

RibletSkin (Extension)

Initiative: Herstellung funktionaler Oberflächen (beendet)

Bewilligung: 15.01.2009

Laufzeit: 2 Jahre

Two innovative rolling processes for structuring surfaces of technical applications with riblets, which reduce the friction drag in turbulent flow, were developed in an iterative process between production technology and fluid dynamics. The first new rolling process allows to structure large-area aluminium sheets, as used for the surface of high speed trains or airplanes, while with the second rolling process fan and compressor blades of gas turbines made of high-strength titanium alloys can be structured directly. Additionally a strategy for the riblet distribution along surfaces with highly varying local flow states was developed. Objective of the project renewal is the further transfer of the basic concepts towards technical application. This includes the further improvement of the processes developed so far as well as the structuring of real components, which represents a big step towards technical application.

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