CLAIMS

1. A device (13) for exchange of heat and/or mass transfer between fluid flows, comprising a plurality of sheets (1; 1'), wherein each sheet ~~A sheet (1; 1') for exchange of heat and/or mass transfer between fluid flows, which sheet~~ (1; 1') is provided with corrugations defining open channels (3, 5), wherein every other open channel (3) is a corrugated open channel (3), wherein a cross-section of every corrugated open channel (3) has two channel end points (3a, 3b), and two peaks (3c, 3d) and a valley floor (3e) between the two channel end points (3a, 3b),

wherein the two channel end points (3a, 3b) of a corrugated open channel (3) define the mouth of that corrugated open channel (3), wherein the remaining open channels that are intermediate each pair of corrugated open channel (3) are intermediate open channels (5), wherein corrugated open channels (3) and intermediate open channels (5) have mouths in opposite directions.

wherein the sheets (1; 1') are stacked such that open channels (3) of each pair of adjacent sheets (1; 1') define fluid flow channels (11), and wherein the device comprises fluid inlets (7) and fluid outlets (9), wherein each fluid inlet (7) is arranged to direct fluid into the fluid flow channels (11) of two adjacent sheets (1) and each fluid outlet (9) is arranged to direct fluid out from the fluid flow channels (11) of two adjacent sheets (1), each fluid inlet (7) and each fluid outlet (9) serving only one layer of fluid flow channels.

2. The ~~sheet (1; 1')~~device (13) as claimed in claim 1, wherein the two peaks (3c, 3d) are located at a first distance (d1) from a straight line (L) extending between the channel end points (3a, 3b) and the valley floor (3e) is located at a second distance (d2) from the straight line (L).

3. The ~~sheet (1; 1')~~device (13) as claimed in claim 1 or 2, wherein the valley floor (3e) is arranged between the two peaks (3c, 3d).

4. The ~~sheet (1; 1')~~device (13) as claimed in any of the preceding claims, wherein the cross-sectional shape of that section (3g, 3i) which connects the two peaks (3a, 3b) is congruent with the cross-sectional shape of any of the open channels (5) which are arranged between said every other open channel (3).

5. The ~~sheet (1; 1')~~device (13) as claimed in any of the preceding claims, wherein the entire section (3f) connecting a first of the channel end points (3a) with a first of the peaks (3c) is parallel with the entire section (3h) connecting the valley floor (3e) with a second of the peaks (3d).

6. The ~~sheet (1; 1')~~device (13) as claimed in any of the preceding claims, wherein the entire section (3g) connecting a second of the channel end points (3b) and the second of the peaks (3d) is parallel with the entire section (3i) connecting the valley floor (3e) with the first of the peaks (3c).

7. The ~~sheet (1; 1')~~device (13) as claimed in any of the preceding claims, wherein each of said every other channel (3) has an essentially M-shaped cross-section.

8. The ~~sheet (1; 1')~~device (13) as claimed in any of the preceding claims, wherein the sheet (1; 1') is a heat exchanger sheet.

~~9. A device (13) for exchange of heat and/or mass transfer between fluid flows, comprising a plurality of sheets (1; 1') as claimed in any of claims 1-11, which plurality of sheets (1; 1') are stacked such that the open channels (3) of each pair of adjacent sheets (1; 1') define fluid flow channels (11).~~

~~10.~~9. The device (13) as claimed in ~~claim 9~~any of the preceding claims, wherein the channel end points (3a, 3b) of a sheet (1; 1') engage a respective valley floor (3e) of an adjacent sheet (1; 1').

~~11.~~10. The device (13) as claimed in ~~claim 9 or 10~~any of the preceding claims, ~~comprising fluid inlets (7) and fluid outlets (9), wherein each fluid inlet (7) is arranged to direct fluid into fluid flow channels (11) of two adjacent sheets (1) and each fluid outlet (9) is arranged to direct fluid out~~

~~from fluid flow channels (11) of two adjacent sheets (1),~~ wherein each fluid inlet (7) and fluid outlet (9) has a tapering shape.

~~12.~~11. The device (13) as claimed in claim 1~~0~~1, wherein each fluid inlet (7) has an inlet mouth (7a) parallel to the longitudinal extension of the fluid flow channels (11), wherein each inlet mouth (7a) is arranged in level with a lateral end of a sheet (1; 1'), wherein each fluid inlet (7) extends from said lateral end towards the other lateral end of the sheet (1; 1'), and wherein each fluid inlet (7) is tapering from the said lateral end to the other lateral end towards channel inlet mouths (1a) of fluid flow channels (11).

~~13.~~12. The device (13) as claimed in claim 1~~0~~1 or 11~~2~~, wherein each fluid outlet (9) has an outlet mouth (9a) parallel to the longitudinal extension of the fluid flow channels (11), wherein each outlet mouth (9a) is arranged in level with a lateral end of a sheet (1; 1'), wherein each fluid outlet (9) extends from said lateral end towards the other lateral end of the sheet (1; 1'), and wherein each fluid outlet (9) is tapering from said lateral end to the other lateral end towards channel outlet mouths (1b) of the fluid flow channels (11).

~~14.~~13. A method of manufacturing a sheet (1; 1') for exchange of heat and/or mass transfer between fluid flows, wherein the method comprises:

a) providing a sheet blank (15),

b) corrugating the sheet blank (15) to form open channels (3, 5) such that every other channel (3) has a cross-section with two channel end points(3a, 3b), and two peaks (3c, 3d) and a valley floor (3e) between the two channel end points (3a, 3b),

wherein the two channel end points (3a, 3b) of a corrugated open channel (3) define the mouth of that corrugated open channel (3), wherein the remaining open channels that are intermediate each pair of corrugated open channel (3) are intermediate open channels (5), wherein corrugated open channels (3) and intermediate open channels (5) have mouths in opposite directions.

~~15.~~14. The method as claimed in claim 14, wherein step a) of corrugating is performed by 1) thermoforming or 2) by folding along fold lines (17, 19).