A modular structure with ballistic protection that is readily transportable within conventional shipping containers.
MODULAR STRUCTURE WITH BALLISTIC PROTECTION

BACKGROUND

[0001] The present invention relates to an armor system, and more particularly to a lightweight armor system integrated into a habitable modular structure.

[0002] Most modular structures are constructed from traditional materials and features which may be inappropriate for non-traditional construction applications where portability and speed of assembly are essential. One situation where common methods and materials are particularly inappropriate is emergency/natural disaster situations or military operations in remote locations.

[0003] In such situations, it is required that the materials used to construct a temporary building be lightweight such that they are readily transported. Other requirements include low cost, ease of assembly, and minimization of the tools required for assembly.

[0004] Ballistic protection for such structures is typically placed around the structure such as sandbag walls, berms, or other fillable containers. Although effective, this type of protective system increases assembly time and may reduce portability.

SUMMARY

[0005] An armored panel for a modular structure includes a non-ballistic resistant assembly including a sandwich structure and a ballistic resistant assembly bonded to the non-ballistic resistant assembly.

[0006] An armored panel for a modular structure includes a non-ballistic resistant assembly and a ballistic resistant assembly bonded to the non-ballistic resistant assembly, the ballistic resistant assembly includes a first ballistic resistant structure that includes woven fabrics of thermoplastic yarn and high strength glass fiber bonded with high performance epoxy, and a second ballistic resistant structure that includes fabrics of woven aramid yarns impregnated with thermoplastic resin applied in layers.

[0007] A shelter system includes a deck system having a multitude of deck unit modules, a rigid wall system mountable to the multitude of deck unit modules, the rigid wall system including a multitude of support columns, and an armored panel mounted between at least two of the multitude of support columns.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] The various features and advantages of this invention will become apparent to those skilled in the art from the following detailed description of the currently preferred embodiment. The drawings that accompany the detailed description can be briefly described as follows:

[0009] FIG. 1A is a perspective view of an exemplary modular structure;

[0010] FIG. 1B is an exemplary multi-structure modular structure;

[0011] FIG. 2A is an exploded view of a deck unit module;

[0012] FIG. 2B is an exploded view of an adjustable leg assembly of the deck module unit;

[0013] FIG. 2C is a perspective view of a deck unit module illustrating the accommodation of an uneven terrain surface;

[0014] FIG. 2D is a perspective view of a lower truss of the deck unit module;

[0015] FIG. 2E is a perspective view of an adjustable leg assembly in a retracted position;

[0016] FIG. 3 is a perspective view of a support column mounted to a multitude of deck unit modules;

[0017] FIG. 4A is an exploded view of a rigid wall assembly relative to the deck system;

[0018] FIG. 4B is a side view of a support column;

[0019] FIG. 4C is a top view of the support column;

[0020] FIG. 4D is an expanded top view of a support column;

[0021] FIG. 4E is an exploded view of a rigid wall assembly;

[0022] FIG. 4F is a sectional view of a lower panel extrusion of the rigid wall assembly;

[0023] FIG. 4G is a sectional view of a lower panel extrusion of the rigid wall assembly;

[0024] FIG. 4H is an exploded view of a center wall extrusion of the rigid wall assembly;

[0025] FIG. 4I is an expanded perspective view of the rigid wall assembly prior to being mounted to the support column;

[0026] FIG. 5A is a perspective view of a roof support structure of a roof system;

[0027] FIG. 5B is a perspective view of a roof truss;

[0028] FIG. 5C is an exploded view of the roof truss attachable to another roof truss to form a peaked roof;

[0029] FIG. 5D is an expanded face view of a purlin attachment plate;

[0030] FIG. 5E is a perspective view of a peak purlin;

[0031] FIG. 5F is a side view of the peak purlin;

[0032] FIG. 5G is a sectional view transverse to the length of the peak purlin;

[0033] FIG. 5H is a perspective view of an intermediate roof purlin;

[0034] FIG. 5I is a side view of the intermediate roof purlin;

[0035] FIG. 5J is a sectional view transverse to the length of the intermediate purlin;

