

DISCOVER OUR

MILLING



Milling

NOMENCLATURE

CROMSON «ENDMILL»

- FLUTES

DIAMETER

CREM-Ti-5RC-0500-R010 Cr95

APPLICATIONS

AL- Aluminum
ALR- Aluminum Roughing
DM- Die & Mold
HD- Hard Material
HF- High Feed
SA (SAX)- Super Alloy
ST- Steel
SST- Stainless Steel
Ti- Titanium
TiX- Titanium HP
TP- Taper (NPT)

TOOL TYPE

S- Stub Length
M- Medium Length
R- Reg. Length
L- Long Length
E- Extended Length
N- Necking

C- Cylindrical Shank
W- Weldon Shank



RADIUS/CHAMFER

BN- Ball Nose
C- Chamfer
R- Radius
SQ- Square

COATING

Cr20- Uncoated
Cr35- AlCrN
Cr55- TiAlN
Cr75- TiAlN+
Cr95- TiAlCN

Summary application chart-Milling




























































Work Material	Type of Cut	Axial DOC	Radial DOC	Speed (SFM)	RECORD ST	STAR SST	ALLIANCE TI
Low carbon steel <= 38HRc 1018, 12L14, 8620	Slotting Peripheral - Rough	1 x D 1.5 x D	1 x D 0.5 x D	350 425			
Medium carbon steels <= 38HRc 4140, 4340	Slotting Peripheral - Rough	1 x D 1.5 x D	1 x D 0.5 x D	325 375			
Tool & die steels <= 38HRc A2, D2, O1, S7, P20, H13	Slotting Peripheral - Rough	1 x D 1.5 x D	1 x D 0.5 x D	325 375			
Tool steel 39HRc to 48HRc	Slotting Peripheral - Rough	.75 x D 1 x D	1 x D 0.5 x D	225 275			
Easy to machine stainless steel 416, 410, 302, 303	Slotting Peripheral - Rough	1 x D 1.5 x D	1 x D 0.5 x D	300 375			
Moderately difficult stainless steel 304, 316, invar, kovar	Slotting Peripheral - Rough	.75 x D 1 x D	1 x D 0.5 x D	275 350			
Difficult to machine stainless steel 316L, 17-4PH, 15-5PH, 13-8Mo	Slotting Peripheral - Rough	0.5 x D 1 x D	1 x D 0.5 x D	250 300			
Cast iron Grey	Slotting Peripheral - Rough	1 x D 1.5 x D	1 x D 0.5 x D	400 500			
Cast iron Ductile	Slotting Peripheral - Rough	1 x D 1.5 x D	1 x D 0.5 x D	300 400			
Cast iron Malleable	Slotting Peripheral - Rough	.75 x D 1 x D	1 x D .75 x D	250 325			
Aluminum alloys 2024, 6061, 7075	Slotting	1 x D	1 x D 0.5 x D	800 1000			
Titanium alloys 6Al4V	Slotting Peripheral - Rough	0.5 x D 1 x D	1 x D 0.5 x D	250 300			
High temperature alloys Inconel, haynes, stellite, hastelloy	Slotting	.25 x D 1 x D	1 x D .25 x D	70 95			



Highly recommended

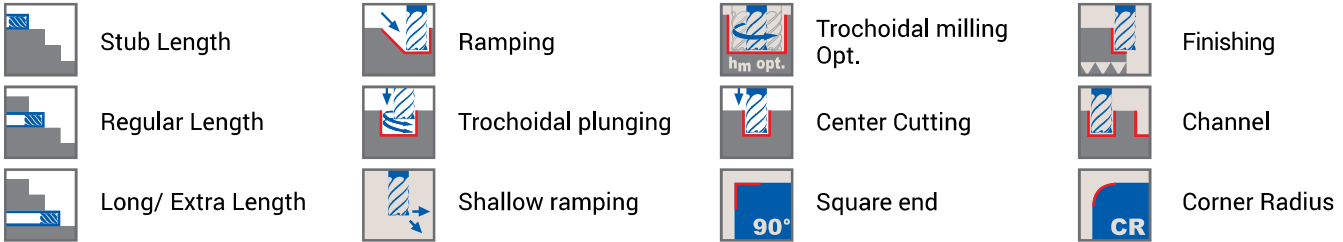


Suitable for some applications

PISTON HD	TURBINE SRGH	OXYGEN HF	TAPER-MILL TP	DRIVER DM	MOTION AL	BOSS ALR	MAGNAT STX	PERFORMANCE TIX	BOOSTER SA
									
									
									
									
									
									
									
									
									
									
									
									
									

** The machining values shown are guidelines.
 The optimum data for a particular machining process should be determined in trials or during machining.

