

Battery pack heat management set up on hybrid bus roof using air cooling method

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Hybrid vehicle is the automobile which can get power from two or more energy sources. Recently, hybrid bus, one of the hybrid vehicle, is very interesting research matter to address the urban environmental problems.

Performance of the hybrid bus can be directly affected by heat management of battery pack because heat generated from the batteries is closely related to it's durability, safety and etc.

In this research, the simulations were conducted applying Ni/MH batteries. Exhaust fans having 172 mm diameters and air suction holes were used for air cooling. Because positions of fans and holes are very important in order to manage heat, simulation was conducted by changing their position in the battery pack.

The results of the computer-based simulation of inner side of housing cover on the bus roof showed that when air suction holes were installed at front and rear side of the battery pack, it has better temperature distribution than at right and left side. In addition, when fans and holes are located at center of the wall of the battery pack closely, it has cooler result than at equally divided spaces.