[0036] FIG. 5K is a side view of an end attachment bracket of a purlin end attachment bracket;

[0037] FIG. 5L is a perspective view of a purlin attachment stud;

[0038] FIG. 6A is an exploded view of a roof truss relative to the support columns;

[0039] FIG. 6B is a perspective view of a wall cap soffit;

[0040] FIG. 6C is a sectional view through a longitudinal length of the wall cap soffit;

[0041] FIG. 6D is an exploded view of a wall cap soffit prior to assembly to the rigid wall system;

[0042] FIG. 7A is a perspective view of a roof system with roof panels mounted;

[0043] FIG. 7B is a perspective view of a roof panel;

[0044] FIG. 7C is an end view of a roof panel illustrating a male and female attachment side thereof;

[0045] FIG. 7D is an assembled view of two roof panels;

[0046] FIG. 7E is an edge view of the roof panel attachment;

[0047] FIG. 8A is an exploded view of a roof cap system;

[0048] FIG. 8B is a perspective view of a roof cap;

[0049] FIG. 8C is a perspective view of a roof gable end soffit cap;

[0050] FIG. 8D is a perspective view of a roof gable end cap;

[0051] FIG. 8E is a perspective view of an intermediate roof cap;

[0052] FIG. 8F is a perspective view of a roof cap end;
FIG. 9A is an internal perspective view of a transport channel a roof system; FIG. 9B is an internal perspective view of a transport channel a roof system; FIG. 9C is a perspective view of a HVAC conduit within the roof system; and FIG. 10 is a cross-section of an armored panel.

DETAILED DESCRIPTION

FIG. 1A illustrates a general perspective view of a modular structure 10. The modular structure generally includes a deck system 12, a rigid wall system 14 and a roof system 16. The modular structure 10 is a rigid-walled, modular, container transportable facility that is rapidly deployable in a variety of situations. The modular structure 10 can be erected and fully functioning within days offering shelter, electrical services, heating/cooling, and bathroom facilities. Assembled quicker than pre-cast or stick built structures, the modular structure 10 can be erected for short or long term usage upon a variety of undesirable terrain features. Although a simplified structure is disclosed in the illustrated embodiment, it should be understood that a multitude of various structures may be combined as modules to provide significant facilities (FIG. 1B) which may be utilized for various purposes.

Referring to FIG. 2A, the deck system 12 is constructed from a multiplicity of deck unit modules 18. Each deck unit module 18 includes four adjustable leg assemblies 20 attachable together by a lower truss 22L, 22S between each leg assembly 20 so as to support a deck surface panel 24. The deck unit modules 18 may be attached together to form a deck system 12 of any desired shape and size. Preferably, each surface panel 24 is a rectilinear four feet by eight feet panel, but deck surface panels 24 of any size may be usable with the present invention. The deck surface panel 24 is preferably of a laminated sandwich construction to provide a rigid structure which is supported by the trusses 22L, 22S.

Preferably, the size of the deck unit module 18 defines the modularity of the modular structure 10. That is, each deck unit module 18 is a building block by which the other components such as walls are related. It should be further understood that the deck system 12 may be utilized for various purposes other than as a component of the modular structure 10 such as a stage or bridge system.

Referring to FIG. 2B, each leg assembly 20 includes a primary leg 26, an intermediate leg 28 and a screw foot 30 each in telescopic relationship. Each leg assembly 20 may be telescoped independently to provide a level deck surface 24 irrespective of the underlying terrain (FIG. 2C).

The primary leg 26 is of generally tubular construction with an upper truss attachment flange 32 and a lower truss attachment flange 34. The upper truss attachment flange 32 and the lower truss attachment flange 34 preferably each include eight truss attachment apertures 35 such that the lower truss 22L, 22S may be mounted at forty-five (45) degree increments about any leg assembly 20. Each lower truss 22L, 22S includes an upper and lower attachment hook 23 (FIGS. 2A and 2D) adjacent each corner thereof to selectively engage one of the truss attachment apertures 35 of the upper truss attachment flange 32 and the lower truss attachment flange 34.

