



D-Line®

CROSS PAVEMENT SOLUTIONS

ENABLING HOME EV-CHARGING FOR ALL

About D-Line

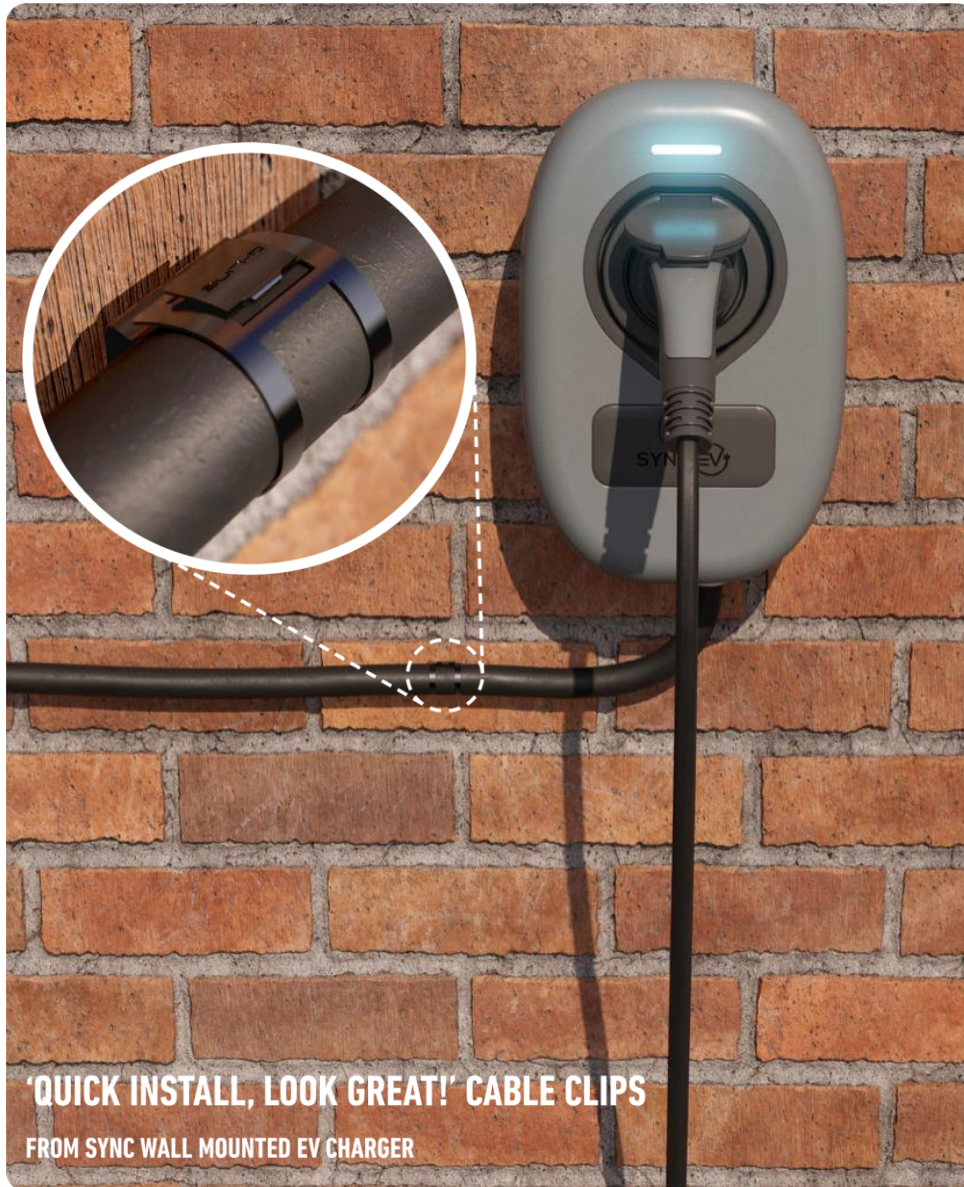
D-Line is a UK company with a global reputation for innovative cable management products



