

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

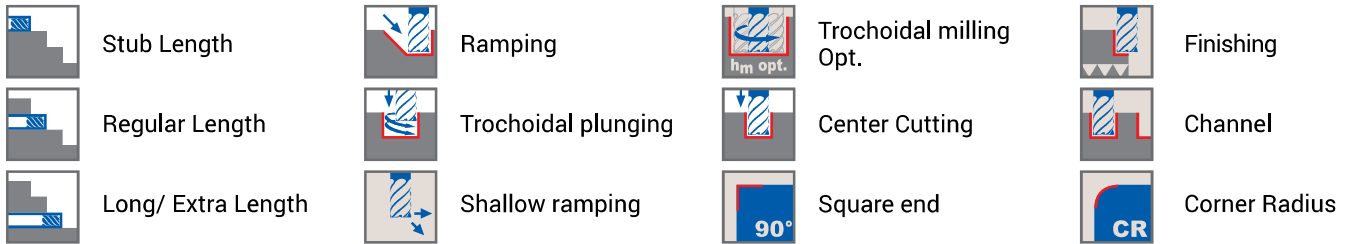


Suitable for some applications

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

BOSS ALR SERIES

- ⦿ High performance end mills feature differential flute spacing to achieve virtually chatter free in ROUGHING operation for aluminum
- ⦿ Excellent results can be achieved because of the various features. This special design end mill offers: polished flutes, roughing (chipbreaker) grooves and controlled edge preparation
- ⦿ Available in cylindrical style shank
- ⦿ Several radius available with standard and long lengths
- ⦿ h6 tolerance for conventional and shrink fit applications
- ⦿ Coated options available including Diamond Like Coating (DLC) for longer tool life

Work Material	Type of Cut	Axial DOC	Radial DOC	Speed (SFM)
Aluminum alloy 2024, 6061, 7075	Slotting	1 x D	1 x D 0.5 x D	800 1000



CARBIDE END MILL - CHAMFER



TECHNICAL DETAILS

Tool Diameter Range	0.125-1.000 in
Shank tolerance	h6
Cutter tolerance	(+0.00-0.002 in) +0.00-0.05 mm
Number of flutes	3
Coating	No
Center cutting	Yes
Variable pitch	Variable
Variable helix	Standard
Helix angle	41°

70
20
0 HARDNESS (HRC)



EDP Cromson	Cromson Description	Diam.	Length of cut	Overall length	Chamfer	Cromson Grade	# Flutes
72002630	CREM-ALR-3RC-0250-C10 Cr20	1/4	3/4	2.1/2	.010	Cr20	3
72002635	CREM-ALR-3RC-0375-C10- Cr20	3/8	7/8	2.1/2	.010	Cr20	3
72002640	CREM-ALR-3EC-0375-C10- Cr20	3/8	1.1/8	3	.010	Cr20	3
72002645	CREM-ALR-3MC-0375-C10- Cr20	3/8	1.1/2	3	.010	Cr20	3
72002650	CREM-ALR-3EC-0500-C20- Cr20	1/2	1.1/4	3	.020	Cr20	3
72002655	CREM-ALR-3LC-0500-C20- Cr20	1/2	2	4	.020	Cr20	3
72002660	CREM-ALR-3RC-0625-C30- Cr20	5/8	1.1/4	3.1/2	.030	Cr20	3
72002665	CREM-ALR-3LC-0625-C30- Cr20	5/8	2	4	.030	Cr20	3
72002670	CREM-ALR-3RC-0750-C30- Cr20	3/4	1.1/4	4	.030	Cr20	3
72002675	CREM-ALR-3SP-0750-C30- Cr20	3/4	1.5/8	4	.030	Cr20	3
72002680	CREM-ALR-3EC-0750-C30- Cr20	3/4	1.3/4	4	.030	Cr20	3
72002685	CREM-ALR-3MC-0750-C30- Cr20	3/4	2.1/4	4.1/2	.030	Cr20	3
72002690	CREM-ALR-3LC-0750-C30- Cr20	3/4	3	6	.030	Cr20	3
72002700	CREM-ALR-3EC-1000-C50- Cr20	1	1.1/2	4	.050	Cr20	3
72002705	CREM-ALR-3MC-1000-C50- Cr20	1	2	4.1/2	.050	Cr20	3
72002710	CREM-ALR-3LC-1000-C50- Cr20	1	3	6	.050	Cr20	3
72002715	CREM-ALR-3EW-0500-C20- Cr20	1/2	1.1/4	3	.020	Cr20	3
72002720	CREM-ALR-3RW-0625-C30- Cr20	5/8	1.1/4	3.1/2	.030	Cr20	3
72002725	CREM-ALR-3RW-0750-C30- Cr20	3/4	1.1/2	4	.030	Cr20	3
72002730	CREM-ALR-3RW-1000-C50- Cr20	1	1.1/2	4	.050	Cr20	3

BOSS-ALR			Feed (inches Per Tooth)								
Work Material	Type of Cut	Axial DOC	Radial DOC	Speed (SFM)	1/4	5/16	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								
Medium carbon steel <= 38HRc 4140, 4340	Slotting Peripheral - Rough	1 x D 1.5 x D	1 x D 0.5 x D								
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								
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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								
Cast iron Grey	Slotting Peripheral - Rough	1 x D 1.5 x D	1 x D 0.5 x D								
Cast iron Ductile	Slotting Peripheral - Rough	1 x D 1.5 x D	1 x D 0.5 x D								
Cast iron Malleable	Slotting Peripheral - Rough	.75 x D 1 x D	1 x D .75 x D								
Aluminum alloy 2024, 6061, 7075	Slotting	1 x D	1 x D 0.5 x D	700 2000	.0023 .0054	.0030 .0063	.0034 .0068	.0045 .0076	.0056 .0094	.0068 .0100	.0090 .0138
Titanium alloy 6Al4V	Slotting Peripheral - Rough	0.5 x D 1 x D	1 x D 0.5 x D								
High temperature alloy Inconel, haynes, stellite, hastelloy	Slotting	.25 x D 1 x D	1 x D .25 x D								

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