

# METS SLOT MILL

## Recommended Cutting Conditions

Workpiece Material	fz (ipt)	Recommended Insert Grades (Cutting Speed Vc: sfm)		
		MEGACOAT		Carbide
		PR1230	PR1210	KW10
Carbon Steel	0.004~0.006	★ 330~660	-	-
Alloy Steel	0.003~0.005	★ 330~660	-	-
Mold Steel	0.002~0.004	★ 260~490	-	-
Cast Iron	0.004~0.006	-	★ 330~660	☆ 260~390
Non-ferrous Metals	0.004~0.006	-	-	★ 330~980

★: 1st Recommendation ☆: 2nd Recommendation

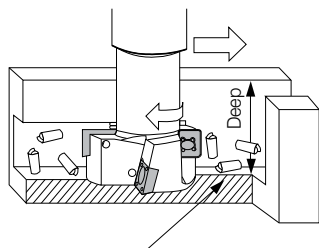
Part Number (T-Slot Nominal Size)	Steel			Cast Iron		
	Groove Shape at Pre-process	T-Slotting Conditions	Conditions to Prevent Chattering	Groove Shape at Pre-process	T-Slotting Conditions	Conditions to Prevent Chattering
<b>METS21-S25(-H)</b> (Nominal Size 12)	$C = 0.039 \sim 0.118''$ 	Vc = 390 fz = 0.004  (n = 1,820) (Vf = 7.165)	Vc = 200 fz = 0.006  (n = 920) (Vf = 5.394)	$C = \text{Over } 0.039''$ 	Vc = 390 fz = 0.005  (n = 1,820) (Vf = 8.583)	Vc = 260 fz = 0.006  (n = 1,210) (Vf = 7.165)
<b>METS25-S25(-H)</b> (Nominal Size 14)	$C = 0.039 \sim 0.118''$ 	Vc = 390 fz = 0.004  (n = 1,530) (Vf = 12.047)	Vc = 200 fz = 0.006  (n = 760) (Vf = 8.976)	$C = \text{Over } 0.039''$ 	Vc = 390 fz = 0.005  (n = 1,530) (Vf = 14.449)	Vc = 260 fz = 0.006  (n = 1,020) (Vf = 12.047)
<b>METS32-S32(-H)</b> (Nominal Size 18)	$C = 0.039 \sim 0.118''$ 	Vc = 330 fz = 0.004  (n = 1,000) (Vf = 7.874)	Vc = 200 fz = 0.006  (n = 600) (Vf = 7.087)	$C = \text{Over } 0.039''$ 	Vc = 390 fz = 0.005  (n = 1,190) (Vf = 11.260)	Vc = 260 fz = 0.006  (n = 800) (Vf = 9.449)
<b>METS40-S32(-H)</b> (Nominal Size 22)	$C = 0.354''$ 	Vc = 260 fz = 0.006  Chattering is likely when set to shallower than $C = 0.354''$ .	Vc = 200 fz = 0.006  (n = 480) (Vf = 5.669)	$C = \text{Over } 0.354''$ 	Vc = 390 fz = 0.006  (n = 960) (Vf = 8.976)	Vc = 260 fz = 0.006  (n = 640) (Vf = 7.559)
<b>METS50-S32(-H)</b> (Nominal Size 28)	Not recommended for steel because of chattering				Vc = 390 fz = 0.006  (n = 760) (Vf = 8.976)	Vc = 260 fz = 0.006  (n = 510) (Vf = 6.024)

[Cutting Speed : Vc (sfm), Spindle Revolution : n (min<sup>-1</sup>), Feed Rate fz (ipt), Table Feed Vf (ipm)]

- Chattering is likely when fz is less than fz = 0.004 ipt. Keep feed rate between fz = 0.004~0.006 ipt. For cast iron machining, the bigger the C-dimension becomes, the less chattering occurs.

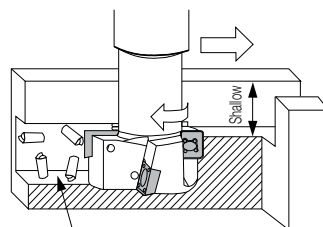
## How to Prevent Damaging Chips when Steel Machining

Before Improvement (Deep Groove at Pre-Process)



Chips stay in the pre-process groove.

After Improvement (Shallow Groove at Pre-Process)



Chips are evacuated backward and chances of damaging chips are less.

Improvement of chip biting

Make pre-process groove shallower to prevent the tool from becoming damaged from chips. Use compressed air to aid in chip evacuation.

GRADES **A**  
LINEUP / INSERTS **B**  
45° / 70° LEAD **C**  
75° LEAD **D**  
90° LEAD **E**  
HIGH FEED **F**  
MULTI-FUNCTION **G**  
SLOT MILLS **H**  
RADIUS / BALL-NOSE **J**  
OTHER APPLICATIONS **K**  
TOOL HOLDING **O**  
SPARE PARTS **P**  
TECHNICAL **R**  
INDEX **T**