- Patented solutions, ideal 'when time, safety and appearance matter'
- Products used every day in 30+ countries.
Note D-Line USA, Inc based in Kentucky & warehousing in Netherlands for EU-shipments
- Part of Luceco Group PLC, including Sync Energy - market leading EV charger and HEMS provider



Example D-Line products - used by EV-charge installers



EV-Cable Gully - Option for XPS

Ultra-slim channel to accommodate EV-cables

- Only 24 x 23mm dims, no lid safety-risk!
- Cables can enter/exit anywhere along length; to left or right-side
- Locate or remove cable from standing position



Patent Pending

BUT VERY COSTLY AND DISRUPTIVE TO INSTALL, PERMANENT AND INFLEXIBLE

D-Line Aims

To give a ready-to-use solution for EV-charging, designed for all stakeholders...

For local authorities

- Maintain clean and unspoiled paving
 - Save the cost, install works and hassle of channeling paving NOW and for future street works
- Minimise any risks to footpath users
- Provide scalable solutions
 - Easy to use, Affordable, Available Now
- Give interim option, pending other EV developments
 - eg. EV battery range, other EV charge location options

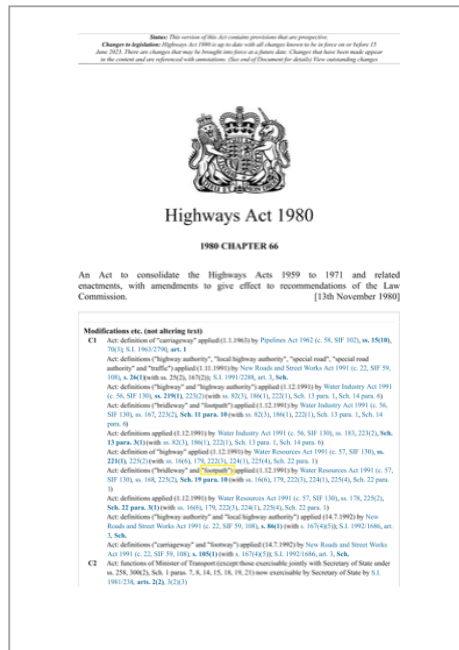


D-Line Aims

To give a ready-to-use solution for EV-charging, designed for all stakeholders...

For EV-owners

- Satisfy Highways Act requirements
Minimise risks to all pavement users (and protecting cables)
- Offer inexpensive, readily available & user friendly solutions
- Eliminate installation cost and no planning approvals



D-Line Aims

To give a ready-to-use solution for EV-charging, designed for all stakeholders...

For local authorities & UK PLC

- Eliminate risk of 'future redundant' on-street infrastructure
e.g when extended battery range, public charge developments, relocations
- Save tax-payer cost of XPS grant funding
for expensive alternatives
- Accelerating green agenda
by having most scalable and affordable solution



Legal Framework - Highways Act 1980

The Highways Act 1980 c.66. part IX. Section 162 'Lawful and Unlawful Interference with Highways and Streets'

“A person who for any purpose places any rope, wire or other apparatus across a highway in such a manner as to be likely to cause danger to persons using the highway is, unless they prove that they had taken all necessary means to give adequate warning of the danger, guilty of an offence and liable to a fine not exceeding Level 3 (£1,000).”



REF 'AIMS' AND 'LEGAL' - IN SUMMARY, MULTIPLE CONSIDERATIONS

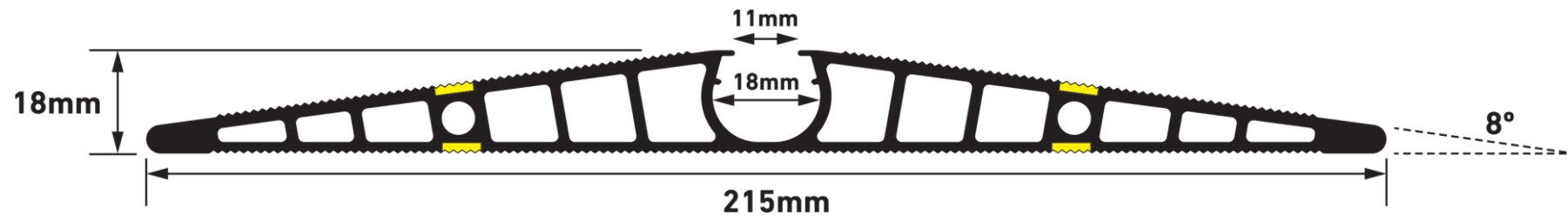
D-LINE XPS SOLUTION

Ultra (shallow) Cable Cover

- 'Danger to persons using the pathway'