The uppermost end segment of the primary leg 26 includes a deck attachment plate 40. The deck attachment plate 40 preferably includes four deck attachment apertures 42 such that four deck surfaces 24 may interface upon a single deck attachment plate 40 with fasteners 4 (FIG. 3).

Coarse height adjustment is provided between the primary leg 26, and the intermediate leg 28 through a pinned interface 36, while a finer height adjustment is provided by a threaded interface 38 between the intermediate leg 28 and the screw foot 30. The primary leg 26 includes a primary pin aperture 44 while the intermediate leg 28 includes a multiple of intermediate pin apertures 46. Preferably, the intermediate pin apertures are elongated to facilitate adjustment and assembly (best seen in FIG. 2E). A pin 47 is received through the primary pin aperture 44 to engage one of multiple of intermediate pin apertures 46 to provide the coarse adjustment. The threaded interface 38 between the intermediate leg 28 and the screw foot 30 is preferably an ACME thread in which a wing nut 48 is selectively rotated to adjust the length of the screw foot 30 relative the intermediate leg 28.

The deck system 12 may be assembled in various arrangements such that the intersection of up to four deck unit modules 18 are attached together with each leg assembly 20. That is, each leg assembly 20 may connect up to four deck unit modules 18—one for each deck attachment aperture 42.

Referring to FIG. 4A, each deck unit module 18 of the deck system 12 is further connected to adjacent deck unit module(s) 18 by the rigid wall system 14. The rigid wall system 14 is also modular in that each wall module generally includes two support columns 50 and a rigid wall assembly 64 therebetween.

Referring to FIG. 4B, the support column 50 is a tubular generally rectilinear member in cross-section having a center opening 55 and a wall receptor slot 56A-56D on each side thereof (FIG. 4C). Each wall receptor slot 56A-56D preferably includes a seal slot 58 therein to receive seal 60 to assure a waterproof seal (FIG. 4D). Intermediate each wall receptor slot 56A-56D is an auxiliary area 62A-62D which permits running of conduits for electrical wiring, plumbing conduits as well as junction boxes, switch boxes or the like.

Each wall receptor slot 56A-56D is generally defined along each side of the support column 50 with the auxiliary area 62A-62D located at each corner to define a frusto-triangular cross-sectional area having the apex thereof is located at the corner of the support column. The support column 50 includes a column deck plate 52 having a set of deck plate apertures 52A (FIG. 4C) which corresponds with the deck attachment apertures 42 of the deck attachment plate 40 (FIG. 2B).

Referring to FIG. 4E, each rigid wall assembly 64 generally includes a lower panel extrusion 66, a lower panel 68, a center wall extrusion 70, and an upper panel 72. The lower panel 68 and the upper panel 72 are of a sandwich construction manufactured with an aluminum skin over a rigid urethane or polystyrene foam core to combine light weight with high strength. The lower panel 68 and the upper panel 72 are preferably of equivalent dimensions and are interchangeable. It should be understood that although a solid lower panel 68 and an upper panel 72 with a window 74 are disclosed in the illustrated embodiment, various panel types including window and non window panels are usable with the present invention. In addition, prefabricated assemblies such as single door assemblies 64S (FIG. 1B), double door assemblies 64D (FIG. 1B), multi-door assemblies 64M (FIG. 1) as well as other prefabricated assemblies may also be installed between two support columns 50 to provide various structure features.
The lower panel extrusion 66 is generally U-shaped in cross section with a central tab 74 (FIG. 4F). The center wall extrusion 70 is generally I-shaped in cross section (FIG. 4G). The wall assembly 64 is readily assembled by mounting the lower panel extrusion 66 to a long side of the lower panel 68, the center wall extrusion 70 to the opposite side of the lower panel 68 then the upper panel 72 to the opposite side of the center wall extrusion 70. The lower panel 68 and the upper panel 72 are interference or friction fit into the respective lower panel extrusion 66 and the center wall extrusion 70. It should be understood that other resilient seals may additionally be provided.

