CLAIMS:

1. A heat resistant floor assembly for a rail vehicle, the heat resistant floor assembly comprising:

a floor structure; and

a fire protection panel;

wherein the fire protection panel is made of a composite material connected underneath the floor structure and comprises a plurality of sub-panels, each one of the plurality of sub-panels overlapping at least two other of the plurality of sub-panels, thereby defining an overlapping region, and further wherein an intumescent tape interfaces between two adjacent sub-panels in the overlapping region.

2. The heat resistant floor assembly of claim 1, further comprising an insulation layer between the floor structure and the fire protection panel.

3. The heat resistant floor assembly of claim 1, wherein the composite material comprises:

a resin; and

a woven fiber reinforcement layer embedded within the resin.

4. The heat resistant floor assembly of claim 3, wherein the resin comprises a polyester resin.

5. The heat resistant floor assembly of claim 3, wherein the woven reinforcement layer comprises a 0/90 woven reinforcement layer.

6. The heat resistant floor assembly of claim 3, wherein the floor structure defines a longitudinal axis and further wherein the woven reinforcement layer comprises a plurality of fibers substantially aligned with the longitudinal axis of the floor structure.

7. The heat resistant floor assembly of claim 3, wherein the composite material further comprises a woven basalt fiber layer.

a nut being threaded on the threaded stud for retaining the fire protection panel in place; and

a washer being located between the fire protection panel and the nut, the washer being made of the same composite material as the fire protection panel.

14. The heat resistant floor assembly of claim 1, wherein the fire protection panel has a thickness of less than 4 mm.

15. The heat resistant floor assembly of claim 1, wherein the fire protection panel comprises at least one opening configured for receiving an attachment therethrough. ~~a plurality of sub-panels, each one of the plurality of sub-panels overlapping at least two other of the plurality of sub-panels, thereby defining an overlapping region, and further wherein an intumescent tape interfaces between two adjacent sub-panels in the overlapping region.~~

16. The heat resistant floor assembly of claim 3 to 9, wherein the resin comprises an intumescent resin.

17. In a heat resistant floor assembly for a rail vehicle, the improvement consisting of:

a fire protection panel made of a composite material connected underneath a floor structure and comprising a plurality of sub-panels, each one of the plurality of sub-panels overlapping at least two other of the plurality of sub-panels, thereby defining an overlapping region, and further wherein an intumescent tape interfaces between two adjacent sub-panels in the overlapping region.

18. The heat resistant floor assembly of claim 17, wherein the composite material comprises:

a resin; and

a woven fiber reinforcement layer embedded within the resin.

25. The heat resistant floor assembly of claims 24, wherein the resin comprises a fire retardant resin.

26. The heat resistant floor assembly of claim 17, wherein the insulation layer comprises rock wool.

27. The heat resistant floor assembly of claim 17, wherein the fire protection panel comprises a fiber content of at least 20% by weight.

28. The heat resistant floor assembly of claim 17, wherein the fire protection panel has a thickness of less than 4 mm.

29. The heat resistant floor assembly of claim 17, wherein the fire protection panel comprises at least one opening (28) configured for receiving an attachment therethrough. ~~a plurality of sub-panels, each one of the plurality of sub-panels overlapping at least two other of the plurality of sub-panels, thereby defining an overlapping region, and further wherein an intumescent tape interfaces between two adjacent sub-panels in the overlapping region.~~

30. The heat resistant floor assembly of claim 24, wherein the resin comprises an intumescent resin.