From The Highways Act requirement

- 8° slope - only 18mm height*
- 215mm wide to minimize movement, yet short for easy crossing...
by wheelchairs, roller skates, push chairs, bicycles etc
- Unobtrusive - no upright lids or pop-up obstacles



* Comments ref height

Little v. Liverpool Corporation [1968] 2 All ER 34

"A highway is not to be judged by the standards of a bowling green."



When EV-charging complies with The Highways Act requirements, most car insurance policies will cover injuries to third parties.

Ultra Cable Cover

- 'Adequate warning of the danger'

From The Highways Act requirement

- Flexible PVC material

- Safe & secure



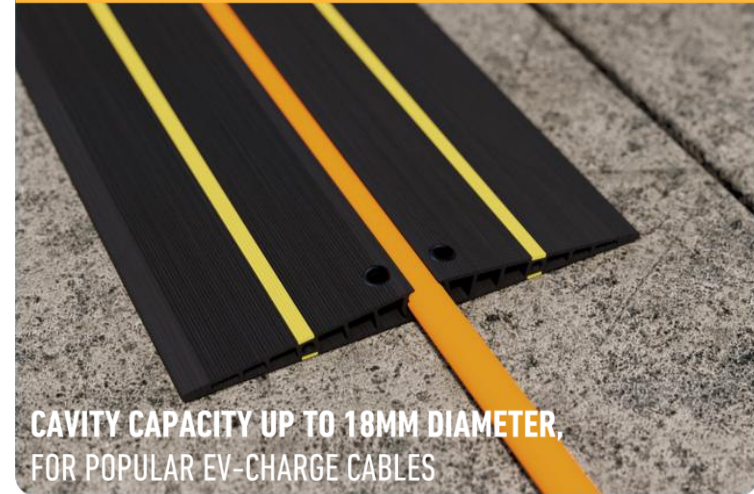
USE AND REMOVE - KEEP PAVEMENTS INTACT AND UNSPOILED

NORMAL USE 8 HOURS PER WEEK (LESS IF HIGHER BATTERY CAPACITY)

Ultra Cable Cover

- 'Open-Top' cable entry/exit or drop-over cable protect
- Alternatively, use to drop-over cable(s)
- User friendly & versatile

USE AS 'OPEN TOP' - PUSH IN & PULL OUT



OR 'DROP OVER' - FOR TRICKLE CHARGE CABLES



Full instructions provided for safe usage

Important information

Ultra Cable Cover

Essential Instructions to read before use



Caution - when locating a cable, or hose or similar across a pedestrian area, users are legally responsible to ensure such objects are unlikely to cause danger to persons using the area. Also users must take all necessary means to give warning of a danger.

Follow these instructions for use of Ultra Cable Cover and Hazard Warning sign, to minimise risk of danger from a cable hazard.

If in doubt, before using the Ultra Cable Cover in any public area, such as across a public footpath, check permission to use from your council or local government authority who have responsibility for ownership and usage of public areas.

Cable Condition

- Always check cable(s) are in excellent condition. Never use a cable with any damaged insulation.
- Always ensure that cables are being used safely, in installations that are compliant with all relevant Electrical Codes and Regulations. If any doubt, consult a qualified electrician.