Explanation of Milling symbols



Grades chart & Milling application

CROMSON offers a variety of coating upon special request to meet the demands of every customer's needs and unique application demands. Through extensive testing, research and real world applications, CROMSON has worked to develop a full range of high performance coatings. 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	Cr20	Cr35	Cr55	Cr75	Cr95
Proprietary	Uncoated	AlCrN	TiAlN	TiAlN+	TiAlCN
Coating process		PVD	PVD	PVD	PVD
Layer structure		Nano structure	Nano structure	Nano structure	Nano structure
Hardness (HV)		3000	3300	3300	3060
Coefficient of friction (fetting)		0.25	0.30-0.35	0.25	0.35
Thermal stability (C)		1100	900	900	1000
General Information		New generation PVD coating providing a high level of wear and abrasion resistance in combination with a micro grain carbide substrate for use in all ferrous materials at elevated cutting speed.	A thick PVD coating on a balanced wear resistance/tough fine grain carbide substrate provides users with predictable consistent results in general purpose applications in all materials.	In combination with a tough submicron grain carbide substrate and advanced PVD coating technology a high level of security and wear resistance is seen in demanding applications in titanium and steel up to 52 HRC.	New generation PVD coating providing a high level of wear. lower coefficient of friction combination with a micro grain carbide substrate for use in stainless steel and nickel-based high temperature alloys.

CARBIDE END MILL

MAGNAT STX SERIES

- ⊙ Increase tool life by up to 30% with our 5 flutes performance end mill
- ⊙ Enhanced edge strength increases productivity and lowers costs per part
- ⊙ A stable, robust cutter that allows for heavier chip loads
- ⊙ Cr95 coating significantly lowers operating cutting temperatures compared to other coatings
- ⊙ Available in stub, standard, extra long and long reach lengths
- ⊙ h6 tolerance for conventional and shrink fit applications
- ⊙ Chipbreakers available on request

Work Material	Type of Cut	Axial DOC	Radial DOC	Speed (SFM)
Low carbon steel <= 38HRc 1018, 12L14, 8620	Slotting	1 x D	1 x D	350
	Peripheral - Rough	1.5 x D	0.5 x D	425
Medium carbon steel <= 38HRc 4140, 4340	Slotting	1 x D	1 x D	325
	Peripheral - Rough	1.5 x D	0.5 x D	375
Tool & die steel <= 38HRc A2, D2, O1, S7, P20, H13	Slotting	1 x D	1 x D	325
	Peripheral - Rough	1.5 x D	0.5 x D	375
Tool steel 39HRc to 48HRc	Slotting	.75 x D	1 x D	225
	Peripheral - Rough	1 x D	0.5 x D	275
Easy to machine stainless steel 416, 410, 302, 303	Slotting	1 x D	1 x D	300
	Peripheral - Rough	1.5 x D	0.5 x D	375
Moderately difficult stainless steel 304, 316, invar, kovar	Slotting	.75 x D	1 x D	275
	Peripheral - Rough	1 x D	0.5 x D	350
Difficult to machine stainless steel 316L, 17-4PH, 15-5PH, 13-8Mo	Slotting	0.5 x D	1 x D	250
	Peripheral - Rough	1 x D	0.5 x D	300
Cast iron Grey	Slotting	1 x D	1 x D	400
	Peripheral - Rough	1.5 x D	0.5 x D	500
Cast iron Ductile	Slotting	1 x D	1 x D	300
	Peripheral - Rough	1.5 x D	0.5 x D	400
Cast iron Malleable	Slotting	.75 x D	1 x D	250
	Peripheral - Rough	1 x D	.75 x D	325
Titanium alloy 6Al4V	Slotting	0.5 x D	1 x D	250
	Peripheral - Rough	1 x D	0.5 x D	300
High temperature alloy Inconel, haynes, stellite, hastelloy	Slotting	.25 x D	1 x D	70
		1 x D	.25 x D	95



CARBIDE END MILL - SQUARE OR RADIUS

TECHNICAL DETAILS

Tool Diameter Range (0.125-1.000 in)
3.00-25.00 mm

Shank tolerance h6
Cutter tolerance (+0.00-0.002 in) +0.00-0.05 mm
Number of flutes 5
Coating TiAlCN (PVD)
Center cutting Yes
Variable pitch Variable
Variable helix Variable
Helix angle -