Once the deck system 12 has been assembled, the rigid wall system 14 is located thereon to define one or more structures S (FIGS. 1A and 1B). Each support column 50 is mounted to the deck system 12 such that fasteners f are located through the deck plate apertures 52A of the column deck plate 52, through the deck surface panel 24 and threaded into the deck attachment apertures 42 of the deck attachment plate 40 in the leg assembly 20 (FIG. 3). The rigid wall assembly 64 is then engaged with one of the wall receipt slots 56A-56D (FIG. 4H) and central tab 74 of the lower panel extrusion 66 is slid into the interface or gap between adjacent deck surface panels 24 (FIG. 4I). Such an interface adds further rigidity to the wall system 14 as well as structurally locking each the rigid wall assembly 64 to the deck system 12.

The next support columns 50 is then mounted to the deck system 12 and the rigid wall assembly 64 as described above. Such modular assembly is then repeated to assemble the rigid wall system 14 upon the deck system 12 to define the outer perimeter of the one or more structures S (FIG. 1B). Such assembly is relatively rapid due in part to the light weight of the components, their interchangeability and the grid-like pattern formed by the interface between adjacent deck surface panels 24 of the deck system 12.

Referring to FIG. 5A, once the rigid wall system 14 has been assembled, the roof system 16 is located thereon to finish the exterior of the structures S (FIGS. 1A and 1B). The roof system 16 generally includes a roof support structure 78 including a multiple of identical component parts which are assembled together in a modular manner. The roof support structure 80 includes at least one of a roof truss 82, a peak purlin 84, a roof intermediate purlin 86 and a wall cap soffit 88.

Referring to FIG. 5B, the roof truss 82 is a generally triangular member having roof truss end tabs 90A, 90B and a purlin attachment plate 94A, 94B (also illustrated in FIG. 5D). The roof truss 82 is preferably sized to fit within a shipping container and is approximately 16 feet in length, however, trusses of other sizes are also usable with the current invention. Preferably, two roof trusses 82 are attached together (FIG. 5C) to form a peaked roof.

The roof center attachment plate 92 and the purlin attachment plates 94A, 94B include a multitude of key hole apertures 96. Each peak purlin 84 (also illustrated in FIGS. 5E-5G) and roof intermediate purlin 86 (also illustrated in FIGS. 5I-5J) include end attachment brackets 98 which are engageable with the multitude of key hole apertures 96 of the respective purlin attachment plates 94A, 94B (FIG. 5A). Preferably, the end attachment brackets 98 are located at the end of, and on opposite sides of, the peak purlin 84 and roof intermediate purlin 86 such that adjacent peak purlins 84 and roof intermediate purlins 86 sandwich vertical truss support members therebetween. The end attachment brackets 98 are mounted to the purlin attachment plates 94A, 94B with an attachment stud 95 which engages the keyhole apertures 96 and a fastener (FIGS. 5K and 5L).

Referring to FIG. 6A, to assemble the roof support structure 78 to the rigid wall system 14, the roof truss end tabs 90A, 90B are located into the center opening 55 of two support columns 50 and are preferably fastened in place with bolts or the like. Each roof truss 82 is attachable to an adjacent roof truss 82 at adjacent roof center attachment plates 92 (FIG. 5A). That is, the roof truss end tabs 90A, 90B are located into the center opening 55 of the support columns 50 and two adjacent roof trusses 82 are locked together at the roof center attachment plates 92. The wall cap soffit 88 (FIGS. 6B and 6C) is then mounted to the top of the rigid wall system 14 transverse to the roof truss 82 along the length thereof such that each wall cap soffit tab 100 is fitted within the center opening 55 of the support columns 50 (FIG. 6D). Notably, the end wall cap soffit tab 100 is half the width of the center wall cap soffit tab 100 which completely fills the center opening 55 of the support column 50 as the end wall cap soffit tabs 100 will interface with other tabs such as those of the roof truss 82 or of an adjacent wall cap soffit 88. Once the roof support structure 80 is assembled to the rigid wall system 14, a multitude of roof panels 102 are locate thereon (FIG. 7A).