Surface

- Always ensure Ultra Cable Cover is located on smooth and solid surface.
- Never use Ultra Cable Cover on uneven surfaces, which could be a hazard for pedestrian activity.
- Never locate Ultra Cable Cover on icy, frosty or other slippery surfaces.
- Always ensure the Ultra Cable Cover is completely flat on the ground, with no objects underneath (for example no sticks, stones or similar).
- Never use Ultra Cable Cover if it is curled, twisted or ripped or in any way unable to lie completely flat to the ground.
- Before inserting the cable, always check the cable cavity is clean and contains no debris or other objects that might prevent the cable from being securely located in the cable cavity.

Cable Cavity

- The Ultra Cable Cover is reversible, meaning it can be used as either 'open-top, cavity-up' or 'solid-top, cavity-down'. Select usage according to the diameter of cable...
 - Cable having diameter between 11.5mm to 18mm can be held securely when Ultra Cable Cover is used 'open top, cavity-up', providing the cable has been fully inserted in the cavity.
 - For cables having less than 11.5mm diameter, the Ultra Cable Cover should always be used with 'solid-top, cavity-down'; to 'drop-over' the cable that will be contained in the cavity.
- Always ensure the cables are fully inserted in the cavity.

- For 'open-top, cavity-up' use, the cable can be located by foot from standing position. Check the aperture has formed around the cable, for secure hold with minimal cable exposure.
- In 'open-top, cavity-up' use, the cable can be removed by pull out from standing position.

Cable Entry/Exit

- Always check that cable(s) enter and exit the Ultra Cable Cover at positions whereby the cable cannot be a hazard to pedestrian activity.
- Do not place any objects on top of the Ultra Cable Cover.

Visibility

- When using to charge a vehicle, always ensure the Cable Hazard sign is securely attached and clearly visible to alert pedestrians of the cable and the Ultra Cable Cover in use.
- If using Ultra Cable Cover at times of reduced or no daylight, ensure there is effective lighting to alert pedestrians of the cable and the Ultra Cable Cover in use.

Securing

- If using a padlock for anti-theft, locate the shackle of the padlock via the rivet hole at the end of the Ultra Cable Cover. Then locate the cable inside the shackle to hold together the Ultra Cable Cover and the cable.
- Any padlock must be located away from areas of pedestrian activity, so the padlock can not be a trip hazard.
- Using cable ties 2.5mm width x 100mm length will save the need to insert and remove the cable with every use.
- Cable ties can join additional lengths, for longer runs.

Storing and Handling

- When not in use, remove from the Ultra Cable Cover from the public footpath.
- When storing your Ultra Cable Cover, do not tightly coil the end sections.

Specification guide

FIG 1
Open top usage - for cables 11.5mm - 18mm diameter



FIG 2
Drop over usage - for cables less than 11.5mm diameter



FIG 3
Can be padlocked

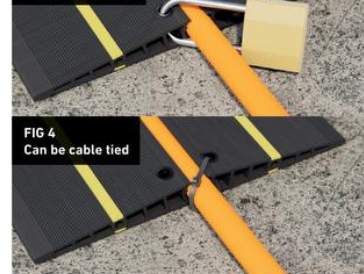


FIG 4
Can be cable tied



FIG 5
Easy to install



FIG 6
Can be extended

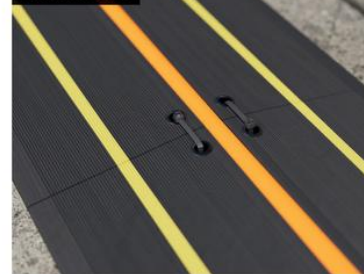
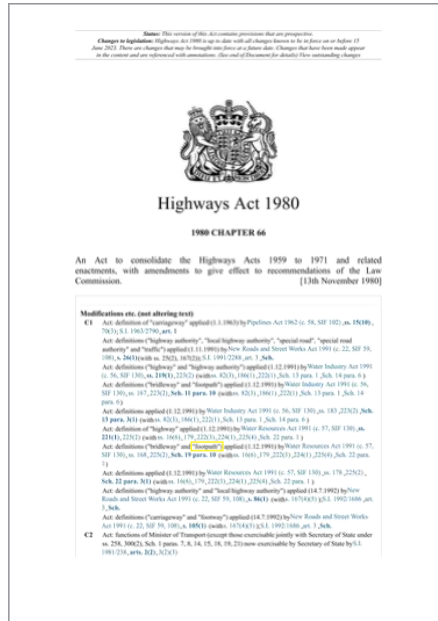


