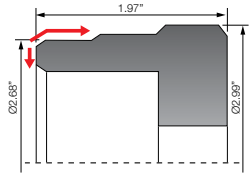
Case Studies

5120H (58HRC)

Gear
- External and Face machining and Chamfering
- Vc=427 sfm
- D.O.C.=0.024"
- f=0.005 ipr
- WET
- CNGA432S01225ME (KBN05M)



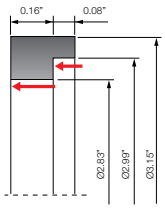
KBN05M	300 pcs/edge
Competitor C	200 pcs/edge

KBN05M achieved 1.5 times longer tool life than competitor C.
➡ Its longer tool life contributes to cost-cutting.

User Evaluation

4131 (55HRC)

Stator
- Boring
- Vc=558 sfm
- D.O.C.=0.016"
- f=0.004 ipr
- WET
- CNGA432S01225ME (KBN05M)



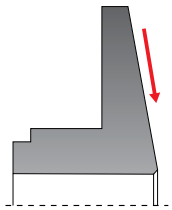
KBN05M	600 pcs/edge
Competitor D	300 pcs/edge

KBN05M achieved twise longer tool life than competitor D.
➡Its longer tool life contributes to cost-cutting.

User Evaluation

5120H (58HRC)

Pulley
- Face machining (Continuous)
- Vc=394 sfm
- D.O.C.=0.006"~0.008"
- f=0.009 ipr
- WET
- DNGA120408S00545MEP (KBN05M)

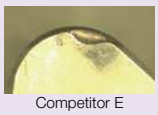


KBN05M-MEP (Edge Preparation : 0.05×45°)	150 pcs/edge
KBN05M-ME (Edge Preparation : 0.12×25°)	100 pcs/edge
Competitor E	100 pcs/edge

Tool life of KBN05M-ME type (Edge prep.: 0.005"×25° Chamfered + R honed) is same as competitor E.'s.
KBN05M-MEP (Edge prep.: 0.0020"×45° Chamfered + R honed) type achieved 1.5 times longer tool life, preventing crater wear.


KBN05M-MEP

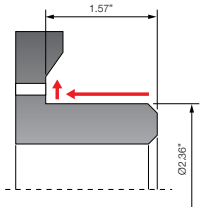

KBN05M-ME


Competitor E

User Evaluation

5120 (61~65HRC)

Gear
- External and Face machining (Interrupted)
- Vc=394 sfm
- D.O.C.=0.006"
- f=0.004~0.006 ipr (External)
- WET
- CNGA120408S04030MEH (KBN05M)



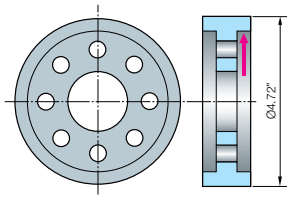
KBN05M-MEH (Edge Preparation : 0.40×30°)	150 pcs/edge
Competitor F	100 pcs/edge

Compared to competitor. F, KBN05M-MEH type (Edge prep.: 0.016"×30° Chamfered + R-honed) achieved 1.5 times longer tool life.
No chipping in interrupted machining, and improved productivity.
(Comp. F's cutting edge got many chipping.)
Feed rate could be increased from 0.006 to 0.010 ipr in facing.
➡Achieved cycle time and cost reduction.

User Evaluation

4131 (60HRC)

Gear Parts
- Face machining (Interrupted)
- Vc=295 sfm
- D.O.C.=0.020"
- f=0.005 ipr
- WET_DRY
- CNGA120412S01225ME (KBN25M)



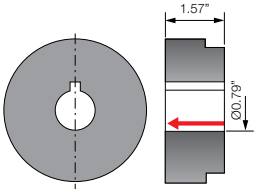
KBN25M	70 pcs/edge
Competitor G	30 pcs/edge (Unstable)

KBN25M improved tool life up to 70 pieces/edge than is two times more than competitor's G (CBN tool). Also, KBN25M has increased its tool life up to 250 pieces/edge by hanging from wet machining to dry machining.

User Evaluation

4131 (58HRC)

Sleeve
- Internal machining (Heavy interrupted)
- Vc=328sfm
- D.O.C.=0.020"
- f=0.004 ipr
- WET
- TPGB110308S01035MET (KBN35M)



KBN35M	115 pcs/edge
Competitor H	100 pcs/edge

KBN35M achieved 15% Longer tool life in heavy interrupted machining compared with competitor H.
Furthermore it still keeps the insert in a good condition and so provides stable machining result.
➡Its longer tool life and capability of providing stable result can contribute to cost-cutting and improved efficiency in machining.

User Evaluation