Title (en)

HOT GAS PATH SUBASSEMBLY OF A GAS TURBINE

Title (de)

HEISSGASPFAD-BAUGRUPPE EINER GASTURBINE

Title (fr)

SOUS-GROUPE DE PARCOURS DE GAZ CHAUDS DE TURBINE A GAZ

Publication

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Application

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Abstract (en)

[origin: WO03054360A1] The invention relates to a hot gas path subassembly, in particular that is suitable for use in the hot gas path of a gas turbine, comprising an impingement-cooled gas-impermeable element (8) and a transpiration-cooled gas-permeable element (2), which constitute a hot gas channel wall. The gas-permeable element constitutes in particular an impact covering for a sealing tip (7a) and the gas-impermeable element constitutes a blade foot (16) of a turbine blade. Coolant (4) is conducted in sequence, first through an impingement cooling element (17) in order to cool the gas-impermeable element (8) by impingement, then flows through the gas-permeable element in order to cool it by transpiration, before optionally cooling the sealing tip (7a). The coolant is thus used in a particularly effective manner. The subassembly is also provided with partitioning walls (24) for the lateral partitioning of the coolant path (9), in particular in the peripheral direction, said walls being arranged in segments (26). As a result of said partitioning, if the gas-permeable element in one segment is damaged, the other segments remain essentially unaffected. In a preferred embodiment, redundant coolant orifices (18) guarantee the coolant flow, even if the flow resistance increases in a transpiration-cooled element.

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