

Title (en)  
TUBE BUNDLE HEAT EXCHANGER

Title (de)  
ROHRBÜNDELWÄRMETAUSCHER

Title (fr)  
ÉCHANGEUR DE CHALEUR À FAISCEAU TUBULAIRE

Publication  
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Application  
**EP 21798942 A 20211021**

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Abstract (en)  
[origin: WO2022106045A1] The invention relates to a tube bundle heat exchanger (1) having a tube sheet (3), which together define an interior (4) of the tube bundle heat exchanger (1). The tube bundle heat exchanger comprises a tube bundle having a plurality of heat exchanger tubes (5) which are located in the interior (4) and through which a first fluid flows, which tubes are optionally supported by additional support plates (6). The heat exchanger tubes (5) have helically circumferential integral ribs (51) formed on the outside of the tube, which ribs have a rib foot, rib flanks and a rib tip, and a channel having a channel bottom is formed between the ribs (51). The tube sheet (3) has recesses as passage points, each recess having an inner surface. The outer ribbings (51) of the heat exchanger tubes (5) at least project into the recesses of the tube sheet (3), as a result of which a joining gap is formed in each case between the inner surface of the recess and the outer ribbing (51) of a heat exchanger tube (5) that is located within the recess. The heat exchanger tubes (5) are integrally bonded to the tube sheet (3) by means of joining material and taking into account the outer ribbing (51), which integral bond is only formed in a first portion of the recess that extends from the end face of a heat exchanger tube (5) in the axial direction by this first portion of the joining gap being filled with joining material, such that a second portion of the recess remains in which the joining gap is not filled with joining material, the heat exchanger tube (5) further having an outer ribbing (51) on the outside of the tube in the region of the second portion.

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