

# Road surface

## Workplace transport site safety information sheet WPT28

This information will be useful to anyone who uses workplace transport or who works where it is used. It will help employers, managers and supervisors to assess their workplace and make improvements. The checklists will help you to prepare your risk assessment.

A road surface can be described as any surface that vehicles drive on, either in a workplace or a traffic route within the site boundary. By law the surface should be constructed and maintained so that it is suitable for its purpose and should not cause a risk to health and safety.

Road surfaces that are subject to weathering and heavy use can experience a variety of problems that have health and safety implications.

## Common problems

**Loose chippings or worn surfaces:** Weathering and heavy use can loosen chippings and cause road surfaces to become worn – this will increase the risk of vehicles and people skidding. The wearing course or surface dressing acts as a water-resistant protective layer so if it is loose the likelihood of further problems, such as cracking and potholes, increase.

**Cracks:** Cracks can occur in a road for many reasons, but they are mainly caused by weather and stress from heavy use. They appear in many forms and can cause pedestrians and cyclists to trip and fall. If cracks are left they can allow water to flow into the layers below the road surface causing further damage, eg a pothole will form.

**Potholes:** A pothole is where the surface of the road or footway has failed and a hollow has formed. Where they occur, pedestrians are at risk of trips and falls and, if large enough, they can result in vehicle damage or cause vehicles to be unstable and tip over. Potholes worsen with heavy road use and can often damage the structure of the road below the surface layer – if they are not repaired quickly more extensive and costly work will be required.

**Spillages:** Spillages (often oil and diesel) can cause accidents by making the road surface slippery, causing pedestrians to slip and vehicles to slide. There is a health



risk when people come into contact with many potentially dangerous chemicals. If left, spillages can damage the road surface and cause further problems such as cracks and potholes. Oil and diesel are particularly aggressive to bituminous surfaces. Spillages need to be cleaned up immediately.

**Surface water (ponding):** When water has nowhere to drain ponding occurs on the road surface. Ponding is often caused by poor drainage, usually because the drains are blocked or inadequate, or because the road doesn't slope enough to allow water to run away. Standing water can often become polluted and cause a health risk to those using the site. If left, water can widen cracks and contribute to the development of potholes.

### Checklist – what to look out for

- Loose chippings or a worn surface.
- Cracks in the road surface.
- Potholes where the surface of the road or footway has failed and a hollow has formed.
- Standing surface water where there is nowhere for the water to drain.
- Spillages of chemicals, oil or diesel from vehicles or activity taking place on site.

## How can you deal with common problems?

It is important that problems with the road surface are addressed quickly so that they don't get worse or create further problems.

**Make sure road surfaces have good grip:** Traffic routes should be maintained to provide good grip for vehicles or people. For example, they should be roughened if smooth, gritted or sanded if slippery, and kept free of oil, grease, rubbish and other debris.

**Plan temporary routes to maintain safety standards:** Temporary workplaces, eg construction sites and forestry operations, often have vehicle and pedestrian routes that change as work progresses. Similarly, 'unprepared' routes such as unsurfaced roads or open ground can be common. It is important that these routes are planned carefully as they should meet the same basic safety standards that apply to 'prepared' routes.

**Replace worn surface dressings:** If a road surface has become worn and there are loose chippings it may need a fresh surface dressing. If this happens in small areas where there may also be cracking or damage, they can be dealt with in isolation. However, where problems are more widespread, the whole road may need to be redressed.

Surface dressing usually involves spraying the road with a coating of hot bitumen and then covering it with stone chippings. The chippings are then rolled into the bitumen to form a water-resistant, protective layer, which makes the road less slippery. A specialist surface that provides extra grip may be needed on sloped and other high-risk driving surfaces.

**Repair potholes:** Potholes need to be cleaned out, filled and then resurfaced. Make sure that the materials used are similar to, and properly bonded to, those used in the surrounding road. This is so that the road surface is consistent, reducing the likelihood of the problem reoccurring.

**Resurface the road:** When larger areas of road are potholed or uneven then the road may need to be resurfaced to make sure it is safe for vehicles to use. Resurfacing involves removing the existing surface or applying a new surface on top of the existing one.

**Reconstruct the road:** In the worst cases, where potholes and/or cracks are so deep and extensive that the problem extends beyond the surface layer, the road may need to be dug out and completely reconstructed. This is the most expensive option, and regular maintenance such as resurfacing or re-dressing, when necessary, can prevent this situation occurring.

