



# Location

Prior to installation a fire risk assessment should be carried out in compliance with the Regulatory Reform (Fire Safety) Order 2005 (or equivalent legislation in Scotland and Northern Ireland) that considers the control measures required when selecting and designing charging/parking areas.

Permanently installed charging units are preferred to mobile charging devices, ideally installed externally, and located as far as possible from important buildings, structures and utilities. The distance required between a charging unit/parking area and buildings, etc. will be primarily driven by the construction of the building walls.

Ideally, electric vehicle charging, and parking should be located at least 10 m from combustible walls or at least 7.5 m from unprotected openings/extensive glazing in non-combustible walls.

Consideration as to what is stored externally will also be needed. Electric charging units/parking areas should not be located within a minimum of 10 metres of external combustible or flammable storage areas, such as waste compounds, pallet storage or gas cylinder cages.

External charging units are exposed to changing weather conditions, and whilst these are designed to withstand a degree of exposure to the elements, the location where stations are installed must be assessed for flood. Flooding can come from a number of sources such as rivers, surface water during heavy rainfall, and inadequate storm drainage. Charging units should not be installed in any location where flood or excessive surface water run-off and pooling is considered a risk.

In circumstances where electric vehicle charging units are installed internally, charging/parking areas should be located as close as possible to exits and preferably on the ground level to allow easy access for the fire brigade. The high combustible fire load of modern cars in general and the high energy generated in these types of fires, can result in a well-developed fire involving numerous vehicles by the time the fire brigade arrives.

Internal charging/parking areas should be in a separate fire compartment with a minimum of 60 minutes fire resistance, subject to consideration of the hazards presented by the occupation of the building. Basement level charging/parking areas present additional complexities for firefighting therefore these compartments should achieve a minimum of 120 minutes fire resistance.

The generation of toxic gases is particularly problematic for firefighting activities in below ground charging areas. It is therefore essential that below ground or concealed charging and parking areas are provided with adequate ventilation.

Wall mounted charging units, whether internal or external, should be installed on non-combustible walls and installation beneath or next to unprotected openings/extensive glazing should be avoided.