Referring to FIG. 7A, the roof panels 102 are located between the peak purlin 84 and the wall cap soffit 88. The roof panels 102 are retained between a wall cap soffit edge 88E of the wall cap soffit 88 (FIG. 6I) and a raised center member 84E of the peak purlin 84 (FIG. 5C) and interface with adjacent roof panels 102 at an overlapping roof panel interface 104. That is, each roof panel 102 includes a male raised edge 104 which engages within a female raised edge 106. The raised overlapping roof panel interface 104 covers a stepped interface 108 with a seal member 110 which slips into a slot 112 on an opposite side of an adjacent roof panel 102. The adjacent roof panels 102 essentially just slide into engagement with each other (FIG. 7D) to provide a watertight yet readily assembled interface. That is, each roof panel 102 is identical with a first edge 102A and a second edge 102B. The first edge 102A of one roof panel 102 engages a second edge 102B of an adjacent roof panel 102. The roof panels 102 are preferably attached to the wall cap soffit 88 with a multitude of roof panel clips 105—preferably three per roof panel 102 which engage an edge of the wall cap soffit 88E (FIG. 6C).

Referring to FIG. 8A, once the multitude of roof panels 102 are located on the roof support structure 78, a roof cap soffitt system 114 is mounted over the edge interfaces of the roof panels 102 and the roof support structure 78. A multitude of ridge caps 116 (FIG. 8B) are located along the peak purlin 84 and fastened in place through screws or the like which engage the top center slot of the peak purlin (FIG. 5G). Truss sheeting 118, 120 is then fastened to the exposed side of each external roof truss 82. Preferably, the truss sheeting 118, 120 is pre-attached to the exposed side of the trusses with rivets or the like prior to shipment to further streamline on-site assembly. A multitude of roof gable end soffit caps 122A-122C (FIGS. 8C and 8D) are then located over the interface between the roof panel 102 which abuts the end roof truss 82 and fastened thereto. The roof gable end soffit caps 122A-122C are preferably attached to the truss sheeting 118, 120 on the side of the roof trusses 82 to minimize attachments through the upper surfaces. Finally, ridge joint caps 124 (FIG. 8E) are located over the interface between adjacent ridge caps 116 and a roof
cap end 126 (FIG. 8F) is located at the apex intersection to cover the interface between the ridge caps 116 and the roofgable end soffit caps 122C. A watertight system is thereby rapidly assembled.

[0078] Referring to FIG. 9A, an internal view of the roof system 16 illustrates a transport channel 130 located along the length of the wall cap soffit 88 and along each side of the peak purlin 84 (FIG. 9B). The transport channel 130 provides support and storage area for the running of wires, water supply conduits, and the like to provide an unencumbered floor area. The wires, water supply conduits, and the like are simply located within the transport channel 130 then run down the auxiliary area 62A-62I within the support columns 50 for communication to the desired location. For example only, wires may be run from light fixtures 1 along the transport channel 130, down the auxiliary area 62A-62I within the support column 50 and to a junction box or switch box. Wiring and plumbing is therefore readily installed within the structure. Environmental conditioning transport conduits such as HVAC tubular conduits C may likewise be run along the transport channel 130 as well as mounted directly to the truss beams 82 (FIG. 9C).

[0079] With reference to FIG. 10, any or all of the panels 24, 68, 72, 102 of the rigid wall system 14 and or the roof system 16 may provide ballistic resistance and are hereafter referred to as an armored panel 200. The armored panel 200 includes a non-ballistic resistant assembly 202 which may be used alone to form any or all of the panels 24, 64, 68, 72, 102 of the rigid wall system 14 and or the roof system 16 where ballistic resistance is not required and with a ballistic resistant assembly 204 bonded thereto where ballistic resistance is desired. It should be appreciated that non-ballistic resistant as defined herein provides essentially no resistance to projectiles.

[0080] The non-ballistic resistant assembly 202 generally includes a core 206 which is sandwiched between skins 208. The core 206 may be manufactured of a rigid urethane or polystyrene foam, honeycomb or other substrate. The skins 208 may be metallic or non-metallic and may be manufactured of, for example, polymers, aluminum, composite laminates or other relatively thin material.