**Clean up spillages immediately:** When a spillage occurs it is important to identify what has been spilt. Diesel spillages are normally cleared by sanding the area and placing warning signs to inform other road users of the spillage.

Vehicles can have drip trays placed under them if they are known to be spilling oil. A petrol spillage usually will evaporate into the atmosphere and will not present the same problem as oil or diesel. Chemicals can be cleaned up using specialist kits or by employing contractors.

**Improve drainage:** If there is a surface water problem you will need to improve the drainage on your site. This could be as simple as unblocking existing drains or more extensive work, such as providing new drains or gullies. Similarly, the problem may be resolved by making sure that road surfaces are sloped in such a way that water can easily drain off them. When dealing with drainage problems, be careful not to move the problem to another area of the site. For more information about addressing drainage problems, see the site safety information sheet *Drainage* WPT26.

### Checklist

- Fill any isolated potholes and repair the road surface.
- Improve drainage by providing new drains and or reprofiling the road.
- Provide a new surface dressing where the surface has become worn and has low skid resistance.
- Resurface the road if it is uneven and has a large number of potholes.
- Reconstruct the road if the problem is widespread and runs deeper than the road's surface.

## Checking your site

Carry out a visual inspection of your site to look for problems with the road surface. Walk around the premises, make notes and take photographs of any problems. In particular where there are potholes, areas of ponding and cracking (in dry weather, patches of grit and small rubbish may indicate where ponding occurs). Mark the problem areas on a site plan.

Ask yourself the following questions when making a visual inspection:

- What type of vehicles use the road?
- What is the road surface made of?
- What is the condition of the road surface?
- What is the problem?
- What action is needed?

If you require a more detailed guide see the *Site inspection: Workplace transport checklist* at [www.hse.gov.uk/workplacettransport](http://www.hse.gov.uk/workplacettransport).

### Checklist

- Carry out a visual inspection of road surfaces on your site.
- Pay for a professional inspection or survey if you feel you cannot do this properly yourself.
- Ask staff whether they have found any problem areas.

## Where to get help

If you have a problem with the road surface on your site, you might be able to fix it yourself, eg repair potholes or unblock drains. If you are unsure, speak to your health and safety workplace representative or contact HSE for advice. It may be more cost effective to have a professional assess your site and carry out the work, eg employ a road surfacing contractor to repair an existing road or provide a new road surface.

Contact your local trade association or Chamber of Commerce for recommended local suppliers or look in the *Yellow Pages* for listings of road surfacing contractors.

### Checklist

- Can you fix the problem yourself or do you need professional help?
- Seek advice from your local Chamber of Commerce.
- Speak to your health and safety representative and your staff.
- Employ a road surfacing contractor to carry out any work that is required.

## Further information

HSE priced and free publications can be viewed online or ordered from [www.hse.gov.uk](http://www.hse.gov.uk) or contact HSE Books, PO Box 1999, Sudbury, Suffolk CO10 2WA  
Tel: 01787 881165 Fax: 01787 313995. HSE priced publications are also available from bookshops.

For information about health and safety ring HSE's Infoline Tel: 0845 345 0055 Fax: 0845 408 9566  
Textphone: 0845 408 9577 e-mail: [hse.infoline@natbrit.com](mailto:hse.infoline@natbrit.com) or write to HSE Information Services, Caerphilly Business Park, Caerphilly CF83 3GG.

**This document contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.**

This document is available web-only at:  
[www.hse.gov.uk/pubns/wpt28.pdf](http://www.hse.gov.uk/pubns/wpt28.pdf).

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## What might it cost?

- Repairing a pothole: £300 for a hole 2 m x 2 m x 300 mm deep.
- Surface dressing: £100 for an area of 10 m<sup>2</sup>.
- Resurfacing: £200 for an area of 10 m<sup>2</sup>.
- Reconstruction: £750 for an area of 10 m<sup>2</sup>.

(Costs are a guide and may vary significantly for individual sites and circumstances.)

## Find out more

By law, every traffic route in a workplace must be built so that the driving surface is fit for its purpose and does not pose a risk to health and safety.

*Drainage Workplace Transport Information Sheet WPT26*  
HSE 2009 [www.hse.gov.uk/workplacetransport](http://www.hse.gov.uk/workplacetransport)

*Workplace transport safety: An employers' guide HSG136*  
(Second edition) HSE Books 2005 ISBN 978 0 7176 6154 1

*Designing for deliveries* Freight Transport Association 1998  
ISBN 978 0 902991 66 8