EDP Cromson	Cromson Description	Diam.	Length of cut	Overall length	Chamfer / radius	Cromson Grade	# Flutes
73000000	CREM-STX-5RC-0125-R0010-Cr95	.125	.156	2.000	.010	Cr95	5
73000005	CREM-STX-5RNC-01875-R0010-Cr95	.188	.218	2.000	.010	Cr95	5
73000010	CREM-STX-5MNC-01875-R0010-Cr95	.188	.218	2.500	.010	Cr95	5
73000015	CREM-STX-5RC-0250-SQ-Cr95	.250	.375	2.000	---	Cr95	5
73000020	CREM-STX-5RC-0250-R0020-Cr95	.250	.375	2.000	.020	Cr95	5
73000025	CREM-STX-5RC-0250-R0030-Cr95	.250	.375	2.000	.030	Cr95	5
73000030	CREM-STX-5MC-0250-SQ-Cr95	.250	.750	2.500	-	Cr95	5
73000035	CREM-STX-5RC-0250-R0020-Cr95	.250	.750	2.500	.020	Cr95	5
73000040	CREM-STX-5RC-0250-R0030-Cr95	.250	.750	2.500	.030	Cr95	5
73000045	CREM-STX-5RC-0250-R0060-Cr95	.250	.750	2.500	.060	Cr95	5
73000050	CREM-STX-5LC-0250-SQ-Cr95	.250	1.250	3.000	---	Cr95	5
73000055	CREM-STX-5RC-03125-SQ-Cr95	.313	.875	2.500	---	Cr95	5
73000060	CREM-STX-5RC-03125-R0030-Cr95	.313	.875	2.500	.030	Cr95	5
73000065	CREM-STX-5RC-03125-R0060-Cr95	.313	.875	2.500	.060	Cr95	5
73000070	CREM-STX-5RC-0375-SQ-Cr95	.375	.500	2.500	---	Cr95	5
73000075	CREM-STX-5RC-0375-R0020-Cr95	.375	.500	2.500	.020	Cr95	5
73000080	CREM-STX-5RC-0375-R0060-Cr95	.375	.500	2.500	.060	Cr95	5
73000085	CREM-STX-5RC-0375-R0120-Cr95	.375	.500	2.500	.120	Cr95	5
73000090	CREM-STX-5MC-0375-SQ-Cr95	.375	1.000	2.500	---	Cr95	5
73000095	CREM-STX-5RC-0375-R0020-Cr95	.375	1.000	2.500	.020	Cr95	5
73000100	CREM-STX-5RC-0375-R0030-Cr95	.375	1.000	2.500	.030	Cr95	5
73000105	CREM-STX-5MC-0375-R0060-Cr95	.375	1.000	2.500	.060	Cr95	5
73000110	CREM-STX-5RC-0375-R0090-Cr95	.375	1.000	2.500	.090	Cr95	5
73000115	CREM-STX-5RC-0375-R0120-Cr95	.375	1.000	2.500	.120	Cr95	5
73000120	CREM-STX-5LC-0375-SQ-Cr95	.375	1.250	3.000	---	Cr95	5
73000125	CREM-STX-5EC-0375-R0020-Cr95	.375	2.000	4.000	.020	Cr95	5
73000130	CREM-STX-5EC-04375-SQ-Cr95	.438	2.000	4.000	---	Cr95	5
73000135	CREM-STX-5SC-0500-SQ-Cr95	.500	.625	3.000	---	Cr95	5
73000140	CREM-STX-5SC-0500-R0030-Cr95	.500	.625	3.000	.030	Cr95	5
73000145	CREM-STX-5RC-0500-SQ-Cr95	.500	1.000	3.000	---	Cr95	5
73000150	CREM-STX-5RC-0500-R0010-Cr95	.500	1.000	3.000	.010	Cr95	5

70
40
0 HARDNESS (HRC)

70
40
0 HARDNESS (HRC)

