

Recommended Cutting Conditions

◆ GV insert (Ground Chipbreaker)

Workpiece Material	Recommended Insert Grade (Cutting Speed: m/min)										① f for Grooving (mm/rev) ② f for Longitudinal turning (mm/rev) ③ // ap (mm)			Remarks
	Cermet			PVD Coated Carbide		Carbide	GV ^{1/2} L	GV ^{1/2} L	GV ^{1/2} L	GV ^{1/2} L				
	TN90	TC40	TC60	PR630	PR930		100SS-300SS 100S-300S	145B-185B	200B-280B	300B-400B				
						GV ^{1/2} L 100A-340A 100AR-150AR		GV ^{1/2} L 100BR	GV ^{1/2} L 150BR	GV ^{1/2} L 280C-300C	GV ^{1/2} L 340C-400C	GV ^{1/2} L 430C-500C		
Carbon Steel	☆ 120-180	☆ 120-180	☆ 80-120	☆ 80-160	★ 80-140	-	①0.03-0.08 ②0.03-0.08 ③Max. 0.3	①0.03-0.08 ②0.03-0.08 ③Max. 0.3	①0.04-0.09 ②0.04-0.09 ③Max. 0.3	①0.05-0.12 ②0.05-0.1 ③Max. 0.5	①0.04-0.09 ②0.04-0.09 ③Max. 0.3	①0.05-0.12 ②0.05-0.1 ③Max. 0.5	①0.05-0.12 ②0.05-0.1 ③Max. 0.5	
Alloy Steel	☆ 100-160	☆ 100-160	☆ 80-100	☆ 80-140	★ 80-120	-	①0.03-0.07 ②0.03-0.1 ③Max. 0.3	①0.03-0.07 ②0.03-0.1 ③Max. 0.3	①0.04-0.08 ②0.04-0.08 ③Max. 0.3	①0.05-0.1 ②0.05-0.1 ③Max. 0.5	①0.04-0.08 ②0.04-0.08 ③Max. 0.3	①0.05-0.1 ②0.05-0.1 ③Max. 0.5	①0.05-0.1 ②0.05-0.1 ③Max. 0.5	
Stainless Steel	☆ 70-130	-	☆ 60-100	☆ 60-130	★ 60-110	-	①0.03-0.07 ②0.03-0.1 ③Max. 0.3	①0.03-0.07 ②0.03-0.1 ③Max. 0.3	①0.04-0.08 ②0.04-0.08 ③Max. 0.3	①0.05-0.1 ②0.05-0.1 ③Max. 0.5	①0.04-0.08 ②0.04-0.08 ③Max. 0.3	①0.05-0.1 ②0.05-0.1 ③Max. 0.5	①0.05-0.1 ②0.05-0.1 ③Max. 0.5	
Cast Iron	-	-	-	-	-	★ 60-100	①0.03-0.08 ②0.03-0.08 ③Max. 0.3	①0.03-0.08 ②0.03-0.08 ③Max. 0.3	①0.04-0.09 ②0.04-0.09 ③Max. 0.3	①0.05-0.12 ②0.05-0.1 ③Max. 0.5	①0.04-0.09 ②0.04-0.09 ③Max. 0.3	①0.05-0.12 ②0.05-0.1 ③Max. 0.5	①0.05-0.12 ②0.05-0.1 ③Max. 0.5	
Aluminum	-	-	-	-	-	★ 150-300	①0.05-0.12 ②0.05-0.12 ③Max. 0.5	①0.05-0.12 ②0.05-0.12 ③Max. 0.5	①0.05-0.15 ②0.05-0.15 ③Max. 0.5	①0.08-0.15 ②0.08-0.15 ③Max. 0.8	①0.05-0.15 ②0.05-0.15 ③Max. 0.5	①0.08-0.15 ②0.08-0.15 ③Max. 0.8	①0.08-0.15 ②0.08-0.15 ③Max. 0.8	
Brass	-	-	-	-	-	★ 100-250	①0.05-0.12 ②0.05-0.12 ③Max. 0.5	①0.05-0.12 ②0.05-0.12 ③Max. 0.5	①0.05-0.15 ②0.05-0.15 ③Max. 0.5	①0.08-0.15 ②0.08-0.15 ③Max. 0.8	①0.05-0.15 ②0.05-0.15 ③Max. 0.5	①0.08-0.15 ②0.08-0.15 ③Max. 0.8	①0.08-0.15 ②0.08-0.15 ③Max. 0.8	

* Use PVD coated grade or carbide for Longitudinal turning with edge width 1mm (GV^{1/2}L100SS / 100S / 100A)

★ : 1st Recommendation ☆ : 2nd Recommendation

◆ GVF insert (Ground Chipbreaker)

