

CERACUT Plunge & Turn Recommended Cutting Conditions

GMG • GMM • GMN • GMGA

Workpiece Material	Recommended Insert Grade (Cutting Speed: m/min)						Grooving				Longitudinal turning				Remarks
	Cermet TN90	CVD Coated Carbide CR9025	PVD Coated Carbide		Carbide KW10	Width (mm)				Width (mm)					
			PR915	PR930		PR905	2.0~3.0	4.0	5.0	6.0 / 8.0	2.0~3.0	4.0	5.0	6.0 / 8.0	
Carbon Steel	☆ 100-220	☆ 80-200	☆ 80-200	★ 80-200	-	-	0.05-0.15	0.10-0.25	0.15-0.35	0.20-0.35	0.10-0.20	0.15-0.30	0.20-0.40	0.25-0.40	Coolant
Alloy Steel	☆ 80-200	☆ 70-180	☆ 70-180	★ 70-180	-	-	0.05-0.15	0.10-0.25	0.15-0.35	0.20-0.35	0.10-0.20	0.15-0.30	0.20-0.40	0.25-0.40	
Stainless Steel	☆ 70-160	☆ 60-150	★ 60-150	☆ 60-150	-	-	0.05-0.15	0.10-0.20	0.15-0.35	0.20-0.35	0.10-0.20	0.15-0.25	0.20-0.40	0.25-0.40	
Cast Iron	-	-	-	-	★ 100-200	☆ 70-150	0.05-0.20	0.10-0.30	0.15-0.40	0.20-0.40	0.10-0.25	0.15-0.35	0.20-0.45	0.25-0.45	
Aluminum	-	-	-	-	-	★ 200-500	0.05-0.20	0.08-0.25	0.10-0.25	0.12-0.30	0.10-0.20	0.10-0.25	0.10-0.25	0.15-0.30	
Brass	-	-	-	-	-	★ 100-200	0.05-0.15	0.08-0.20	0.10-0.25	0.12-0.30	0.10-0.20	0.10-0.25	0.10-0.25	0.15-0.30	

★ : 1st Recommendation ☆ : 2nd Recommendation

◆ See the notes below for Longitudinal turning conditions.

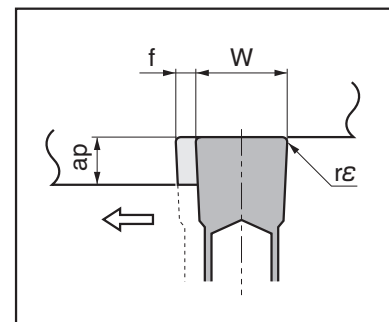
① When using KGM-T Toolholder

	Recommended Conditions	
ap (MAX) mm	under 80% of Edge Width	• $ap \leq 0.8w$
f (MAX) mm/rev	under 10% of Edge Width	• $f \leq 0.1w$

(ap)×(f) shall not exceed 1/2 of ap(Max)×f(Max)

Load (mm ²) \ Edge Width (mm)	2.0~2.5	3.0	4.0	5.0	6.0	8.0
ap×f	~0.20	~0.36	~0.64	~1.00	~1.44	~2.56

• $ap \times f \leq \frac{1}{2} \times 0.8w \times 0.1w = 0.04w^2$



② When using KGM-T Toolholder (Deep Grooving Type) : Use 90% of KGM conditions

③ When using KGMM / KGMS / KFMS-8 Toolholder

	Recommended Conditions	
ap (MAX) mm	under 50% of Edge Width	• $ap \leq 0.5w$
f (MAX) mm/rev	under 4% of Edge Width	• $f \leq 0.04w$

ap×f should be as follows. (Under 50% of KGM)

Load (mm ²) \ Edge Width (mm)	2.0~2.5	3.0	4.0	5.0	6.0	8.0
ap×f	~0.10	~0.18	~0.32	~0.50	~0.72	~1.28

• $ap \times f \leq 0.02w^2$

④ When using KIGM Toolholder

	Recommended Conditions	
ap (MAX) mm	under 70% of Edge Width	• $ap \leq 0.7w$
f (MAX) mm/rev	under 8% of Edge Width	• $f \leq 0.08w$

ap×f should be as follows. (Under 70% of KGM)

Load (mm ²) \ Edge Width (mm)	3.0	4.0	5.0
ap×f	~0.25	~0.44	~0.70

• $ap \times f \leq 0.04w^2$

GMG / GMM / GMGA 8030 (Face Grooving)

Workpiece Material	Recommended Insert Grade (Cutting Speed: m/min)						Face Grooving			Longitudinal turning			Remarks
	Cermet TN90	CVD Coated Carbide CR9025	PVD Coated Carbide		Carbide KW10	Width (mm)			Width (mm)				
			PR915	PR930		PR905	8.0			8.0			
Carbon Steel	☆ 100-220	☆ 80-160	☆ 80-160	★ 80-160	-	-	0.1~0.2			0.1~0.25			Coolant
Alloy Steel	☆ 80-160	☆ 70-160	☆ 70-160	★ 70-160	-	-	0.1~0.2			0.1~0.25			
Stainless Steel	☆ 70-140	☆ 60-130	★ 60-130	☆ 60-130	-	-	0.1~0.2			0.1~0.25			
Cast Iron	-	-	-	-	★ 80-180	☆ 70-130	0.1~0.3			0.1~0.35			
Aluminum	-	-	-	-	-	★ 200-300	0.08~0.25			0.08~0.30			
Brass	-	-	-	-	-	★ 100-150	0.08~0.25			0.08~0.30			

★ : 1st Recommendation ☆ : 2nd Recommendation