EDP Cromson	Cromson Description	Diam.	Length of cut	Overall length	Chamfer / radius	Cromson Grade	# Flutes
73000155	CREM-STX-5RC-0500-R0020-Cr95	.500	1.000	3.000	.020	Cr95	5
73000160	CREM-STX-5RC-0500-R0030-Cr95	.500	1.000	3.000	.030	Cr95	5
73000165	CREM-STX-5RC-0500-R0060-Cr95	.500	1.000	3.000	.060	Cr95	5
73000170	CREM-STX-5RC-0500-R012-Cr95	.500	1.000	3.000	.120	Cr95	5
73000175	CREM-STX-5MC-0500-SQ-Cr95	.500	1.250	3.000	---	Cr95	5
73000180	CREM-STX-5MC-0500-R0030-Cr95	.500	1.250	3.000	.030	Cr95	5
73000185	CREM-STX-5LC-0500-R0060-Cr95	.500	1.250	3.000	.060	Cr95	5
73000190	CREM-STX-5LC-0500-SQ-Cr95	.500	1.625	4.000	---	Cr95	5
73000195	CREM-STX-5EC-0500-SQ-Cr95	.500	2.000	4.000	---	Cr95	5
73000200	CREM-STX-5EC-0500-R0030-Cr95	.500	2.000	4.000	.030	Cr95	5
73000205	CREM-STX-5SC-0625-SQ-Cr95	.625	.750	3.500	---	Cr95	5
73000210	CREM-STX-5SC-0625-R0030-Cr95	.625	.750	3.500	.030	Cr95	5
73000215	CREM-STX-5SC-0625-R0035-Cr95	.625	.750	3.500	.035	Cr95	5
73000220	CREM-STX-5RC-0625-R0060-Cr95	.625	.750	3.500	.060	Cr95	5
73000225	CREM-STX-5MC-0625-SQ-Cr95	.625	1.500	3.500	---	Cr95	5
73000230	CREM-STX-5RC-0625-R0030-Cr95	.625	1.500	3.500	.030	Cr95	5
73000235	CREM-STX-5RC-0625-R0035-Cr95	.625	1.500	3.500	.035	Cr95	5
73000240	CREM-STX-5RC-0625-R0120-Cr95	.625	1.500	3.500	.120	Cr95	5
73000245	CREM-STX-5LC-0625-R0120-Cr95	.625	1.625	4.000	.120	Cr95	5
73000250	CREM-STX-5EC-0625-R0035-Cr95	.625	2.250	5.000	.035	Cr95	5
73000255	CREM-STX-5SC-0750-SQ-Cr95	.750	1.500	4.000	---	Cr95	5
73000260	CREM-STX-5SC-0750-R0020-Cr95	.750	1.500	4.000	.020	Cr95	5
73000265	CREM-STX-5MC-0750-SQ-Cr95	.750	1.625	4.000	---	Cr95	5
73000270	CREM-STX-5RC-0750-SQ-Cr95	.750	2.250	5.000	---	Cr95	5
73000275	CREM-STX-5RC-0750-R0035-Cr95	.750	2.250	5.000	.035	Cr95	5
73000280	CREM-STX-5LC-0750-SQ-Cr95	.750	3.250	6.000	---	Cr95	5
73000285	CREM-STX-5RC-1000-SQ-Cr95	1.000	1.500	4.000	---	Cr95	5
73000290	CREM-STX-5RC-1000-R0060-Cr95	1.000	1.500	4.000	.060	Cr95	5
73000295	CREM-STX-5MC-1000-SQ-Cr95	1.000	2.250	5.000	---	Cr95	5
73000300	CREM-STX-5MC-1000-R0120-Cr95	1.000	2.250	5.000	.120	Cr95	5
73000305	CREM-STX-5LC-1000-SQ-Cr95	1.000	4.250	7.000	---	Cr95	5
73000310	CREM-STX-5RC-3-SQ-Cr95	3.00	6	38.00	---	Cr95	5
73000315	CREM-STX-5MC-3-SQ-Cr95	3.00	12	38.00	---	Cr95	5
73000320	CREM-STX-5RC-4-SQ-Cr95	4.00	8	50.00	---	Cr95	5
73000325	CREM-STX-5MC-4-SQ-Cr95	4.00	14	50.00	---	Cr95	5
73000330	CREM-STX-5RC-5-SQ-Cr95	5.00	16	64.00	---	Cr95	5
73000335	CREM-STX-5MC-6-SQ-Cr95	6.00	10	50.00	---	Cr95	5
73000340	CREM-STX-5RC-6-R04-Cr95	6.00	10	50.00	0,40	Cr95	5
73000345	CREM-STX-5MC-6-R1-Cr95	6.00	20	76.00	1,00	Cr95	5
73000350	CREM-STX-5RC-8-R05-Cr95	8.00	12	50.00	0,50	Cr95	5
73000355	CREM-STX-5MC-8-R1-Cr95	8.00	22	76.00	1,00	Cr95	5
73000360	CREM-STX-5RC-10-R05-Cr95	10.00	12	50.00	0,50	Cr95	5
73000365	CREM-STX-5MC-10-SQ-Cr95	10.00	25	89.00	-	Cr95	5
73000370	CREM-STX-5RC-12-R05-Cr95	12.00	16	63.00	0,50	Cr95	5
73000375	CREM-STX-5MC-12-R05-Cr95	12.00	25	76.00	0,50	Cr95	5
73000380	CREM-STX-5RC-16-SQ-Cr95	16.00	38	100.00	---	Cr95	5
73000385	CREM-STX-5MC-16-R05-Cr95	16.00	38	100.00	0,50	Cr95	5
73000390	CREM-STX-5RC-20-SQ-Cr95	20.00	38	100.00	---	Cr95	5
73000395	CREM-STX-5RC-25-SQ-Cr95	25.00	38	100.00	---	Cr95	5