[0081] The non-ballistic resistant assembly 202 provides insulation qualities to the panels 24, 68, 72, 102 which facilitate usage in a habitable structure. In one disclosed non-limiting embodiment, the non-ballistic resistant assembly 202 provides an R value of 13. It should be understood that various combinations may be utilized to form the non-ballistic resistant structure 202.

[0082] The ballistic resistant assembly 204 is a hard armor composite sandwich structure that generally includes a first ballistic resistant structure 210 which defines the strike face, a second ballistic resistant structure 212 and an adhesive layer 214 therebetween. In one disclosed, non-limiting embodiment, the adhesive layer 214 is a Methacrylate adhesive as manufactured by, for example, ITW Plexus, of Danvers, Mass., USA Amalite of the Woodlands, Tex., USA, Locotite of Rocky Hill, Conn., USA and others.

[0083] An adhesive layer 216 bonds the non-ballistic resistant assembly 202 to the ballistic resistant assembly 204. In one disclosed, non-limiting embodiment, the adhesive layer 216 is a Methacrylate adhesive manufactured by, for example, ITW Plexus, of Danvers, Mass., USA Amalite of the Woodlands, Tex., USA, Locotite of Rocky Hill, Conn., USA and others.

[0084] The first ballistic resistant structure 210 includes woven fabrics of thermoplastic yarn and high strength glass fiber bonded with a high performance epoxy such as that manufactured by Endurance Technologies of South St. Paul, Minn., USA. The first ballistic resistant structure 210 may in one disclosed embodiment be between approximately 0.625 inches to 0.755 inches thick.

[0085] The second ballistic resistant structure 212 includes fabrics of woven aramid yarns impregnated with thermoplastic resin applied in layers. In one disclosed, non-limiting embodiment, the thermoplastic resin is a high performance epoxy such as that manufactured by Endurance Technologies of South St. Paul, Minn., USA.

[0086] In a method of manufacture, a double bag infusion with a high-temperature vulcanization thermostet resin is utilized to wet out the fabric matrix then the product is cured via heated platens under pressure to increase crosslinking and thus strengthen the fiber reinforced matrix. It should be understood that various other methods may be utilized to bond one layer to the adjacent layer and that various thicknesses may be utilized herewith. In one disclosed embodiment, the second ballistic resistant structure 212 may be between approximately 0.25 inches to 0.525 inches thick.

[0087] The ballistic resistant assembly 204 is bonded to the non-ballistic resistant assembly 202 via a methacrylate adhesive. Since the armored panels 200 are mounted through, for example, extrusions 66, 70, the edge of the armored panels 200 are supported and further reinforced for ballistic protection through the extrusions 66, 70 (FIG. 4E) and or support columns 50 (FIG. 4A). That is, the edges of the armored panels 200 are protected through the overlap of the extrusions 66, 70 and support columns 50 within which the armored panel is secured.

[0088] The high performance woven fiber with a tenacity over 8 grams per denier and high strength glass fibers which forms the strike plate of the first ballistic resistant structure 210 provides a very rigid but light impact surface to reduce projectile velocity while retaining the strength to initiate projectile deformation. These fibers are oriented to increase overall support and performance within the matrix. That is, the fibers are woven into the fabric then the fabrics are cross-layered to increase support in the matrix. Fabrics of woven, plain weave, aramid yarns in the second ballistic resistant structure 212 complete projectile capture to ensure that no spall breaches the non-ballistic resistant assembly 202.

[0089] While many ballistic solutions utilize various sandwich structures the armored panel 200 achieves lightweight structural applications with thermal insulation capabilities. The armored panel 200 has also been shown to provide the ability to defeat high velocity rounds at a National Institute of Justice Standard Level III as tested through Southwest Research Institute.

[0090] It should be understood that relative positional terms such as “forward,” “aft,” “upper,” “lower,” “above,” “below,” and the like are with reference to the normal operational attitude of the vehicle and should not be considered otherwise limiting.

[0091] It should be understood that although a particular component arrangement is disclosed in the illustrated embodiment, other arrangements will benefit from the instant invention.

