



VIRSEC®



ABS Approved Fully Online Course
Electric Vehicles (EV) Hazard
Awareness on Ro-Ro Ships

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About the Course

Providing maritime professionals with essential awareness of the unique hazards posed by electric vehicles on Ro-Ro ships, including battery fires, thermal runaway, and emergency response challenges.

It equips crew and safety personnel with practical knowledge, best-practice guidance, and confidence to manage EV risks as their carriage at sea continues to grow.

This online ABS Approved course provides maritime personnel with essential knowledge to safely manage electric vehicles (EVs) transported on Ro-Ro ships.

It introduces the key hazards associated with EV batteries; such as thermal runaway, fire behaviour, and gas emissions and outlines best practices for prevention, monitoring, and emergency response.

Designed for crew, officers, and safety staff, and following MGN 653 (M) Amendment 1 Electric Vehicles Onboard Passenger Roll-on/Roll-off (ro-ro) Ferries; the course supports safer operations as EV transport becomes increasingly common in the maritime industry.

Course Certificate

This course has been Approved under the American Bureau of Shipping (ABS). Upon completion of this online course, learners will receive an ABS Approved Certificate for Electric Vehicles (EV) Hazard Awareness on Ro-Ro Ships that they can download from the Learner Portal and save to their device.

Course Duration

The Electric Vehicle (EV) Hazard Awareness on Ro-Ro Ships course is approximately 2 hours in duration.

Target Audience

This essential course is designed for:

- Officers and ratings serving on Ro-Ro cargo and Ro-Pax vessels
- Masters, Chief Mates, and safety officers responsible for deck operations
- Terminal personnel involved in vehicle handling and pre-loading inspections
- Fleet management staff, shore-based superintendents, and safety manager
- Anyone involved in the planning, operation, or oversight of EV carriage at sea



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The increasing transport of electric vehicles (EVs) on Ro-Ro vessels introduces risks that differ from those of conventional vehicles. Lithium-ion batteries present hazards such as thermal runaway, intense and prolonged fires, toxic gas release, and the risk of re-ignition. It is therefore essential that crew and staff are trained to recognise these dangers, understand their behaviour, and apply appropriate stowage, monitoring, and firefighting techniques.

Course Aims

The aim of this course is to provide shipboard personnel and shoreside staff with a clear understanding of the hazards associated with carrying Electric Vehicles (EVs) on Roll-on/Roll-off (Ro-Ro) vessels and to promote safe, compliant, and effective operational practices.

The course supports the principles of the ISM Code, the STCW Convention competence requirements for vessel safety and emergency response, and recognised industry guidance for managing battery-related fire and incident risks at sea.

Course Subjects

This course addresses the following subject matter:

- EVs in Maritime Transport
- Hazard Identification
- Hazards of Thermal Runaway and Fire
- How Lithium-ion EV Batteries Function and Fail
- Identifying Mechanical Battery Abuse
- Identifying Electrical and Thermal Abuse
- Preventing EV Fires
- Onboard EV Charging
- EV Fire Emergency Preparedness
- Understanding the Unique Risks of EV Fires on Ships

- EV Fire Suppression Systems
- EV Fire Suppression Tactics

Course Learning Outcomes

The course addresses the following Learning outcomes:

- Learning Outcome 1: EV Risk Fundamentals & Hazard Identification
- Learning Outcome 2: Recognising Hazardous EVs
- Learning Outcome 3: Preventing & Mitigating EV Fires at Sea
- Learning Outcome 4: EV Fire Suppression

Bulk Purchasing

At VIRSEC, we offer competitive bulk discount pricing for companies and organisations looking to purchase



