

## Title (en)

Heat exchanger and process for the watertight fixation of heat exchange elements to an end plate.

## Title (de)

Wärmeaustauscher und Verfahren zur flüssigkeitsdichten Befestigung einer Bodenplatte an einem Wärmeaustauschernetz.

## Title (fr)

Echangeur de chaleur et procédé pour la fixation étanche des éléments d'échange dans une plaque d'extrémité.

## Publication

**EP 0387678 B1 19931124 (DE)**

## Application

**EP 90104324 A 19900307**

## Priority

DE 3908266 A 19890314

## Abstract (en)

[origin: EP0387678A1] The invention relates to a heat exchanger comprising a heat exchanger grid having a multiplicity of oval tubes (3), and a baseplate attached to said grid by widening the tubes (3). The ratio of the diameters of the tubes (3) is 2.5 : 1 to 8 : 1 inside the heat exchanger grid, and 1.2 : 1 to 3 : 1 inside the perforations of the baseplate. A process for fixing such heat exchanger grids to a baseplate is also described. This process is characterised in that before being widened the tube ends are deformed from outside by applying pressure with the aid of a special pressure tool (15, 15a,b), with the result that their cross-sections are reduced parallel to the maximum diameter but increased, by contrast, parallel to the minimum diameter. <IMAGE>

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## Citation (examination)

- DE 3505492 A1 19860821 - THERMAL WAERME KAELTE KLIMA [DE]
- US 4739828 A 19880426 - BAYER JUERGEN [DE], et al

## Cited by

DE10123675B4; FR2728332A1; DE102017216639A1; FR2794852A1; US5901784A; US6044554A; DE19836015A1; DE19836015C2; FR2906355A1; EP1941955A4; DE10123675A1; FR2825458A1; EP0514249A1; FR2676534A1; US5214848A; DE4445590C2; FR2702042A1; US5490560A; DE4316020C1; DE4311892A1; CN109520348A; EP0772019A1; FR2782157A1; WO2007049526A1; EP0565813B1

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## DOCDB simple family (application)

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