GV insert (Ground Chipbreaker)

Workpiece Material	Recommended Insert Grade (Cutting Speed: m/min)						① f at Grooving (mm/rev) ② f at Traversing (mm/rev) ③ // ap (mm)							Remarks
	Cermet			PVD Coated Carbide		Carbide	GV$^{R}_{L}$ 100SS~300SS 100S~300S	GV$^{R}_{L}$ 145B~185B	GV$^{R}_{L}$ 200B~280B	GV$^{R}_{L}$ 300B~400B				
	TN90	TC40	TC60	PR630	PR930	KW10	GV$^{R}_{L}$ 100A~340A 100AR~150AR		GV$^{R}_{L}$ 100BR	GV$^{R}_{L}$ 150BR	GV$^{R}_{L}$ 280C~300C	GV$^{R}_{L}$ 340C~400C	GV$^{R}_{L}$ 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	Coolant
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 traversing with edge width 1mm (GV$^{R}_{L}$100SS / 100S / 100A)

★ : 1st Recommendation ☆ : 2nd Recommendation

GVF insert (Ground Chipbreaker)

Workpiece Material	Recommended Insert Grade (Cutting Speed: m/min)								① f at Grooving (mm/rev) ② f at Traversing (mm/rev) ③ // ap (mm)					Remarks
	Cermet				CVD Coated Carbide	PVD Coated Carbide		Carbide	GVF$^{R}_{L}$ 200A~340A	GVF$^{R}_{L}$ 250B~350B	GVF$^{R}_{L}$ 400B~490B	GVF$^{R}_{L}$ 350C~450C	GVF$^{R}_{L}$ 500C~600C	
	TN60	TN90	TC40	TC60	CR9025	PR630	PR930	KW10	GVF$^{R}_{L}$ 100AR~150AR	GVF$^{R}_{L}$ 150BR	GVF$^{R}_{L}$ 200BR			
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	Coolant
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				Coolant
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