FIG 7
Cable Hazard sign



Tried and tested vs Highways Act requirements



Summary (extract)

For the purpose of passing an EV-charge cable across a footpath, we consider the D-Line Ultra Cable Cover can be a 'fit-for-purpose' product when used in accordance with the 'Essential Instructions to read before use' provided

Full report available on request

Enabling Home Charging



Cross-pavement cable mat trial.

The Problem

It is estimated that up to 30% of UK households don't have dedicated off-street parking. Historically, this would mean that these customers would not be able to have a home charge point installed, reducing their access to affordable EV charging.

The Solution

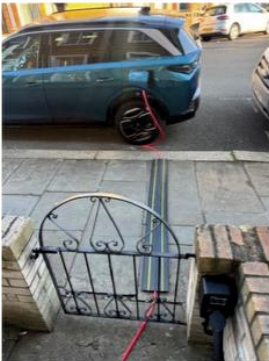
As a potential solution to this problem, Ohme undertook a trial in partnership with D-Line during early 2025. This trial saw Ohme provide cable mats to customers that do not have off-street parking and live in an area that allows for this type of solution.

Reasons the D-Line solution was selected:

- Ease of implementation
- Lower cost compared to alternative solutions
- Ultra-low profile (20 mm height with a minimal 8-degree slope)
- Designed for ultimate safety and practicality
- Pedestrian-friendly and user-friendly
- Minimal impact on local authority or infrastructure

The trial, across 12 councils, was limited in scope to validate customer satisfaction and the practicality and everyday usability of the product. Without some form of cross-pavement solution such as the D-Line, none of the participants would have been able to have an EV charger installed at their home. All participants had an Ohme charger fitted and were invited to complete a feedback survey one to two weeks following their installation, with the result compiled below.

All participants had either an Ohme Home Pro or Ohme ePod installed at their property. These chargers are smart, grid-responsive, and enable people to secure a greener and more affordable at-home charging experience.



Trial Highlights

Durability & Quality Rated 4.9 out of 5 by participants	Ease of Use Rated 4.6 out of 5 by participants
Safety All participants felt the mat provided a safe solution for pedestrians crossing the charging cable.	Customer Satisfaction All participants would recommend the cable mat to others with on-street parking.
EV Adoption All participants found home charging crucial for choosing an EV, and agreed the mat enabled this.	Local Council Support All participants found it <i>Very Important</i> that their local council support this type of solution.

Other findings:

- 79% of participants required one cable mat (up to 2m), while the remainder required two.
- 71% of participants found the cable mat easy to roll up and store when not in use.
- 71% of participants used the solution's padlock feature to secure the cable within the mat.
- It was important for customers to be aware that they are responsible for following their council-specific rules and the correct use of the mat. In addition, those with mobility issues were made aware of the additional effort required in using this type of solution compared to just the charger by itself.

The Importance of On-Street Charging Enablement

Supporting the EV Transition

- **Accessibility:** By providing a solution for households without off-street parking, the cable mat significantly increases the accessibility of home charging, a key factor in encouraging EV adoption.
- **Affordability:** Home charging is considerably less expensive than public charging stations, making EV ownership more affordable for a broader range of people.
- **Safety:** The D-Line Ultra Cable Cover is designed to be pedestrian-friendly and user-friendly, ensuring safe crossing over the charging cable.

Contribution to Net Zero Goals

- **Reduction in Emissions:** Increased EV adoption directly contributes to the reduction of greenhouse gas emissions, helping to meet local and national net zero targets.
- **Sustainable Infrastructure:** The cable mat solution is a low-impact, sustainable infrastructure option that supports the transition to cleaner transportation without the need for extensive modifications to existing urban environments.
- **Community Engagement:** By involving local councils in the implementation of this solution, communities are more likely to engage with and support broader sustainability initiatives.

