Proposed Claims for Filing of response to Examination Report

1. A cover member (100) for a battery module (1000), the cover member (100) comprising:

   an elongated body (102) defining a first major surface (104a) and a second major surface (104b), wherein the second major surface (104b) is defined with a plurality of grooves (110); and

   a plurality of dimples (106) defined along at least one of the first major surface (104a) and the second major surface (104b), wherein, each dimple (106) of the plurality of dimples (106) is positioned at an intersection of at least two grooves (110) of the plurality of grooves (110), and wherein at least one dimple (106) of the plurality of dimples (106) melts and form an aperture (108) when at least one battery cell of the battery module (1000) undergoes a thermal runaway, to fluidly connect the first major surface (104a) with the plurality of grooves (110).

2. The cover member (100) as claimed in claim 1, wherein each groove of the plurality of grooves (110) is separated by a ridge (116) defined on the second major surface (104b).

3. The cover member (100) as claimed in claim 1, wherein the plurality of grooves (110) is enclosable by a casing element (112) abutting the second major surface (104b) of the elongated body (102), upon connecting the casing element (112) with the cover member (100).

4. The cover member (100) as claimed in claim 3, wherein thermal conductivity of the elongated body (102) is lower than the casing element (112).

5. The cover member (100) as claimed in claim 1, wherein the elongated body (102) is made of a self-extinguishing polymer material.

6. The cover member (100) as claimed in claim 1, wherein each of the plurality of dimples (106) is defined in a portion of the elongated body (102), between the first major surface (104a) and the second major surface (104b).

7. The cover member (100) as claimed in claim 1, wherein depth of each of the plurality of dimples (106) is at least 15% to about 55% of a thickness of the elongated body (102).

8. A battery module (1000), comprising:

a plurality of battery cells (200);

a busbar (300), including a base member (302) defining a plurality of contact portions, is disposed on the plurality of battery cells (200), wherein each of the plurality of contact portions comprising:

a contact pad (304); and

a connecting arm (306) extending between the contact pad (304) and the base member (302) along a partial circumference of the contact pad (304); and

a metal substrate (316), deposited along a portion of the connecting arm (306), wherein the connecting arm (306) and the metal substrate (316) are configured to fuse, during thermal runaway in the battery module (1000);

an insulator member (118) positioned between the plurality of battery cells (200) and the busbar (300), to prevent direct electrical and thermal contact of the busbar (300) and at least one battery cell of the plurality of battery cells (200) during thermal runaway; and

a cover member (100) positioned above the busbar (300), the cover member (100) comprising:

an elongated body (102) defining a first major surface (104a) and a second major surface (104b), wherein the second major surface (104b) is defined with a plurality of grooves (110); and

a plurality of dimples (106) defined along at least one of the first major surface (104a) and the second major surface (104b), wherein at least one dimple (106) of the plurality of dimples (106) melts and form an aperture (108) when at least one battery of the battery module (1000) undergoes a thermal runaway, to fluidly connect the first major surface (104a) with the plurality of grooves (110) in the second major surface (104b); and

a casing element (112) seated on the second major surface (104b) of the cover member (100), to cover the plurality of grooves (110).

9. The battery module (1000) as claimed in claim 8 comprises a battery cell frame (128), configured to accommodate each of the plurality of battery cells (200), wherein the battery cell

frame (128) includes a spacer element (114) between each battery cell of the plurality of battery cells (200), to separate each of the at least one battery cell of the plurality of battery cells (200).

10. The battery module (1000) as claimed in claim 8, wherein the plurality of grooves (110) and the casing element (112) are configured to route gases surrounding each of the plurality of battery cells (200), when at least one battery cell of the plurality of battery cells (200) undergoes thermal runaway.

11. The battery module (1000) as claimed in claim 8, wherein the number of contact portions corresponds to the number of battery cells (200).

12. The battery module (1000) as claimed in claim 8, the insulator member (118) is made of aramid polymer material.