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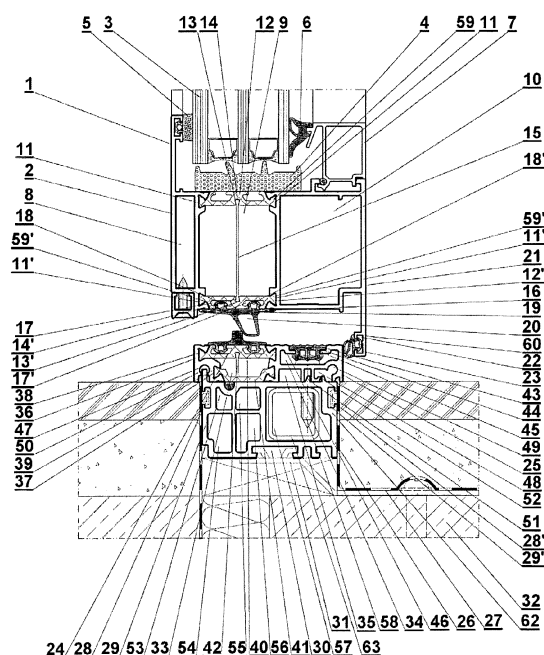
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(54) **Structural insulating joint of bottom door leaf and door sill connection**

(57) The subject of the invention is the insulating joint of bottom door leaf and door sill connection, the role of which is to ensure high thermal insulation level and wind and rain tightness of the bottom leaf door and the door sill connection. The insulating joint of bottom door leaf (1) and door sill (25) connection is comprised of a door leaf (1) made up of a shaped, dimensional, compound profile (2), the top part of which holds the glazed panel (3) secured with a thermal insulating insert (4) at the bottom and sealed on one side of the panel with an external pane gasket and with an internal pane gasket (6) and a glazing strip on the other side (7). The bottom part of the shaped dimensional compound profile (2) is divided into three enclosed chambers (8), (9), (10), the middle of which (9) has a rectangle outline and trapezoid sockets (11), (11') used for the fixed foundation of the trapezoid endings (59), (59') of the profile spacers (12), (12'). The middle part of which contains trapezoid notches (13), (13') for separate foundation of the trapezoid ends (14), (14') of the thermal barrier (15). The outer part (16) of the profile spacer (12') has two rhombus-sectioned notches (17) and (17') for the separate foundation of the trapezoid protrusions (18), and (18') of the upper sill gasket (19), equipped with a deformable chamber (20). The closed deformable chamber (20) adjoins the bottom sill gasket (24) of the sill (25) separately connected to the mounting profile (26) covered with insulating foil (27), the profile trapezoid protrusions of which (28), (28') are placed in the T-shaped sockets (29), (29') of the (26) mounting profile which is equipped in the lower part with a T-sectioned socket (30) for the (31) anchor mounted separately in the (32) base. The (25) sill is divided into shaped chambers (33), (34), (35), while the chamber (33)

equipped with trapezoid sockets (36), (37) is a basis for the trapezoid protrusions (38), (39) of the (40), (41) spacers between which a thermal barrier (42) has been placed, while in the chamber (34) located over the chamber (35) a cover (43) with a corrugated internal surface (44) is separately founded and equipped with a groove (45) for the (46) ending of the upper chamber (34).



Description

[0001] The subject of the invention is the structural insulating joint of bottom door leaf and door sill connection, the task of which is to ensure high thermal insulation and wind and rainwater tightness of the bottom leaf door and the door sill connection.

[0002] The known constructional solutions of door joinery made of aluminum profiles or plastic do not ensure high thermal insulation and tightness against wind as well as cause difficulties in case of replacement of wearing elements, especially the sill gaskets, the replacement of which is impossible without laborious disassembly and assembly of these elements.

[0003] The structural insulating joint of bottom door leaf and door sill connection consisting of a door leaf made up of a shaped, dimensional, compound profile, the top part of which holds the glazed panel secured with a thermal insulating insert at the bottom and sealed on one side of the panel with an external pane gasket and with an internal pane gasket and a glazing strip on the other side, according to the invention is characterized by the fact that the bottom part of the shaped dimensional compound profile is divided into three enclosed chambers, the middle of which has a rectangle outline and trapezoid sockets used for the fixed foundation of the trapezoid endings of the profile spacers, the middle part of which contains trapezoid notches for separable foundation of the trapezoid ends of the thermal barrier, while the outer part of the profile spacer has two rhombus-sectioned notches for the separate foundation of the trapezoid protrusions of the upper sill gasket equipped with a closed deformable chamber while the extreme internal part of the door profile has a wall ending with a rectangle socket for the foundation of the closing strip while the closed deformable chamber adjoins the bottom sill gasket of the sill separably connected to the mounting profile covered with insulating foil, the profile trapezoid protrusions of which are placed in the T-shaped sockets of the mounting profile which is equipped in the lower part with a T-sectioned socket for the anchor mounted separably in the base while the sill is divided into shaped chambers, while the chamber equipped with trapezoid sockets is a basis for the trapezoid protrusions of the spacers between which a thermal barrier has been placed, while in the chamber located over the chamber a cover with a corrugated internal surface is separably founded and equipped with a groove for the ending of the upper chamber while in the sockets of the sill protrusions of the mounting profile, with a series of internal closed chambers separated by thin walls, while in the chamber there is a reinforcing square-section profile and the pin of the mounting bolt.

