

## Machining examples

### Achieve **30%** longer tool life with cleaner operations

For steel plate face milling, RNMU 1004OT-MM:M6040 delivered 64 minutes of tool life –30% longer than the competitor. Soluble oil emulsion improved chip evacuation and ensured smoother, more efficient performance.

<b>Workpiece:</b>	Steel plate
<b>Cutter:</b>	25E3R060A20-SRN10-C
<b>Insert:</b>	RNMU 1004MOT-MM:M6040
<b>Material:</b>	X37CrMo5-1 / 1.2343 (280 HB)
<b>Coolant:</b>	Soluble oil emulsion

### Boost tool life by **20%** with enhanced stability

The RNMU 1004MOT-MF:M6040 cutter extended tool life to 30 minutes, resulting in a 20% improvement. Its sharp geometry provided reliable stability, even under challenging tool overhang conditions.

<b>Workpiece:</b>	Stainless steel part
<b>Cutter:</b>	25E3R035M12-SRN10-C
<b>Insert:</b>	RNMU 1004MOT-MF:M6040
<b>Material:</b>	X5CrNi18-10 / 1.4301 (160 HB)
<b>Coolant:</b>	Soluble oil emulsion

#### Machining data:

$v_c$	$f_z$	$a_p$	$a_e$	TOH	Tool life (min)
200	0.20	1.50	10	90	<b>64</b> (+30%)

#### WMG P4.2



#### Machining data:

$v_c$	$f_z$	$a_p$	$a_e$	TOH	Tool life (min)
110	0.20	2.50	15	145	<b>30</b> (+20%)

#### WMG M3.1



$v_c$  = cutting speed (m/min),  $f_z$  = feed per tooth (mm),  
 $a_p$  = axial depth of cut (mm),  $a_e$  = radial depth of cut (mm), TOH = total overhang (mm)

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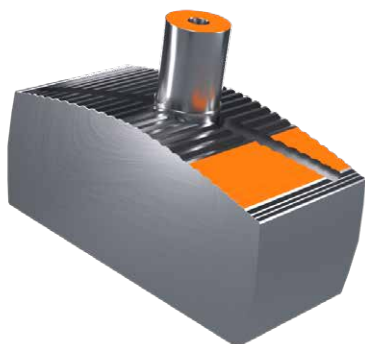
### Maximize productivity with **40%** longer tool life

The RNMU 1205MOT-MF:M6040 cutter achieved a 50-minute tool life, outperforming competitors by 40%. Soluble oil emulsion ensured smooth machining and excellent chip control.

<b>Workpiece:</b>	Stainless steel turbine blade
<b>Cutter:</b>	63A07R-SMORN12-C
<b>Insert:</b>	RNMU 1205MOT-MF:M6040
<b>Material:</b>	X3CrNiMo13-4 / 1.4313 (170 HB)
<b>Coolant:</b>	Soluble oil emulsion

Machining data:					
$v_c$	$f_z$	$a_p$	$a_e$	TOH	Tool life (min)
120	0.13	3	35	120	<b>50</b> (+40%)

**WMG M2.1**



### Cut smarter with **20%** more tool life and smoother results

The RNMU 1205MOT-MF:M6040 cutter reached 44 minutes of tool life, 20% more than competitors. Compressed air-cooling enhanced chip control and process consistency.

<b>Workpiece:</b>	Cast steel blade
<b>Cutter:</b>	63A07R-SMORN12-C
<b>Insert:</b>	RNMU 1205MOT-MM:M6040
<b>Material:</b>	G20Mn5 / 1.6220 (190 HB)
<b>Coolant:</b>	Compressed air

Machining data:					
$v_c$	$f_z$	$a_p$	$a_e$	TOH	Tool life (min)
210	0.18	3.5	40	80	<b>44</b> (+20%)

**WMG P3.2**



$v_c$  = cutting speed (m/min),  $f_z$  = feed per tooth (mm),  
 $a_p$  = axial depth of cut (mm),  $a_e$  = radial depth of cut (mm), TOH = total overhang (mm)