

Title (en)
HEAT EXCHANGER ELEMENT

Title (de)
WÄRMEAUSTAUSCHELEMENT

Title (fr)
ÉLÉMENT D'ÉCHANGE DE CHALEUR

Publication
EP 2623917 B1 20181212 (EN)

Application
EP 11829311 A 20110929

Priority
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• JP 2011072454 W 20110929

Abstract (en)
[origin: EP2623917A1] The present invention aims at providing a technique for inhibiting the breakage due to thermal stress while maintaining temperature efficiency and corrosion resistance. There is provided a heat exchanger element 1 having a cylindrical outer peripheral wall 3 and partition walls 7 which are made of ceramic containing SiC as a main component and separate and form a plurality of cells 5 functioning as passages for a first fluid inside the outer peripheral wall 3. More specifically, in the heat exchanger element 1, the outer peripheral wall 3 and the partition walls 7 mediate heat exchange between the first fluid and the second fluid, and the thickness T of the outer peripheral wall 3, the equivalent circle diameter D calculated from the area of the portion inside the outer peripheral wall 3 in a cross section perpendicular to an axial direction of the outer peripheral wall 3, and thickness t of the partition walls 7 satisfy the following formulae (1) to (3): Formula (1): $0.3 \text{ mm} \leq T \leq 4.0 \text{ mm}$, Formula (2): $15 \text{ mm} \leq D \leq 120 \text{ mm}$, and Formula (3): $0.04 \times T \leq t \leq 0.6 \text{ mm}$.

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