Air Quality

Local air quality management (LAQM) is a statutory process to improve local air quality set by the Environment Act 1995. Local authorities are required to submit an annual status report to demonstrate progress in meeting air quality objectives.

Encouraging a switch to EVs for residents via an easily-accessible cross-pavement solution could form part of a Local Air Quality Strategy encouraging preventing and reducing polluting activities rather than simply taking steps to reduce air pollution once exceedances have been identified.

Conclusion

The D-Line EV Ultra Floor Cable Cover offers a practical and affordable home charging solution for individuals without off-street parking. The mat is not a permanent fixture, meaning there are no installation, maintenance, or ongoing costs. In short, the D-Line mat provides a safe, low-cost option that helps overcome common financial and logistical barriers. In addition, the participant feedback within this trial has been overwhelmingly positive.

Ohme is committed to supporting all solutions that improve access to affordable, grid-friendly and environmentally-responsible home charging. We will always encourage compliance with all council regulations and are keen for local authorities to have solutions in place to enable their residents to charge at home.

If you are a local authority and would like to discuss the benefits of home charging solutions with Ohme, then please contact us [here](#).

About Ohme

Ohme is the UK's fastest growing home EV charging company. Ohme is the only company whose home chargers that have been available with all UK energy tariffs since their introduction.

With Ohme, EV drivers can charge their cars at the cheapest and greenest times, favouring sources of renewable energy and ensuring the highest savings on running costs and the lowest CO2.

Ohme is also the official charger provider for companies such as Mercedes-Benz, the Volkswagen Group, the Motability Scheme and the NHS.

Find out more about Ohme at www.ohme-ev.com.

Universally Popular Solution

Cable Mats are BY FAR the most tried and tested solution, now evolved by Ultra Cable Cover!

**Seattle**
Department of
Transportation

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Seattle, Washington 98124-4996
(206) 684-5253 | SDOTPermits@seattle.gov

CLIENT ASSISTANCE MEMO
2119
www.seattle.gov/transportation

ELECTRIC VEHICLE CHARGING CORD GUIDANCE FOR CROSSING THE PUBLIC RIGHT-OF-WAY (GROUND FLOOR RESIDENTIAL USE)

Last Revised 10/1/19

BACKGROUND

A growing number of Seattle residents drive or are interested in driving an electric vehicle (EV)¹ but struggle to find reliable charging solutions. This is especially true for residents without dedicated off-street parking. We are working to increase EV charging access to help meet our climate action and vehicle electrification goals.² To assist you, we provide guidance for on-street Level 1 (110-120V) charging in single-family and multi-family zones.³ We continue to explore additional, longer term EV charging solutions for single-family, multi-family, and mixed use zones.

APPLICABILITY

By following this guide, a Street Use permit is not required to charge an EV on the street. If you have off-street parking available you should use that spot for charging rather than the street. This guidance applies to ground floor residential uses in single-family and multi-family zones. We have developed this guidance for properties with an adjacent sidewalk.

Charging Cord Covers

Charging cords must be covered by a highly visible, stable, and secure low-angle cable ramp while charging.

If the total height of the equipment (both cord and ramp) does not exceed 1/2 inch, the following requirements apply:

- The ramp shall cover the charging cord completely across the sidewalk and can be no less than 4 feet in length; and
- The ramp shall be no steeper than a 50% grade or 1:2 gradient.

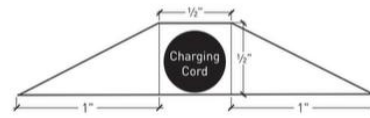


FIGURE 1. CROSS-SECTION OF RAMP REQUIREMENTS FOR UP TO 1/2 INCH

¹An Electric Vehicle is a vehicle that operates, either partially or exclusively, on electrical energy from an off-board source that is stored on-board for motive purposes.

²www.seattle.gov/environment/climate-change/drive-clean-seattle

³This Client Assistance Memorandum (CAM) should not be used as a substitute for codes and regulations. Users are responsible for compliance with all code and rule requirements, whether or not described in this CAM, including the Americans With Disabilities Act accessibility guidelines.