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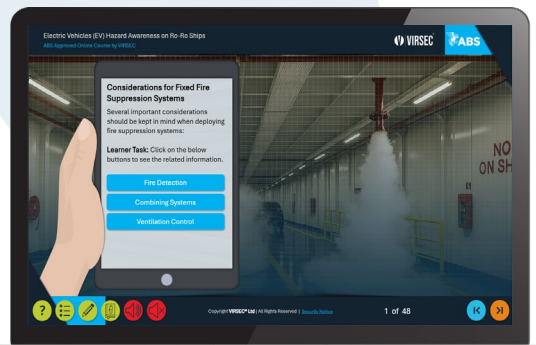
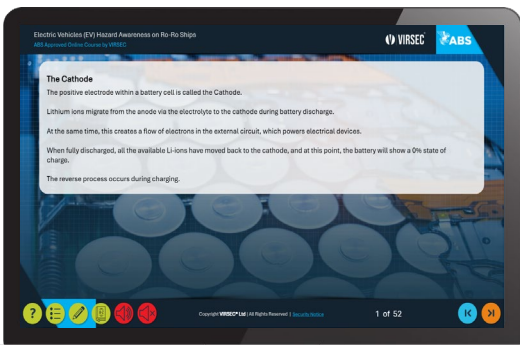
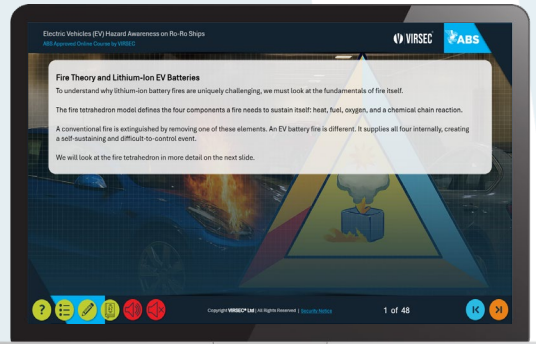
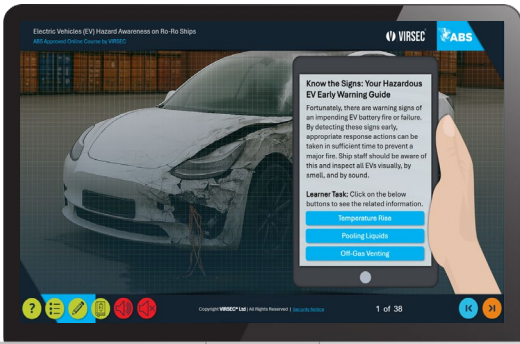
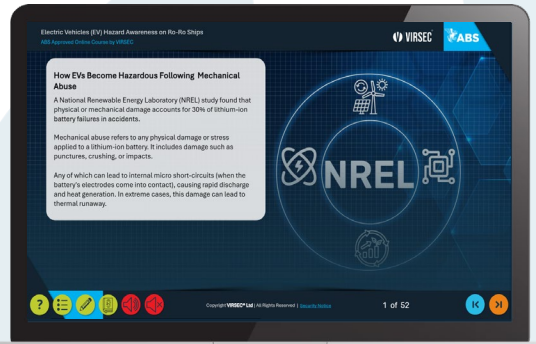
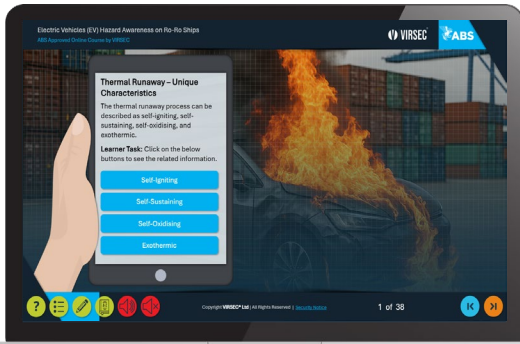


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Effective training improves emergency response and onboard safety. In the confined spaces of a Ro-Ro deck, an EV fire can spread quickly and pose serious risks to the vessel and crew. Well-trained personnel are better able to respond promptly, use specialised equipment correctly, and follow procedures designed for EV-related incidents, helping to minimise damage, protect lives, and maintain safe operations.

Sample Course Slides



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