

Title (en)
METHOD FOR THE PRODUCTION OF WEAR-RESISTANT EDGES FOR A KEYSTONE RING FOR INTERNAL COMBUSTION ENGINES

Title (de)
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Title (fr)
PROCEDE POUR CREER DES BORDS RESISTANT A L'USURE, DESTINES A UN SEGMENT TRAPEZOIDAL POUR MOTEUR A COMBUSTION INTERNE

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Abstract (en)
[origin: WO2005121609A1] The invention relates to a method for the production of wear-resistant edges for a keystone ring for internal combustion engines, by means of which the occurrence of ring edge damage during engine operation is essentially avoided, whereby a rectangular ring with inner and outer circumferential faces and an upper and lower edge is formed from a steel strip with a rectangular cross-section as starting material, characterised by the following process steps: parallel grinding of the ring edges and grinding of the outer circumferential faces to give the required profile and brushing of the inner circumferential face, grinding the upper and lower ring edge (3a, 4a) to form the keystone ring, such that the piston ring retains parallel faces (3b, 4b) as stacking faces, complete nitriding of the piston ring surface by means of a gas-nitriding process (GNS) to form a nitride layer, profiling of the nitrided piston ring by grinding and lapping without machining the nitrided edges of the piston ring, stacking the piston rings on the parallel faces thereof with axial tensioning to give a bundle and coating of the outer circumferential faces of the piston rings with a wearing layer by means of a PVD method and grinding the nitrided layer of the faces in the stacked state such that at most a quarter of the total thickness of the nitrided layer is removed.

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