PLANNING, URBAN DESIGN AND SUSTAINABILITY
Sustainability Group

Charging Cord Cover Specifications

Charging cords must be covered by a high-contrast, light-reflective, slip-resistant, stable, and secure low-angle cable ramp while charging. The City encourages licensees to opt for the lower-profile (less than 2 cm height) option whenever possible.

1. If the total height of the equipment (both cord and ramp) does not exceed 2 cm, the following requirements apply:
 - The ramp shall cover the entire width of the sidewalk and can be no less than 1.2 m wide;
 - The ramp shall be no steeper than a 50% grade or 1:2 gradient.

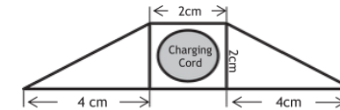


Figure 1 - Cross-section of ramp requirements for total heights up to 2 cm

2. If the total height of the equipment (both cord and ramp) exceeds 2 cm in height, the following requirements apply:
 - The ramp shall be no steeper than an 8.3% grade or 1:12 gradient (example shown in Figure 2);
 - A 1.5 m x 1.2 m or greater landing platform shall be at the top of the ramp;
 - The landing at the top of the ramp must be flat, with no more than a 2% slope (1:50 gradient) in any direction; and,
 - The ramp shall cover the entire width of the sidewalk and can be no less than 1.2 m wide (Figure 3);
 - A 1.5 m x 1.2 m clear landing on the sidewalk must be present on either side of the ramp;
 - Perpendicular to the direction of travel, the ramp cannot have a cross slope exceeding a 2% grade (1:50 gradient).

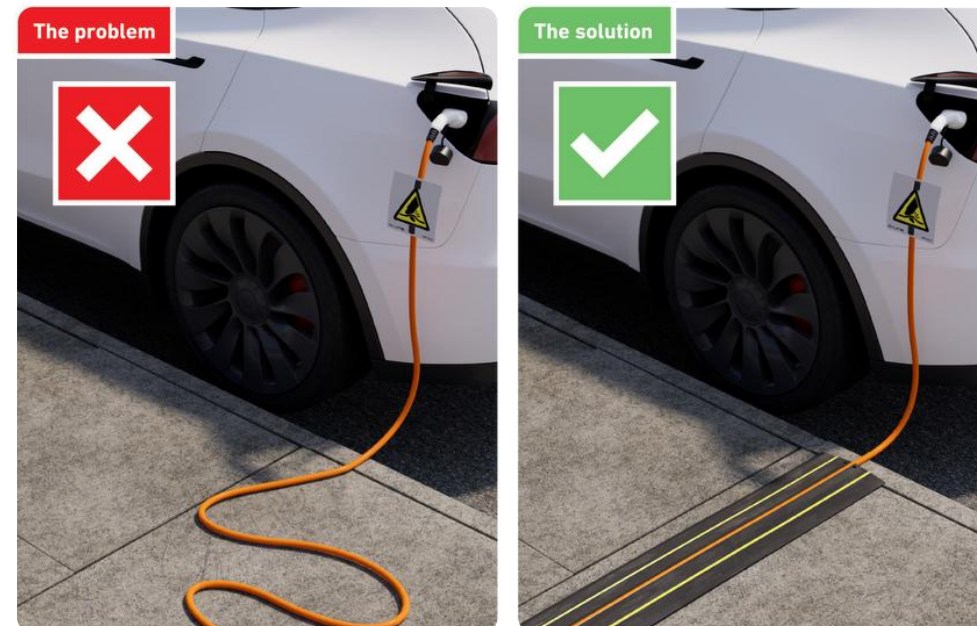
Specification Instruction Available On Request

D-Line propose ALL local authorities publish street Cable Cover specifications - as generic guidance provided



for more info visit

www.d-line-it.com/ultracablecover/



For specification, we suggest local authorities use the following guidance or similar...

As stated in The Highways Act 1980 c.66 part IX Section 162, anyone placing a cable across a footpath in any way that causes a danger is guilty of an offence, and liable to a fine upto £1,000 and there may be a liability under civil law.

