

Title (en)  
WORKPIECE COOLING DURING GRINDING

Title (de)  
WERKSTÜCKKÜHLUNG BEIM SCHLEIFEN

Title (fr)  
REFROIDISSEMENT D'UNE PIECE A USINER PENDANT SON MEULAGE

Publication  
**EP 1608486 A1 20051228 (EN)**

Application  
**EP 03775529 A 20031111**

Priority  
• GB 0304885 W 20031111  
• GB 0307512 A 20030401  
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Abstract (en)  
[origin: WO2004087376A1] A method of cooling during grinding in which liquid nitrogen is applied to the contact region between a rotating grinding wheel and a workpiece especially glass workpieces for cooling same without marking or staining unground regions of the workpiece surface by contact with the coolant. The workpiece may be rotated during grinding and may have a flat or profiled surface to be ground. A grinding machine for performing the method comprises a machine bed, a workpiece holder, workpiece drive means for moving the workpiece holder and a workpiece carried thereon, a grinding wheel, a drive by which the grinding wheel is rotated, a wheelhead carrying the wheel and drive therefor, a slideway by which the wheelhead can move relative to the workpiece, wheelhead drive means for moving the wheelhead, a source of liquid nitrogen, valve means and pipeline means communicating between the source and a nozzle, drive means for positioning the nozzle relative to the wheel and workpiece, and a control system for controlling the operation of each of the drive means and the valve means to supply liquid nitrogen to the grinding region during grinding and to control the nozzle drive means during grinding so as to move the nozzle to direct liquid nitrogen towards the region of grinding contact between the wheel and workpiece. The control system also controls the operation of the further drive means to adjust the position of the nozzle during grinding so as to follow the movement of the wheel relative to the workpiece during the grinding.

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CPC (source: EP)  
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