CLAIMS

What is claimed is:

1. A pre-assembled wall panel comprising:

a panel frame including a perimeter member defining a perimeter side of the panel frame;

first and second wall boards attached to opposite sides of the panel frame to define first and second major sides of the wall panel, each of the first and second wall boards comprising non-combustible material; and

a waterproofing assembly enclosing the perimeter side of the panel frame and extending along a full length of the perimeter side, wherein the waterproofing assembly includes a non-metallic elongate member comprising first and second opposing flanges disposed against respective exterior surfaces of the first and second wall boards, and wherein the first and second opposing flanges are attached to the perimeter member.

2. The building of claim 1, wherein the waterproofing assembly comprises an elongate member formed of a fiber reinforced plastic (FRP).

3. The wall panel of claim 1, wherein the waterproofing assembly is a first waterproofing assembly extending along a first perimeter side of the panel frame, the wall panel further comprising a second waterproofing assembly proximate a second opposite perimeter side of the panel frame.

4. The wall panel of claim 3, wherein at least one of the first elongate member and the second elongate member is an FRP pultrusion and wherein the sealing member is formed of a resilient material.

5. The wall panel of claim 1, wherein the waterproofing assembly includes an aperture connected to a duct attached to the wall panel.

6. The wall panel of claim 1, wherein the waterproofing assembly includes an elongate member comprising a wall separating an interior of the elongate member

into at least a first cavity and a second cavity, each of the cavities connected to a respective duct provided on respective sides of the wall panel.

7. The wall panel of claim 1, wherein the waterproofing assembly is formed of two elongate members positioned on opposite sides of the wall panel and abutting one another, each of two elongate members fluidly connected to a duct attached to the wall panel.

8. A multi-story building comprising:

a structural frame including a first horizontal beam associated with a lower story of the building and a second horizontal beam associated with an upper story of the building; and

a pre-assembled wall panel attached to the structural frame between the first and second horizontal beams, wherein the wall panel comprises a panel frame and wall boards attached to opposite sides of the panel frame, and wherein the wall panel further comprises a non-metallic waterproofing assembly extending along a vertical perimeter side of the panel frame, the waterproofing assembly enclosing the vertical perimeter side and a vertical edge of each of the wall boards.

9. The building of claim 8, wherein the waterproofing assembly comprises an elongate member formed of a fiber reinforced plastic (FRP).

10. The building of claim 9, wherein the elongate member is a FRP pultrusion.

11. The building of claim 9, wherein the waterproofing assembly further comprises thermally insulative material along internal cavity walls of the elongate member.

12. The building of claim 8, wherein the waterproofing assembly is configured to engage a gasket formed of a resilient material.

13. The building of claim 12, wherein the waterproofing assembly comprises a first FRP component defining a cavity and a second FRP component received, at least partially within the cavity, the second FRP component configured to interlock with the gasket.

14. The building of claim 8, further comprising a second pre-assembled wall panel disposed over the second horizontal beam and spanning the full height of the upper story and a full length of an upper story unit of the building, the second pre-assembled wall panel comprising at least one non-metallic waterproofing assembly spanning a length or a height of the wall panel.

15. The building of claim 8, further comprising another pre-assembled wall panel which spans at least part of height of the lower story and part of the height of the upper story of the building.

16. The building of claim 8, further comprising a non-metallic waterproofing assembly covering, at least in part, an end of at least one of the first and second horizontal beams, the waterproofing assembly disposed between the beam and a column attached to the beam.

17. A method of constructing a wall system for a building, comprising:

attaching a first pre-assembled wall panel to a structural frame of a building, wherein the structural frame includes a first beam and a second beam opposite and spaced apart from the first beam, and wherein the first pre-assembled wall panel is disposed at least partially over the first beam; and

attaching a second pre-assembled wall panel to the structural frame opposite and spaced apart from the first pre-assembled wall panel, the second pre-assembled wall panel disposed at least partially over the second beam,

wherein each of the first and second pre-assembled wall panels includes at least one non-metallic waterproofing assembly along a perimeter side of respective one of the first or second pre-assembled wall panels.

18. The method of claim 17, wherein each of the first and second pre-assembled wall panels includes a waterproofing assembly extending along respective vertical perimeter sides, the method further comprising forming a window wall between the first and second pre-assembled wall panels, and providing a non-structural seal between the waterproofing assemblies of each of the first and second pre-assembled wall panels and respective sides of the window wall.

19. The method of claim 17, further comprising forming a lower story of a building, joining additional structural members to the structural frame to form an upper story of the building, and attaching an additional pre-assembled wall panel to the structural frame and the first pre-assembled wall panel, the additional pre-assembled wall panel spanning at least part of the lower and part of the upper story of the building.

20. The method of claim 19, wherein the attaching an additional pre-assembled wall panel includes positioning the additional pre-assembled wall panel perpendicular to the first pre-assembled wall panel and pushing the additional pre-assembled wall panel towards the first pre-assembled wall panel to cause interlocking features of a gasket to engage respective interlocking features of respective waterproofing assemblies of the first and the additional pre-assembled wall panels.

21. The method of claim 20, wherein the additional pre-assembled wall panel is a first utility wall panel, the method further comprising joining a second utility wall panel to the first utility wall panel, each of the first and second utility wall panels comprising, a first waterproofing assembly along a first vertical perimeter side and a second waterproofing assembly along a second opposite vertical perimeter side of respective ones of the first and second utility wall panels, each of the first and second waterproofing assemblies comprising an insert configured to interlock with a gasket positioned between the first and second utility wall panels.

22. The method of claim 21, wherein the first utility wall panel is joined to the second utility wall panel before joining the utility wall panels to the first pre-assembled wall panel.