

瓦楞纸纵切圆刀常见分切问题分析

Q&A for corrugated slitter scorer knives use

优质的硬质合金圆刀有极高的耐磨性，正确使用既能保证分切效果，又能延长刀片的使用寿命，反之由于硬质合金的高硬度和脆性，会导致很多分切问题甚至碎刀，所以必须选购有抗弯强度保证的刀片和合格的配套修磨砂轮。

High wear-resistance is the typical feature of cemented carbide slitter scorer knives. Proper use of cemented carbide knives leads to extreme long life with good slitting edge quality. Another side, users need to pay attention to brittleness of cemented carbide knives, breakage of knives happens sometimes. Therefore, proper use of qualified knives and resharpening wheels is important for risk reduction.

问题一：圆刀消耗快，分切寿命短

Topic 1: Short working life of knives.

- 1, 修磨间隔短，频率高。
 - a. Too frequently of resharpening.
- 2, 修磨时间长。
 - b. Each resharpening time stays too long.
- 3, 修磨气压偏高。（严重时会导致刀片破裂）
 - c. Resharpening pressure sets too high (sometimes even cause breakage of knives).
- 4, 金刚石砂轮选择不配套，金刚石粒度偏粗，浓度高。
 - d. Improper resharpening wheels. Too coarse diamond grit size or too high concentration of diamond grit might cause quick wear of knives.
- 5, 修磨刀片夹角太小，容易钝。（刃口夹角太大也影响分切质量）
 - e. The bevel setting of resharpening wheels is too small, it ground knives too sharp to keep lifespan.

问题二：分切纸板有塌边，毛边现象

Topic 2: The burr edge and subside edge of corrugated board during slitting.

- 1, 刀具不锋利，有的修磨由于刀片和砂轮安装角度不对没有修磨出刃锋（检查刃口锋利度）。
 - a. Cutting edge of knives isn't sharp. Please check the bevel setting of resharpening wheels is correct or not, and make sure cutting edge of knives was ground to sharp point.
- 2, 纸板湿度高，或分切纸板纸质差（还可能爆边）。
 - b. Moisture content of corrugated board is too high, or too soft of the corrugated board. Sometimes might cause burst edge.
- 3, 纸板张力不够。
 - c. Too low tension of corrugated board transferring.
- 4, 刀片切深过多（塌边）或切深不够（毛边）。
 - d. Too deep cut or not deep enough cut.

- d. Improper setting of slitting depth. Too deep makes for subside edge; too shallow makes for burr edge.
- 5, 纸板进给速度和刀片外圆线速度不匹配，刀片转速偏低。
- e. Rotary linear speed of knives is too low. Please check rotary linear speed of knives along with wear of knives.
- 6, 刀片有严重粘胶。（刀片沾胶的主要原因是涂覆胶未干，或油毛毡缺油）
- f. Too much starch glues are stuck on knives. Please check cleaning pads are lack of grease or not, or starch glues in corrugated board haven't set yet.

问题三：刀具碎裂

Topic 3: Breakage of knives

- 1, 如果是修刀时碎裂，多数是因为砂轮轴承损坏，砂轮摆动导致，不严重的砂轮摆动会导致刀片锯齿缺口。（停机时可用手旋转砂轮观察是否有摆动，并要求刀片与砂轮必须成套使用，同时更换，轴承损坏砂轮摆动是导致刀片碎裂的主要原因）。
 - a. If breakage happened during resharpening after slitting a period of time, mostly are caused by unstable resharpening wheels. Vibration of resharpening wheels might cause chipping or breakage of knives due to damaged bearings. Please stop the working of machine, and manually check the rotary of wheels is smooth or not. We recommend our users that resharpening wheels should be replaced whenever the knives are changed.
- 2, 如果新刀刚换上就碎裂，多数原因是刀片或砂轮装配不当，紧固不当。
 - b. If breakage happened right after new knives replaced, please check the fitting of knives to knife holders and resharpening wheels.
- 3, 分切阻力太大，（还会导致分切纸板走 S 形）高克重硬纸板需要更换加厚刀片提高刀片强度，或选择外圆更小的刀片。
 - c. Too much slitting resistance might cause curve "S" edge of corrugated boards, even break the knives. Please change to thicker knives or smaller out diameter knives for high dense corrugated board slitting.
- 4, 意外撞刀，或纸板抖动与刀片刃口严重挤压摩擦。
 - d. Accidental collision of knives while slitting scheduling; Or transferring of corrugated boards was vibrating and forced to knives.

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