[0092] Although particular step sequences are shown, described, and claimed, it should be understood that steps
may be performed in any order, separated or combined unless otherwise indicated and will still benefit from the present invention.

[0093] The foregoing description is exemplary rather than defined by the limitations within. Many modifications and variations of the present invention are possible in light of the above teachings. The preferred embodiments of this invention have been disclosed, however, one of ordinary skill in the art would recognize that certain modifications would come within the scope of this invention. It is, therefore, to be understood that within the scope of the appended claims, the invention may be practiced otherwise than as specifically described. For that reason the following claims should be studied to determine the true scope and content of this invention.

What is claimed is:

1. An armored panel for a modular structure comprising:
a non-ballistic resistant assembly including a sandwich structure; and
a ballistic resistant assembly bonded to said non-ballistic resistant assembly.

2. The armored panel for a modular structure as recited in claim 1, wherein said sandwich structure includes a foam core.

3. The armored panel for a modular structure as recited in claim 2, wherein said sandwich structure includes a metallic skin on said foam core.

4. The armored panel for a modular structure as recited in claim 2, wherein said sandwich structure includes a non-metallic skin on said foam core.

5. The armored panel for a modular structure as recited in claim 1, wherein said ballistic resistant assembly includes a first ballistic resistant structure and a second ballistic resistant structure.

6. The armored panel for a modular structure as recited in claim 5, wherein said first ballistic resistant structure includes woven fabrics of thermoplastic yarn and high strength glass fiber bonded with high performance epoxy.

7. The armored panel for a modular structure as recited in claim 6, wherein said first ballistic resistant structure is between about 0.625 inches and about 0.755 inches thick.

8. The armored panel for a modular structure as recited in claim 5, wherein said second ballistic resistant structure includes fabrics of woven aramid yarns impregnated with thermoplastic resin applied in layers.

9. The armored panel for a modular structure as recited in claim 8, wherein said second ballistic resistant structure is between about 0.25 inches to about 0.525 inches thick.

10. The armored panel for a modular structure as recited in claim 1, wherein said ballistic resistant assembly includes a said first ballistic resistant structure that includes woven fabrics of thermoplastic yarn and high strength glass fiber bonded with high performance epoxy, and a second ballistic resistant structure that includes fabrics of woven aramid yarns impregnated with thermoplastic resin applied in layers.

11. The armored panel for a modular structure as recited in claim 10, wherein said first ballistic resistant structure is between about 0.625 inches and about 0.755 inches thick and said second ballistic resistant structure is between about 0.25 inches to about 0.525 inches thick.

12. An armored panel for a modular structure comprising:
a non-ballistic resistant assembly; and
a ballistic resistant assembly bonded to said non-ballistic resistant assembly, said ballistic resistant assembly includes a said first ballistic resistant structure that includes woven fabrics of thermoplastic yarn and high strength glass fiber bonded with high performance epoxy, and a second ballistic resistant structure that includes fabrics of woven aramid yarns impregnated with thermoplastic resin applied in layers.

13. The armored panel for a modular structure as recited in claim 12, wherein said first ballistic resistant structure is between about 0.625 inches and about 0.755 inches thick and said second ballistic resistant structure is between about 0.25 inches to about 0.525 inches thick.

14. The armored panel for a modular structure as recited in claim 13, wherein said sandwich structure includes a foam core.

15. The armored panel for a modular structure as recited in claim 14, wherein said sandwich structure includes a metallic skin on said foam core.

16. A modular structure comprising:
a deck system having a multitude of deck unit modules; and
a rigid wall system mountable to said multitude of deck unit modules, said rigid wall system including a multiple of support columns; and
an armored panel mounted between at least two of said multiple of support columns.

17. The modular structure as recited in claim 16, further comprising two support columns each mounted at an intersection of at least two of said multiple of deck unit modules.

18. The modular structure as recited in claim 16, wherein each of said two support columns is mounted at an intersection of four deck unit modules.

19. The modular structure as recited in claim 16, wherein each of said two support columns is mounted to a respective adjustable leg assembly.

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