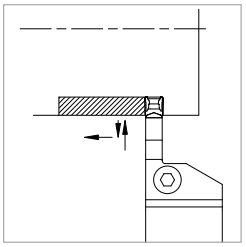
для заказа - kyocera@kyocera-tools.ru

Guide for External Machining

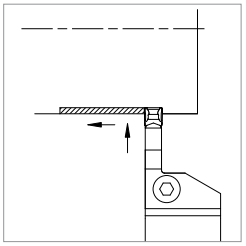
① (Turning After Grooving)

1. Grooving Depths Over 0.020" : At Roughing (**Fig.1**)
   Before traversing, pull the tool back about 0.004" after grooving, instead of traversing subsequent to grooving.
   (Failure to pull the tool back before traverse cutting will result in an unbalanced load applied on only one side of the cutting edge.)

2. Grooving Depths Under 0.020" : At Finishing (**Fig.2**)
   Traversing subsequent to grooving is possible because shallow groove depths relate a small load on the cutting edge.
   (Dwell-motion is not necessary)



Before traversing, pull the tool back about 0.004" after grooving.
(Grooving depth over 0.020" : At roughing)
Fig.1



Traversing subsequent to grooving.
(Grooving depth under 0.020" : At Finishing)
Fig.2

②

1. When widening the groove width, apply the "Step Turning" as shown in **Fig.3**

2. The widened groove and side walls should be finished last.
   (For better chip control, D.O.C. over 0.020" is recommended.)

Note: If the workpiece is not supported at the center, reduce the feed rate when grooving towards center

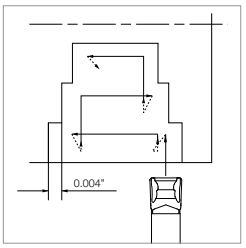
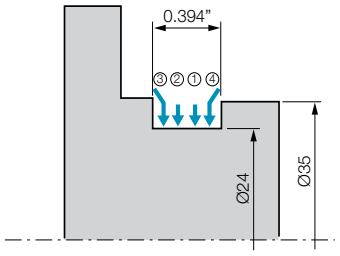


Fig.3

Case Studies

5120H (Grooving)

- Gear
- Vc = 370~540 sfm
- f = 0.002 ipr
- Wet
- GDM4020N-040GM (PR1225)
- KGDL2525X-3T10S



GM Chipbreaker (PR1225)	1,500 pcs/C
Competitor K (PVD Coated Carbide)	250 pcs/C

6X Longer Life

- KGD type grooving toolholder + GM chipbreaker (PR1225) showed 6 times longer tool life than that of Competitor K.
- Good chip control without burned chips.

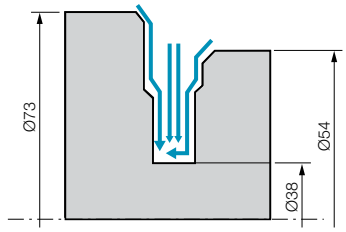


Competitor K | GM Chipbreaker

(User Evaluation)

Structural Steel (Grooving Turning)

- Gear
- Vc = 560 sfm
- f = 0.006 ipr (Roughing) 0.004 ipr (Finishing)
- D.O.C = 0.008" (Finishing)
- Wet
- GDM4020N-040GM (PR1215)
- KGDR2525X-4T20S



GM Chipbreaker (PR1215)	250 pcs/C
Competitor L (Roughing: PVD Coated Carbide) (Finishing: Cermet)	200 pcs/C

- GM chipbreaker reduced occurrence rate of tangle of chips (occurrence rate 80% ➡ 10%). The problem was persistent with Competitor L. Machining productivity is improved.



Chips easily tangled | Competitor L (Finishing)



Smooth chip control | GM Chipbreaker (Finishing)

(User Evaluation)

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