MAGNAT-STX			Feed (inches Per Tooth)								
Work Material	Type of Cut	Axial DOC	Radial DOC	Speed (SFM)	1/8	1/4	3/8	1/2	5/8	3/4	1
Low carbon steel <= 38HRc 1018, 12L14, 8620	Slotting Peripheral - Rough	1 x D 1.5 x D	1 x D 0.5 x D	350 425	.0008 .0010	.0016 .0020	.0024 .0030	.0032 .0040	.0040 .0050	.0048 .0060	.0064 .0080
Medium carbon steel <= 38HRc 4140, 4340	Slotting Peripheral - Rough	1 x D 1.5 x D	1 x D 0.5 x D	325 375	.0006 .0008	.0013 .0017	.0020 .0026	.0027 .0035	.0034 .0044	.0040 .0053	.0054 .0070
Tool & die steel <= 38HRc A2, D2, O1, S7, P20, H13	Slotting Peripheral - Rough	1 x D 1.5 x D	1 x D 0.5 x D	325 375	.0006 .0008	.0013 .0017	.0020 .0026	.0027 .0035	.0034 .0044	.0040 .0053	.0054 .0070
Tool steel 39HRc to 48HRc	Slotting Peripheral - Rough	.75 x D 1 x D	1 x D 0.5 x D	225 275	.0005 .0006	.0010 .0012	.0015 .0017	.0020 .0023	.0025 .0029	.0030 .0035	.0040 .0046
Easy to machine stainless steel 416, 410, 302, 303	Slotting Peripheral - Rough	1 x D 1.5 x D	1 x D 0.5 x D	300 375	.0006 .0008	.0012 .0016	.0018 .0024	.0025 .0032	.0031 .0040	.0037 .0048	.0050 .0064
Moderately difficult stainless steel 304, 316, Invar, Kovar	Slotting Peripheral - Rough	.75 x D 1 x D	1 x D 0.5 x D	275 350	.0005 .0007	.0011 .0015	.0016 .0023	.0022 .0032	.0027 .0037	.0033 .0045	.0044 .0064
Difficult to machine stainless steel 316L, 17-4PH, 15-5PH, 13-8Mo	Slotting Peripheral - Rough	0.5 x D 1 x D	1 x D 0.5 x D	250 300	.0004 .0005	.0009 .0011	.0012 .0016	.0018 .0022	.0022 .0028	.0027 .0033	.0036 .0044
Cast iron Grey	Slotting Peripheral - Rough	1 x D 1.5 x D	1 x D 0.5 x D	400 500	.0006 .0007	.0012 .0015	.0019 .0023	.0025 .0030	.0031 .0037	.0038 .0046	.0050 .0060
Cast iron Ductile	Slotting Peripheral - Rough	1 x D 1.5 x D	1 x D 0.5 x D	300 400	.0006 .0007	.0012 .0014	.0018 .0021	.0023 .0028	.0029 .0035	.0035 .0042	.0046 .0056
Cast iron Malleable	Slotting Peripheral - Rough	.75 x D 1 x D	1 x D .75 x D	250 325	.0004 .0005	.0008 .0011	.0012 .0016	.0015 .0022	.0019 .0027	.0023 .0033	.0030 .0044
Aluminum alloy 2024, 6061, 7075	Slotting	1 x D	1 x D 0.5 x D								
Titanium alloy 6Al4V	Slotting Peripheral - Rough	0.5 x D 1 x D	1 x D 0.5 x D	250 350	.0005 .0006	.0010 .0012	.0015 .0017	.0020 .0023	.0025 .0029	.0030 .0035	.0040 .0046
High temperature alloy Inconel, haynes, stellite, hastelloy	Slotting	.25 x D 1 x D	1 x D .25 x D	70 90	.0004 .0005	.0008 .0009	.0012 .0014	.0015 .0018	.0019 .0022	.0024 .0028	.0030 .0036

** The machining values shown are guidelines. The optimum data for a particular machining process should be determined in trials or during machining.