

Title (en)
Insulating glass panes

Title (de)
Isolierglasscheibe

Title (fr)
Disque en verre isolant

Publication
EP 2378045 A3 20121128 (DE)

Application
EP 11003120 A 20110413

Priority
DE 202010005075 U 20100416

Abstract (en)

[origin: EP2378045A2] The insulating glass pane (1) comprises two individual glass panes (101, 102), a spacing frame (6) arranged between the glass panes, and a bar grid (2) arranged in the interior area of the insulating glass pane and holding at the spacing frame by mounting elements. The bar grid consists of plastic- or metal hollow profile rungs (3), whose hollow cross section has two external foot paths connected parallel to each other. The mounting elements are attached in use position directly at the inside of the respective hollow profile rungs and have reception geometry suitable to the mounting element. The insulating glass pane (1) comprises two individual glass panes (101, 102), a spacing frame (6) arranged between the glass panes, and a bar grid (2) arranged in the interior area of the insulating glass pane and holding at the spacing frame by mounting elements. The bar grid consists of plastic- or metal hollow profile rungs (3), whose hollow cross section has two external foot paths connected parallel to each other. The mounting elements are attached in use position directly at the inside of the respective hollow profile rungs and have a reception geometry suitable to the mounting elements. The reception geometry has a material-free cross-section in the interior of the hollow profile rungs. The mounting element is a screw, which has interference against the material-free cross-section of the reception geometry and interferes with its thread in mounting position areawisely in the material of the reception geometry. The small dimension of the material-free cross section is smaller than the external diameter of the screw thread and is same or larger than the diameter of the thread base. The end of the hollow profile rungs turned to the spacing frame is thread-less before mounting and the mounting element is a self-cutting screw. The reception geometry is arranged to the mounting element centrally in hollow cross-section of the end of the hollow profile rungs turned to the spacing frame. The screw is notched in use position in the external foot path forming the hollow profile rungs. The reception geometry of the hollow profile rungs has a projection or web projecting in gripping area of the mounting element. The reception geometry is a single-piece interior profile connected with the hollow profile rungs and passing in its extending direction. The internal profile connects the external footpath of the hollow profile rungs. The internal profile has flexible projections or webs in material-free cross-section, where the mounting element or thread of the screw interferes in the projections or webs. The material-free cross-section of the interior profile is circular, diamond-shaped, rectangular, quadratic or C-shaped. The interior profile is formed by paths directed with its cross-section transversely or diagonally to the centre of the cross-section area of the hollow profile rungs, where the paths have a distance to each other and proceed itself in longitudinal direction in interior of the hollow profile rungs. The distance of the cross-section of the path opposite itself in the diagonals in the interfering area of the screw is smaller than the external diameter of the screw thread and larger than the diameter of the thread base. The interior profile is formed in the interior of the hollow profile rungs from two angle- or crescent-shaped interior profile oriented in the direction to the center of the cross-sectional area of the hollow profile rungs, on both external paths of the hollow profile rungs arranged parallel to the glass plate oppositively lying in the use position, where the interior profile proceeds in the extending direction of the hollow profile rungs. The screw has a thread outer diameter of 2.5-3 mm.

IPC 8 full level
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CPC (source: EP)
E06B 3/6604 (2013.01); **E06B 3/6675** (2013.01)

Citation (search report)

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- [Y] GB 2273309 A 19940615 - HUNTER DOUGLAS IND BV [NL]
- [A] US 5351459 A 19941004 - KASSL ROBERT A [US], et al
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