Workpiece Material	Recommended Insert Grade (Cutting Speed: m/min)										① f for Grooving (mm/rev) ② f for Longitudinal turning (mm/rev) ③ // ap (mm)					Remarks
	Cermet					CVD Coated Carbide	PVD Coated Carbide		Carbide	GVF ^{1/2} L	GVF ^{1/2} L	GVF ^{1/2} L	GVF ^{1/2} L	GVF ^{1/2} L		
	TN60	TN90	TC40	TC60	CR9025		PR630	PR930		KW10	200A-340A 100AR-150AR	250B-350B 150BR	400B-490B 200BR	350C-450C	500C-600C	
Carbon Steel	-	☆ 150-220	☆ 150-220	☆ 100-150	-	☆ 80-200	★ 80-180	-	①0.03-0.08 ②0.03-0.08 ③Max. 0.3	①0.04-0.09 ②0.04-0.09 ③Max. 0.3	①0.05-0.1 ②0.05-0.1 ③Max. 0.5	①0.05-0.12 ②0.05-0.1 ③Max. 0.5	①0.05-0.12 ②0.05-0.1 ③Max. 0.8			
Alloy Steel	-	☆ 130-200	☆ 130-200	☆ 80-130	-	☆ 80-180	★ 80-160	-	①0.03-0.07 ②0.03-0.1 ③Max. 0.3	①0.04-0.08 ②0.04-0.08 ③Max. 0.3	①0.05-0.09 ②0.05-0.09 ③Max. 0.5	①0.05-0.1 ②0.05-0.1 ③Max. 0.5	①0.05-0.1 ②0.05-0.1 ③Max. 0.8			
Stainless Steel	-	☆ 70-150	-	☆ 60-100	-	☆ 60-150	★ 60-130	-	①0.03-0.07 ②0.03-0.1 ③Max. 0.3	①0.04-0.08 ②0.04-0.08 ③Max. 0.3	①0.05-0.09 ②0.05-0.09 ③Max. 0.5	①0.05-0.1 ②0.05-0.1 ③Max. 0.5	①0.05-0.1 ②0.05-0.1 ③Max. 0.8			
Cast Iron	-	-	-	-	-	-	-	★ 60-100	①0.03-0.08 ②0.03-0.08 ③Max. 0.3	①0.04-0.09 ②0.04-0.09 ③Max. 0.3	①0.05-0.1 ②0.05-0.1 ③Max. 0.5	①0.05-0.12 ②0.05-0.1 ③Max. 0.5	①0.05-0.12 ②0.05-0.1 ③Max. 0.8			
Aluminum	-	-	-	-	-	-	-	★ 150-400	①0.05-0.12 ②0.05-0.12 ③Max. 0.5	①0.05-0.15 ②0.05-0.15 ③Max. 0.5	①0.05-0.15 ②0.05-0.15 ③Max. 0.8	①0.08-0.15 ②0.08-0.15 ③Max. 0.8	①0.08-0.15 ②0.08-0.15 ③Max. 0.8			
Brass	-	-	-	-	-	-	-	★ 150-300	①0.05-0.12 ②0.05-0.12 ③Max. 0.5	①0.05-0.15 ②0.05-0.15 ③Max. 0.5	①0.05-0.15 ②0.05-0.15 ③Max. 0.8	①0.08-0.15 ②0.08-0.15 ③Max. 0.8	①0.08-0.15 ②0.08-0.15 ③Max. 0.8			

* The ap should be under 0.5mm if a good surface finish is required.

★ : 1st Recommendation ☆ : 2nd Recommendation

◆ FTK Recommended Cutting Conditions

Workpiece Material	Recommended Insert Grade (Cutting Speed: m/min)					Edge Width (mm)					Remarks
	Cermet		CVD Coated Carbide	PVD Coated Carbide		Carbide	4.0	5.0			
	TN90	CR9025		PR660	PR930		KW10	f (mm/rev)			
Carbon Steel	☆ 120-200	★ 80-180	☆ 60-130	☆ 60-130	-	0.05~0.15	0.05~0.15				
Alloy Steel	☆ 100-160	★ 70-150	☆ 60-130	☆ 60-130	-	0.05~0.15	0.05~0.15				
Stainless Steel	☆ 80-150	☆ 60-140	★ 50-120	☆ 50-120	-	0.05~0.15	0.05~0.15				
Cast Iron	-	-	-	-	★ 50-100	0.10~0.30	0.10~0.30				
Aluminum	-	-	-	-	★ 200-450	0.05~0.25	0.05~0.25				
Brass	-	-	-	-	★ 100-200	0.05~0.25	0.05~0.25				

★ : 1st Recommendation ☆ : 2nd Recommendation

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Grooving