDR-AC-C6105-1950 Cr85	19.500	0.7677	20	101	153	50	Cr85	4
75105370	CRDR-AC-C6105-2000 Cr85	20.000	0.7874	20	101	153	50	Cr85	4

HIGH PRECISION-C6000		Recommended feed (f) for diameter ranges														
		Hardness Rockwell (HRC) Hardness Brinell (BHN) Tensile Strength (N/mm ²)		Product model description C6105 (5 x d)		0.118-0.197 in 3 to 5 mm		0.197-0.316 in 5 to 8 mm		0.316-0.472 in 8 to 12 mm		0.472-0.630 in 12 to 16 mm		0.630-0.787 in 16 to 20		
		HRC	BHN	N/mm ²	SFM	m/min	IPR	mm/rev	IPR	mm/rev	IPR	mm/rev	IPR	mm/rev	IPR	mm/rev
Work Material																
Non-alloy steel, cast steel 1018, 1108, 1161, 12L14, 1522, 1572	up to 8 up to 15 over 15	up to 178 up to 205 over 205	up to 600 up to 700 over 700													
Alloyed steel 5132, 4130, 8620, 4340, 5140, 6150 Stainless steel 410, 416	up to 27 up to 31 over 31	up to 266 up to 297 over 297	up to 900 up to 1000 over 1000													
Stainless steel moderate 17-4PH, 15-5PH, 316L																
Stainless and acid resistant steel (Cr-Ni-Alloys) 304, 316, 17CrNi16-2																
Cast iron, grey cast iron alloy GG10-GG40, A48	up to 14 up to 24 over 24	up to 200 up to 250 over 2050	up to 680 up to 850 over 850	230-295 197-262 197-230	70-90 60-80 60-70											
Spheroidal graphite cast iron, cast iron with vermicular graphite, malleable iron GGG40, GGG80	up to 8 over 8	up to 178 over 178	up to 600 over 650	246-295 213-262	75-90 65-80											
Aluminum (Si content >10%) 6061, 2025, 209, 360				295-984	90-300											
Aluminum (Si content <10%) 413, 385, A390				328-1312	100-400											
Copper, brass, bronze beryllium copper, naval brass, AMPCO				230-984	230-984											
Titanium alloy TiAl4V																
High temperature alloy inconel, haynes, waspalloy, hastelloy																
Chilled cast iron	38-48	350-450	1173-1527													
Hardened steel 50-60 HRC	50-55 56-60 61-65	1614-1870														

** The machining values shown are guidelines. The optimum data for a particular machining process should be determined in trials or during machining.
* For diameter < 3.00mm reduce cutting speed by 20-30%