翰默 HAIMER 安全锁应用实例
SAFE-ΛOCK® APPLICATION EXAMPLES

安全锁：在机械行业粗加工中的应用
Safe-Lock: Roughing application in the packing machine industry

问题

- 只有单刃磨损 (刃具破损)
- 只能使用侧固式刀柄

Problem:

- High tool wear on one flute (tool breakout)
- Only Weldon holders could be used

目标

- 延长刃具寿命
- 代替侧固式刀柄

Target:

- Increase of tool life
- Usage of high precision tool holding instead of Weldon

应用：外形铣削

材料： 钢件

切削刃具： HPC 硬质合金多刃立铣刀
Ø=20 mm, Z=4

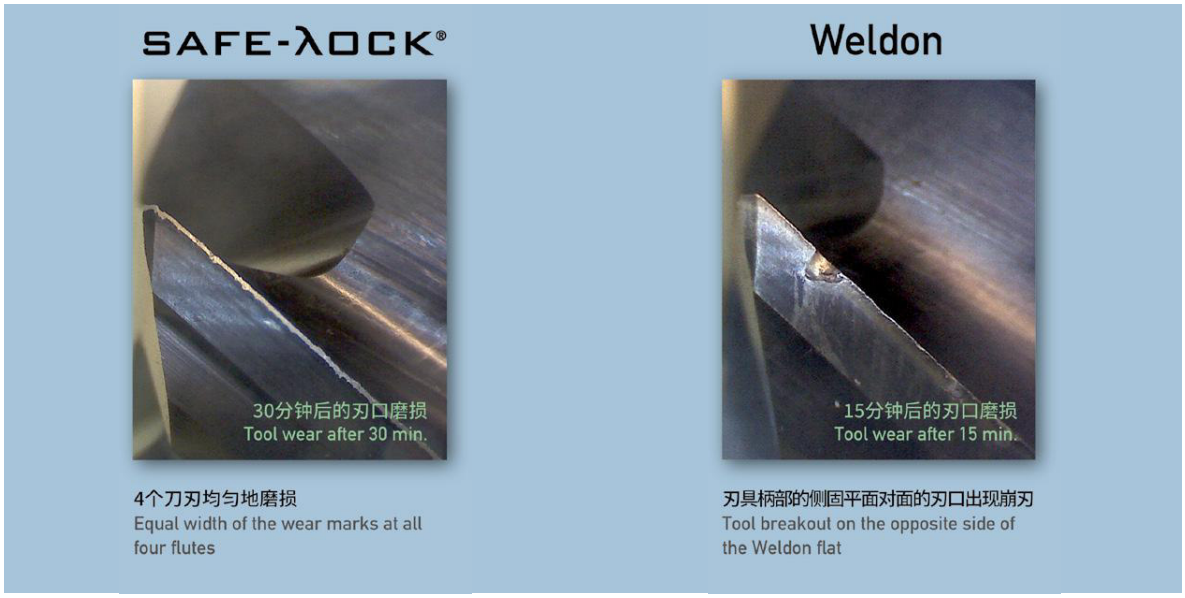
加工参数：
径向切削宽度 (ae) = 10 mm
轴向切削深度 (ap) = 0,75xD
切削速度 (vc) = 180 m/min
每刃进给量 (fz) = 0,07 mm

Application: Contour milling

Material workpiece: Steel

Cutting tool: HPC solid carbide cutter with variable flutes
Ø = 20 mm, Z = 4

Application parameters:
Cutting depth radial (a_e) = 10 mm
Cutting depth axial (a_p) = 0,75 x D
Cutting speed (v_c) = 180 m/min
Feed rate/flute (f_z) = 0,07 mm



4个刀刃均匀地磨损
Equal width of the wear marks at all four flutes

刃具柄部的侧固平面对面的刃口出现崩刃
Tool breakout on the opposite side of the Weldon flat

結果

图片对比了不同加工时间后刃具的磨损情况，请注意：即使延长了一倍的加工时间，带安全锁的刃具的磨损情况也小于侧固式刃具，**并且 100% 防止刃具的拔出。**

Result

This comparison shows the wear characteristics of the cutting tools at various machining times. Of note is that, in the case of Safe-Lock, even at double the machining time, wear is less prevalent and more controlled than for Weldon – **with 100% protection against pull-out.**