

Title (en)
HEAT-INSULATED COMPOSITE PROFILED SECTION

Title (de)
WÄRMEGEDÄMMTES VERBUNDPROFIL

Title (fr)
PROFILE COMPOSITE UTILISE COMME ISOLANT THERMIQUE

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Application
EP 96937182 A 19960905

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• DE 9601652 W 19960905
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Abstract (en)
[origin: WO9709504A1] The invention concerns a heat-insulated composite profiled section comprising an insulation web (6) having two substantially parallel delimiting walls (6.1, 6.2) which form a cavity therebetween. The delimiting walls (6.1, 6.2) can be interconnected by at least one transverse web (10). From an initial wall thickness $s = 0.5$ mm and a heat conductivity $\lambda = 0.35$ W/mK of the delimiting walls (6.1, 6.2), the width (D) of the insulation web is set at 20 mm in order to achieve thermal insulation of the insulation web in the range of from $0.15 \text{ m}^2\text{K/W}$ to $0.30 \text{ m}^2\text{K/W}$, 30 mm for thermal insulation in the range of from $0.25 \text{ m}^2\text{K/W}$ to $0.50 \text{ m}^2\text{K/W}$, 40 mm for thermal insulation in the range of from $0.35 \text{ m}^2\text{K/W}$ to $0.65 \text{ m}^2\text{K/W}$, and 50 mm for thermal insulation in the range of from $0.40 \text{ m}^2\text{K/W}$ to $0.80 \text{ m}^2\text{K/W}$. Therefore, the width (d) of the cavity or hollow chamber is less than or equal to the width (D) of the insulation web and greater than or equal to one third of the width (D) of the insulation web, provided the height of the cavity or hollow chamber (11) is less than or equal to 5 mm. If the height of the cavity or hollow chamber is between 5 mm and 20 mm and at least one transverse web (10) is present, the ratio of height (h) to width (d) is greater than or equal to 0.2 and less than or equal to 5. For a variation in the wall thickness (s) of between 0.25 mm and 1.0 mm, a dependency of the thermal insulation on the wall thickness (s) according to the relation: $R(s) = R(s=0.25 \text{ mm}) + (s - 0.25)/0.25 \cdot \Delta R$, with the value of ΔR ranging from 0.025 to 0.05, has to be taken into account. Increasing the heat conductivity of the delimiting walls (6.1, 6.2) by 10 % in the range of from 0.15 W/mK to 0.40 W/mK reduces the thermal insulation by between 2 and 4 %, which is to be taken into account accordingly for the dimensions initially selected.

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