

Claims.

1.- Curtain wall of the modular type, constructed from
5 prefabricated connecting wall elements (2) mounted in rows
next to and above each other, characterized in that the
wall elements (2) consist of a basic frame (3) or so-called
module of supporting mullions (9) and transoms (10)
10 defining one or more open compartments which are filled
using a fixed infill element (6) that is attached directly
onto the basic frame (3) or using a wing with an infill
element (6) attached on a wing frame (3'') that is attached
in a rebate (40) of the basic frame (3), whereby the infill
elements (6) are all aligned and whereby the mullions (9)
15 of the basic frames (3) are formed from one-piece profiles
with an internal chamber (23b) bounded by an outside wall
(19) and a side wall (20) of the mullion (9), whereby in
the case of a compartment (3a) of a fixed infill element
(6) the infill element (6) is attached directly against the
20 outside wall (19) of the mullions (6) and whereby in the
case of a compartment (3a) of a wing the rebate (40) in the
mullions (9) is formed by the fact that the outside wall
(19) and the side wall (20) of the internal chamber (23b)
of the mullions (9) of the basic frame (3) is removed
25 locally at the level of the compartment (3a).

2.- Curtain wall according to claim 1, characterized in
that the basic frames (3) are constructed with transoms
(10) in the form of one-piece profiles which, for the
30 compartments (3a) with a wing, are equipped during their
fabrication with a rebate (40) or which are obtained from

one-piece profiles with an internal chamber (23b) such as those of the mullions (6), whereby the outside wall (19) and the side wall (20) of the internal chamber (23b) are removed across the entire length of the transom (10a,10b) forming a rebate (40).

3.- Curtain wall according to one of the previous claims, characterized in that the mullions (9) and transoms (10) have perpendicular ends, whereby the transoms (10) with their perpendicular ends are attached between the mullions (9).

4.- Curtain wall according to one of the previous claims, characterized in that the mullions (9) and transoms (10) along the perimeter of the frames (3) are fitted with female coupling parts (12) and with complementary male coupling parts (13) with which adjacent frames (3) can fit into each other.

5.- Curtain wall according to claim 4, characterized in that the profiles of the mullions (9) and transoms (10) are such that the female and male coupling parts (12-13) are found beyond the perimeter of the internal chamber (23b), so that these coupling parts (12-13) remain after removal of the outside wall (19) and side wall (20) to create a rebate (40).

6.- Curtain wall according to one of the previous claims 4, characterized in that in the case of a compartment (3a) with a fixed infill element (6), this fixed infill element

(6) is attached against the outside wall (19) of the transoms and mullions using slats (27) which are stuck to the inside of the infill element (6) using structural silicone (28).

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7.- Curtain wall according to one of the previous claims, characterized in that in the case of a compartment (3a) with a wing, the infill element (6) on the wing frame (3'') is attached using slats (27) which are stuck against the inside of the infill element (6) using structural silicone (28) and that when seen from the outside (7) of the curtain wall (1) the compartment (3a) of this wing frame (3'') is entirely or almost entirely covered by the infill element (6).

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8.- Curtain wall according to claim 5, characterized in that an internal chamber (23b) is bound by a partition (21) and an adjoining connecting wall (24) which respectively connect to the aforementioned side wall (20) and outside wall (19) of the internal side chamber (23b).

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9.- Curtain wall according to claim 8, characterized in that the rebate (40) is formed by the aforementioned partition (21) after removal of the side wall (20) up to the partition (21) to form a first stop for the wing frame (3'') and by the connecting wall (24) after partially removing this connecting wall (24) up to a protrusion (26) fitted on this connecting wall (24) to create a second stop for this wing frame (3'').

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10.- Curtain wall according to claim 9, characterized in that at the site of the aforementioned stops a seal (38,39) is fitted against which the wing frame (3'') can be drawn.

5 11.- Curtain wall according to one of the previous claims, characterized in that the wing frame (3'') is formed by predominantly L-shaped profiles (41) which are attached with a first leg (41a) along the edges of the infill element (6) against the inside of this infill element (6)
10 and with the second leg (41b) at a distance from these edges.

12.- Curtain wall according to claim 11, characterized in that, in an assembled condition, the wing frame (3'') rests
15 on the protrusion (26) with its first leg (41a) with the intervening seal (39), acting as a stop for the remaining part of the connecting wall (24) of the fixed part frame (3') and rests with the free edge of its second leg (41b) with the intervening seal (38) on the partition (21) that
20 acts as a stop.

13- Curtain wall according to one of the previous claims, characterized in that the wall elements (2) are fitted around their perimeter with insulation profiles (30) which
25 are attached to the basic frame (3) and overlap towards the outside reaching over the edges of the infill elements (6).

14.- Curtain wall according to claim 13 characterized in that, in the case of a compartment with a wing, the
30 insulation profiles (30) are attached to this wing frame (3'').