[0004] The advantage of the structural insulating joint of bottom door leaf and door sill connection solution is the possibility of quick disassembly and assembly of the construction elements, especially the replacement of used or damaged sill gaskets during normal exploitation

of the door.

[0005] The subject of the invention has been presented in a drawing as a longitudinal section through the bottom part of the door leaf, sill and the mounting profile,

[0006] As the drawing indicates, the insulating joint of bottom door leaf 1 and door sill 25 connection is made up of a shaped, dimensional, compound profile 2, the top part of which holds the glazed panel 3 secured with a thermal insulating insert 4 at the bottom and sealed on one side of the panel 3 with an external pane gasket 5 and with an internal pane gasket 6 and a glazing strip on the other side 7. The bottom part of the shaped dimensional compound profile 2 is divided into three enclosed chambers 8, 9, 10, the middle of which 9 has a rectangle outline and trapezoid sockets 11, 11' used for the fixed foundation of the trapezoid endings 59, 59' of the profile spacers 12, 12'. The middle part of the profile spacers 12, 12' contains trapezoid notches 13, 13' for separable foundation of the trapezoid ends 14, 14' of the thermal barrier 15. The outer part 16 of the profile spacer 12' has two rhombus-sectioned notches 17 and 17' for the separable foundation of the trapezoid protrusions 18, and 18' of the upper sill gasket 19, equipped with a deformable chamber 20. The extreme internal part 21 of the door profile 2 has a wall 60 ending with a rectangle socket 22 for the foundation of the closing strip 23. The closed deformable chamber 20 adjoins the bottom sill gasket 24 of the sill 25 separably connected to the mounting profile 26 covered with insulating foil 27, the profile trapezoid protrusions of which 28, 28' are placed in the T-shaped sockets 29, 29' of the 26 mounting profile which is equipped in the lower part with a T-sectioned socket 30 for the 31 anchor mounted separably in the 32 base. The 25 sill is divided into shaped chambers 33, 34, 35, while the chamber 33 equipped with trapezoid sockets 36, 37 is a basis for the trapezoid protrusions 38, 39 of the 40, 41 spacers between which a thermal barrier 42 has been placed. In the chamber 34 located over the chamber 35 a cover 43 with a corrugated internal surface 44 is separably founded and equipped with a groove 45 for the 46 ending of the upper chamber (34). In the sockets 47, 48, 49 of the sill 25 protrusions 50, 51, 52 of the mounting profile 26, with a series of internal closed chambers 53, 54, 55, 56, 57 separated by thin walls 62, while in the chamber 57 there is a reinforcing square-sectioned profile 63 and the pin of the mounting bolt 58.

Claims

1. Structural insulating joint of bottom door leaf and door sill connection consisting of a door leaf made up of a shaped, dimensional, compound profile, the top part of which holds the glazed panel secured with a thermal insulating insert at the bottom and sealed on one side of the panel with an external pane gasket and with an internal pane gasket and a glazing strip on the other side, **characterized by** the fact that the

bottom part of the shaped dimensional compound
 profile (2) is divided into three enclosed chambers
 (8), (9), (10), the middle of which (9) has a rectangle
 outline and trapezoid sockets (11), (11') used for the
 fixed foundation of the trapezoid endings (59), (59')
 of the profile spacers (12), (12'), the middle part of
 which contains trapezoid notches (13), (13') for sep-
 arate foundation of the trapezoid ends (14), (14') of
 the thermal barrier (15), while the outer part (16) of
 the profile spacer (12') has two rhombus-sectioned
 notches (17) and (17') for the separate foundation
 of the trapezoid protrusions (18), and (18') of the
 upper sill gasket (19), equipped with a closed de-
 formable chamber (20), while the extreme internal
 part (21) of the door profile (2) has a wall (60) ending
 with a rectangle socket (22) for the foundation of the
 closing strip (23) while the closed deformable cham-
 ber (20) adjoins the bottom sill gasket (24) of the sill
 (25) separately connected to the mounting profile
 (26) covered with insulating foil (27), the profile trap-
 ezoid protrusions of which (28), (28') are placed in
 the T-shaped sockets (29), (29') of the (26) mounting
 profile which is equipped in the lower part with a T-
 sectioned socket (30) for the (31) anchor mounted
 separately in the (32) base while the (25) sill is di-
 vided into shaped chambers (33), (34), (35), while
 the chamber (33) equipped with trapezoid sockets
 (36), (37) is a basis for the trapezoid protrusions (38),
 (39) of the (40), (41) spacers between which a ther-
 mal barrier (42) has been placed, while in the cham-
 ber (34) located over the chamber (35) a cover (43)
 with a corrugated internal surface (44) is separately
 founded and equipped with a groove (45) for the (46)
 ending of the upper chamber (34), while in the sock-
 ets (47), (48), (49) of the sill (25) protrusions (50),
 (51), (52) of the mounting profile (26), with a series
 of internal closed chambers (53), (54), (55), (56), (57)
 separated by thin walls (62), while in the chamber
 (57) there is a reinforcing square-section profile (63)
 and the pin of the mounting bolt (58).

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