It follows that it is NOT permitted to place a loose or exposed cable across a footpath.

To eliminate a cable danger, we advise use of a Cable Cover and hazard warning sign, as 'D-Line Ultra Cable Cover' or similar.

The Cable Cover must be;

- Less than 20mm deep, 8° slope maximum
- Used with a hazard warning sign, that is visible to pedestrians
- Used safely, with the cable being secure in the Cable Cover, and the Cable Cover laid flat on pavement surface
- High contrasting, with yellow-hazard warning stripes or similar
- Used in full accordance with producer instructions
- Must be removed from the footpath when not in use

Further detail on D-Line Ultra Cable Cover can be obtained from D-Line tel; 0191 2360960, trade@d-line-it.com. Also via electrical wholesalers, or online and retail partners.

Specifying Ultra Cable Cover

CAUTION: Most on-pavement solutions are not compliant



Example - defining specifications

East Lothian Council

Home | Roads and transport | East Lothian vehicle chargers

East Lothian vehicle chargers

Using cable protectors

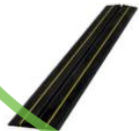
When charging your car on the road, vehicles should be parked as close to the property as possible, so that the cable can be placed flat across any public areas and at right angles to the direction that most people are walking in.

You must use an appropriate cable protector to enable the safe passage of pedestrians, including people using mobility aids, and you should not consider this option in areas with high footfall. Cable protectors are regularly used in public spaces to cover cables or wires on a temporary basis. Your cable protector should cover the whole of the length of cable that may be walked across, including the full width of any pavement and verge between the property and the vehicle.

To minimise risk of trips and falls, the cable protector must have a height of 20mm or less, with ramps of 1 in 12 gradient or shallower, a non-slip base that is at least 200mm wide, be made of a flexible material (for uneven paths) and have high contrast warning stripes to highlight its presence. It must be removed from public areas when not in use. The cable protector must always be used in full accordance with manufacturer's instructions. The images on this page (of D-Line Ultra Cable Cover) are for guidance only.

Cables must not cross the carriageway therefore your vehicle should always be parked on the same side of the road as your property. You may not hang a cable from any street furniture including lampposts or trees. Any extension leads must be suitable for external use and must be used as recommended by the manufacturer.

Where a vehicle cannot be parked immediately outside the property, the cable must be run in the road against the kerb and a warning sign should be used. It is good practice to ensure that your cable is as visible as possible by choosing one in a contrasting colour to the road or adding coloured banding. The Highway Code ([Rule 239](#)) advises you should display a warning sign if you can.



Example of a suitable cable protector

Removal of cables

Although no permit is currently required, where a location is not suitable then the Council has powers under Section 129 of the Roads Scotland Act 1984 to seek to have the cable removed. Cables and cable protectors should only be connected while the vehicle is charging and must be removed from public areas when not in use.

Cost Comparison

ULTRA CABLE COVER INSTALLATION

EV Charger + install **£ 840**

Ultra Cable Cover **£ 60**

Nett £ 900

D-LINE GULLY INSTALLATION

EV Charger + install **£ 840**

Gully + install **£1,110**

OZEV grant up to **-£ 350**

Nett £1,600

Ultra Cable Cover makes EV charge installations most affordable, est 44% cost saving

(+ maintenance savi

All costs are estimates (inc VAT)

Ultra Cable Cover available NOW from...





**"WE CHARGE ABOUT 8 HOURS A WEEK
FOR A 200 MILE RANGE, AND D-LINE'S
ULTRA CABLE COVER IS PERFECT!**

**IT'S EASY TO INSERT THE CABLE, WE CAN LOCATE
THE COVER FOR THE CAR'S POSITION AND IT'S SO FLAT
THAT IT'S ALMOST SEAMLESS WITH THE PAVEMENT.**

BRILLIANTLY SIMPLE"

EV OWNER, ULTRA CUSTOMER



THANK YOU!

**SEE US AT
STAND C3-617**

D-Line®