ISSN: 2754-4915

Journal of Material Sciences & Manufacturing Research

SCIENTIFIC Research and Community

Conference Proceeding

Open Access

Overview on Safety Standards in Electric Vehicles (BEV's)

Srinivas Naveen Dolu Surabhi

Sr Software Engineer, 22859 Sagebrush, Novi. Michigan, USA

ABSTRACT

Battery Electric Vehicles (BEVs) in the US and Europe are subject to rigorous safety standards designed to protect both consumers and the environment. In the US, the National Highway Traffic Safety Administration (NHTSA) plays a critical role in ensuring vehicle safety through a series of mandated tests and assessments. These include stringent crash tests, evaluations of battery integrity, and measures to prevent thermal runaway—an uncontrollable reaction that can lead to fires or explosions in batteries. Additionally, BEVs must adhere to Federal Motor Vehicle Safety Standards (FMVSS), which cover everything from electronic stability control to occupant protection. In Europe, the UNECE Regulation 100 sets the benchmark for electric vehicle safety. This regulation focuses on the durability and safety of the electric powertrain, the integrity and thermal endurance of the battery, and the mitigation of electrical hazards. EU regulations also require real-world testing for battery performance and resilience to ensure consumer safety under various conditions. The EU's General Safety Regulation further complements these standards by introducing advanced safety measures, such as intelligent speed assistance and emergency lane-keeping systems. Both regions are continually updating their regulatory frameworks to address evolving technologies and emerging safety challenges in the electric vehicle market, fostering innovation while prioritizing consumer protection.

***Corresponding author**

Srinivas Naveen Dolu Surabhi, Sr Software Engineer, 22859 Sagebrush, Novi. Michigan, USA.

Received: June 17, 2024; **Accepted:** June 21, 2024; **Published:** June 22, 2024

Citation: Srinivas Naveen Dolu Surabhi (2024) Overview on Safety Standards in Electric Vehicles (BEV's). Journal of Material Sciences & Manufacturing Research. SRC/JMSMR-216. DOI: doi.org/10.47363/JMSMR/2024(5)180