

Go farther, charge faster with dependable bus bars

CHALLENGES

- Automakers and their suppliers have always faced a host of challenges, and this decade is no exception. There is an urgent need for answers to several trends: the increased consumer demand for EVs, the need for reduced emissions, and the rise in urbanization.
- The big questions in consumers' minds when considering a switch to xEVs are, 'How far can I drive on a single charge?' and 'How long does it take to recharge the battery?'
- With the right materials, a bus bar can enhance a battery's thermal management and power distribution systems. However, it must be adequately insulated if the battery overheats, a condition known as thermal runaway.

REQUIREMENTS

- Bus bars within xEV batteries must meet several requirements, including:
 - Resistance to thermal runaway without loss of function
 - Qualification via demanding thermal cycling and electrical tests

- Efficient production to reduce manufacturing time and cost
- Stable orange color to indicate high voltage, even after prolonged exposure to high temperatures

SOLUTIONS

- **Zytel**® HTN insulation materials for bus bars resist multiple thermal shock cycles (typically 1000 cycles) at the temperatures (-40°C to 150°C) normally needed for motors and power electronics applications.
- **Zytel**® HTN has excellent chemical resistance to the fluids used for thermal management and a high comparative tracking index (CTI) at elevated temperatures.
- **Zytel**® HTN accelerated aging testing shows no noticeable color shifts, even at 130°C. It also contributes insulative properties for safer thermal runaway, and easily overmolds onto aluminum or copper, the most common bus bar metals.
- With a commercial-scale 2K molding machine, bus bar mold, full testing lab, plus robust technical and processing support, we help speed your projects to success.



Insulating,
electrical
resistance



Heat
resistance



Chemical
resistance



Computer-
aided
engineering



Processing
excellence



Green
energy