Application of drag reducing riblets structures on compressor blades of axial turbo machines (Extension)

Initiative: Herstellung funktionaler Oberflächen (beendet)

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The efficiency of axial turbo machines can be improved by riblet structures on the compressor blades. A reduction of the pressure loss coefficient of 10% due to the use of riblets is achievable. The techniques used up to now were applying riblets foils or cutting and non-cutting techniques. In this project a new paint technology transfers the riblet structure to the surface of the blade, so that no alteration to the metallic structure nor to the geometry takes place. Since the blades of turbo machines are overhauled during their life circle, the riblet coating can be easily renewed. The paint application technique shows an attractive alternative to other processes: the riblet structure can be applied quickly and with unmatched precision. The streamline pattern on the blades can be incorporated, provided by the negative mould. A combination of a wear resistant coating and a drag reducing structure is feasible.

Projektbeteiligte

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Es werden die Institutionen genannt, an denen das Vorhaben durchgeführt wurde, und nicht die aktuelle Adresse.