

Internal Grooving SIGE

Recommended Cutting Conditions (Ground Chipbreaker: GE[®]•••A(R)GE[®]•••B(R))

Workpiece Material	Recommended Insert Grade (Cutting Speed: m/min)			① f at Grooving			Remarks
				② f at Traversing			
	Cermet	PVD Coated Carbide	Carbide	③ ap at Traversing			
				GE% 100~200-010A 100~200-100AR	GE% 100~200-010B 100~200-100BR	GE% 250~300-020B	
TN6020	PR1025	KW10					
Carbon Steel	☆ 50~80	★ 50~80	-	①0.01~0.03	①0.02~0.04	①0.02~0.04	Coolant
				②0.01~0.03	②0.02~0.04	②0.02~0.04	
				③Max. 0.05	③Max. 0.05	③Max. 0.1	
Alloy Steel	☆ 50~80	★ 50~80	-	①0.01~0.03	①0.02~0.04	①0.02~0.04	
				②0.01~0.03	②0.02~0.04	②0.02~0.04	
				③Max. 0.05	③Max. 0.05	③Max. 0.1	
Stainless Steel	-	★ 50~80	-	①0.01~0.03	①0.01~0.03	①0.01~0.03	
				②0.01~0.03	②0.01~0.03	②0.01~0.03	
				③Max. 0.05	③Max. 0.05	③Max. 0.1	
Cast Iron	-	-	★ 50~80	①0.01~0.03	①0.02~0.04	①0.02~0.04	
				②0.01~0.03	②0.02~0.04	②0.02~0.04	
				③Max. 0.05	③Max. 0.05	③Max. 0.1	
Non-ferrous Metals	-	-	★ 50~100	①0.01~0.03	①0.02~0.04	①0.02~0.04	
				②0.01~0.03	②0.02~0.04	②0.02~0.04	
				③Max. 0.1	③Max. 0.1	③Max. 0.2	
Brass	-	-	★ 50~100	①0.01~0.03	①0.02~0.04	①0.02~0.04	
				②0.01~0.03	②0.02~0.04	②0.02~0.04	
				③Max. 0.1	③Max. 0.1	③Max. 0.2	

* Use PVD coated grade or carbide for traversing with edge width 1mm. (GE[®]100-005A / 100-005B)

★: 1st Recommendation ☆: 2nd Recommendation

Recommended Cutting Conditions (Ground Chipbreaker: GE[®]•••C(R), GE[®]•••D(R), GE[®]•••E)

Workpiece Material	Recommended Insert Grade (Cutting Speed: m/min)			① f at Grooving							Remarks
				② f at Traversing							
				③ ap at Traversing							
	Cermet	PVD Coated Carbide	Carbide	GE% 100-200-010C 200-100CR	GE% 250-350-020C 250-300-150CR						
	TN6020	PR1025	GW15	GE% 100-145-010D GE% 100-010E	GE% 150-195-010D GE% 150-195-010E	GE% 200-280-020D 200-100DR GE% 200-225-010E 230-020E		GE% 300-400-020D 300-150DR		GE% 350-430-020E GE% 450-500-020E	
Carbon Steel	☆ 120~180	★ 60~140	-	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	①0.04~0.09 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	Coolant	
Alloy Steel	☆ 100~160	★ 60~120	-	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	①0.04~0.08 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	★ 60~110	-	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	①0.04~0.08 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	①0.04~0.09 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		
Non-ferrous Metals	-	-	★ 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	①0.05~0.15 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	①0.05~0.15 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 traversing with edge width 1mm. (GE[®]100-010C / 100-010D / 100-010E)

★: 1st Recommendation ☆: 2nd Recommendation

Recommended Cutting Conditions (Molded Chipbreaker: GER•••CM, GER•••DM, GER•••EM)

Workpiece Material	Recommended Insert Grade (Cutting Speed: m/min)			① f at Grooving						Remarks			
				② f at Traversing									
	Cermet	PVD Coated Carbide	Carbide	③ ap at Traversing									
				TN6020	PR1025	GW15	GER 150-200-010CM	GER 250-350-020CM					
							GER 150-200-010DM		GER 230-250-020DM		GER 300-400-020DM		
			GER 150-200-010EM			GER 250-300-020EM	GER 350-400-020EM	GER 450-500-020EM					
Carbon Steel	-	★ 60~160	-	① 0.03~0.1	① 0.03~0.12	① 0.04~0.12	① 0.05~0.12	① 0.05~0.12	① 0.05~0.12	Coolant			
				② 0.03~0.1	② 0.03~0.1	② 0.04~0.1	② 0.05~0.1	② 0.05~0.1	② 0.05~0.1				
				③ Max. 1.0	③ Max. 1.5	③ Max. 1.5	③ Max. 1.5	③ Max. 1.5	③ Max. 1.5				
Alloy Steel	-	★ 60~140	-	① 0.03~0.1	① 0.03~0.1	① 0.04~0.12	① 0.05~0.12	① 0.05~0.12	① 0.05~0.12				
				② 0.03~0.1	② 0.03~0.1	② 0.04~0.1	② 0.05~0.1	② 0.05~0.1	② 0.05~0.1				
				③ Max. 1.0	③ Max. 1.5	③ Max. 1.5	③ Max. 1.5	③ Max. 1.5	③ Max. 1.5				
Stainless Steel	-	★ 60~110	-	① 0.03~0.08	① 0.03~0.08	① 0.04~0.08	① 0.05~0.1	① 0.05~0.1	① 0.05~0.1				
				② 0.03~0.1	② 0.03~0.1	② 0.04~0.1	② 0.05~0.1	② 0.05~0.1	② 0.05~0.1				
				③ Max. 1.0	③ Max. 1.5	③ Max. 1.5	③ Max. 1.5	③ Max. 1.5	③ Max. 1.5				

★: 1st Recommendation ☆: 2nd Recommendation