15.- Curtain wall according to claim 13 or 14,
characterized in that the insulation profiles (30) are
sealed against the infill elements (6) using a silicone or
5 other sealing kit.

16.- Curtain wall according to one of the claims 13 to 15,
characterized in that the insulation profiles (30) are
fitted along their outside perimeter with a first level of
10 seals (36) at a fixed distance from the outside of the wall
elements (2) which ensure a seal against adjoining wall
elements (2) and with a seal with the underlying horizontal
seal (34).

15 17.- Curtain wall according to claim 16, characterized in
that a second level of seals (37) is fitted on the basic
frame (3) of the wall elements (2) at a greater distance
from the outside of the wall elements (2) which ensure a
seal against adjoining wall elements (2).

20 18.- Curtain wall according to claim 17, characterized in
that, in the case of a wing, the second level of seals (37)
is attached in line with the rebate (40) of the basic frame
(3").

25 19.- Curtain wall according to claim number one of the
previous claims, characterized in that, in the case of a
wall element with a compartment (3a) with a wing, the
rebate (40))in the corners where the ends of the transom
30 profiles (10) connect to the mullion profiles (9) is sealed
using an external corner piece (44) that is attached in a

way that overlaps in the rebate (40) of the transom profiles (10) and that lies with a side edge (44e) touching the connecting mullion profile (9) and is fitted with a lip (44d) that touches a connecting wall (24) of an adjoining
5 internal chamber (23b) and is fitted with an extended part (44d') that extends to seal up to the rebate (40) of the connecting mullion profile (10).

20.- Curtain wall according to one of the previous claims,
10 characterized in that, in the case that the wing is one that opens, the wing frame (3'') of this wing in the rebate (40) of the basic frame (3) is attached using window hardware (42).

15 21.- Curtain wall according to one of the claims 1 to 19, characterized in that, in the case that the wing is a wing of a replacement infill element that is attached to a wing frame (3''), the wing frame (3'') of the replacing element in the rebate (40) of the basic frame (3) is attached to this
20 wing frame (3'') using clip connections (50a) which are compatible with complementary clip connections (50b) in the rebate (40).

22.- Curtain wall according to claim 21, characterized in
25 that reinforcement lugs (51a) are featured on the lowest transom (10'') of the wing frame part (3'') of the replacement infill element, with which the wing frame (3'') rests on complementary reinforcement lugs (51b) in the rebate (40) of the relevant compartment (3a) of the basic
30 frame (3).

23.- Method for the replacement of a fixed infill element (6) of a wall element (2) in a curtain wall (1) according to one of the previous claims, characterized in that the method consists of the following steps:

- 5 - the provision of a replacement infill element on a frame in the form of an aforementioned wing frame (3");
- the clamping of the infill element for replacement (6) from the inside to prevent it from falling out, for example using suction cups attached to the inside of the building;
- 10 - the loosening of the infill element for replacement (6) from the inside by grinding or suchlike along the perimeter of the infill element (6), the outside wall (19), side wall (20) and the connecting wall (24) of the side chamber (23b) of the fixed frame (3) to which the infill element (6) is
- 15 attached in such a way that a rebate (40) is formed in the remaining part of the fixed basic frame (3);
- the removal of the loosened infill element (6) with the loosened part of the fixed basic frame 3 from the inside;
- the application of the replacement infill element with
- 20 its wing frame (3") in the rebate (40) of the basic frame (3) from the inside;
- the attachment of the replacement infill element (6) with its wing frame (3").

- 25 24.- Method according to claim 23, characterized in that the wing frame (3") of the replacement infill element on the lowest transom (10") and on the mullions (9") is fitted with clip connections (50a) and the lowest transom (10") is fitted with a reinforcement lug (51a) and that, before the
- 30 replacement infill element is fitted in the curtain wall (1), complementary clip connections (50b) and

reinforcement lugs (51b) are attached in the formed rebate (40)) which can cooperate with the clip connection (50a) and the reinforcement lugs (51a) on the wing frame (3'') of the replacement infill element for the attachment of the replacement infill element in the curtain wall (1).

25.- Method according to claim 24, characterized in that for the attachment from the inside of the replacement infill element with its wing frame (3'') in the rebate (40) of the basic frame (3) this is brought outside in its entirety and placed on the reinforcement lugs (51b) in the rebate in order for the wing frame (3'') to then be tipped towards the inside with a pulling movement onto the reinforcement lugs (51b) until the clip connections (50a, 50b) hook into each other.

26.- Method according to one of the claims 24 or 25, characterized in that before the replacement infill element is mounted, seals are provided to seal the wing frame (3'') in the rebate (40).

27.- Method according to one of the claims 24 to 26, characterized in that before the replacement infill element is mounted, corner pieces (44) are attached in the corners of the rebate (40) according to claim 17.