

M7-EN.3 SIGNS

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M7-EN.3.1 Introduction

In this chapter, the general rules for marking equipment are described. How the equipment should be designed and how it should be used. The aim is to describe how appropriate marking is made so traffic is guided past road works as safely as possible.

In each of the parts of the chapter it is described which hazards are connected to the wrong marking, and how correct marking can assist in reducing these hazards.

Generally, the marking equipment should be designed so that it observes the rules for how signs and road markings should look. The equipment should naturally also be used in accordance with the rules which otherwise apply to marking and signposting on roads so that warnings and directions will be immediately intelligible for the road users.

Equipment must be fastened so that it is not blown away during strong winds or falls down when vehicles pass by. In the roadside, the markings should be placed on posts, which have been dug into the ground. The use of big concrete blocks for securing the equipment should be avoided, as these could be hazardous to the traffic. If it is necessary to use concrete blocks, they have to be clearly marked with a reflective linear marker.






Regarding road signs, only two signs, each with its own sub-sign, must be set up on each post. The signs should normally be placed at least 1 m above the ground, and on major roads at least 2.2 m above the ground. The distance between two posts with traffic signs should normally be at least 50 m.

Note that there are special rules for working on motorways.

When placing signs, workers must remember that:

- Signs, lights and guarding equipment must be secured against being blown over or out of position by the wind or by passing traffic. This can be done by using sacks at low level containing fine granular material, or equipment having ballasting as part of its construction
- The first sign is placed far enough from the works to give adequate warning of the hazard. Where signs have to be placed on a footway, they must be positioned so as to minimise inconvenience or hazard to pedestrians
- They check regularly that the signs have not been moved or damaged or become dirty, including when the site is left unattended for a period of time

Examples of signs:

<p>The “Road Works Ahead” sign is the first sign to be seen by the driver, and it must be placed well before the works</p>	
<p>A “Road Narrows Ahead” sign warns the driver which side of the road is obstructed. It must be placed midway between the “Road Works Ahead” sign and the beginning of the lead-in taper</p>	
<p>“Keep Right” and “Keep Left” signs must be placed at the beginning and end of the lead-in taper of cones</p>	
<p>Cones must be placed in a line for guiding traffic past the works. Road Danger Lamps must be used, when the visibility during daytime is poor, or the weather is bad</p>	
<p>Barriers</p>	

M7-EN.3.2 Setting out signs

Marking of road lanes is a hazardous job. Therefore, police assistance for traffic regulation is recommended while the marking is being made.

When setting up markings, start by setting up a mobile barrier at either end of the working area. Then set up the warning signs “Road works” and the “End of road works”. Afterwards, the rest of the signs are set up. Temporary road striping is made and finally barriers are set up. Then, the mobile barrier may be removed.

The road works must not begin before marking and barriers have been set up.

After the road works have ended, marking and barriers are taken down following the opposite procedure. Make sure that all remainings from the temporary marking are not misleading for the road users.

Risk factors




- Serious risk of running over road workers
- Risk of collision with equipment




Safety measures

When setting out advance signing where necessary, the workers must:

- Stop their vehicle in a safe place and switch on their roof-mounted amber beacon
- Ensure they are wearing their high visibility clothing, making them visible to road users
- Set up the signs they need before moving on to the works site and set out the rest of the layout
- Remember that they are at greatest risk when setting out the signing and guarding, so great care is needed, ensuring that they can see the traffic and the traffic can see them
- Face the traffic when setting out signs and take particular care when they are crossing the road to place signs
- Follow the setting-up procedures
- Cover the existing marking that is not effective during the road works
- Test whether the marking is visible in darkness and in wet weather
- Maintain marking and barriers during the road work

For example:

	<p>Park the vehicle in a safe place. If it is parked in the road, it must be protected from traffic going past, by setting up a “Keep Right” sign at the outside corner of the vehicle, along with a Traffic Cone.</p>
	<p>Set out the “Road Works Ahead” sign at a proper distance. If required place another one the other side of the road.</p>
	<p>Work back towards the site placing more signs as necessary. Keep on the verge or footway if you can. If you are on a two-way road repeat this procedure and place signs for traffic going in the opposite direction. Use if necessary, portable traffic signals or stop/go boards. Then cone off the works area.</p>

	<p>Always face the traffic when setting out the cones for the lead-in taper. Start from the kerb or road edge. Complete the coning around the works, leaving enough room for working space and safety zones.</p>
	<p>Use cones, “Keep Right” signs, barriers and lamps, to complete the warning, guidance and protection for the road works.</p>
	<p>Where appropriate set up “End of Road Works” sign to show that the road is clear in both directions. When you need to remove the signs, reverse the above procedure.</p>

Source : <http://www.streetworks.fsnet.co.uk/acoppdf/saswandrw.pdf>

M7-EN.3.3 Warning signs

The purpose of warning signs is to warn road users that they are entering an area of road works. Besides the “Road works” sign, it may be necessary to warn against possible congestion, cyclists in the road, dangerous roadsides, road humps and bottlenecks.

Risk factors

- If the warnings are placed very close to the road works site or are overlooked by the road users, there is a risk of accidents and running over road workers.

Safety measures

- Warning signs should have a side length of at least 70 cm
- Set up the signs 150-250 m before the road works site. Farther off, if the speed is high, and closer, if the speed is low.
- Indicate the distance on sub-signs if it is other than 150-250 m, or if the works site is not immediately visible to road users
- Give an extra warning in advance on motorways.

M7-EN.3.4 Prohibition and mandatory signs

The purpose of prohibition signs is to regulate traffic so no unnecessary hazard or inconvenience is caused in connection to the road works. One of the most important

mandatory signs is “Local speed limit”, which should ensure that traffic passes at an appropriate, low speed. The category also comprises “No entry”, “No overtaking” and “No parking”.

Signs for giving way indicate which of the road users has priority on narrow road stretches.

Signs with “Compulsory passage” may be used to make clear where the road users should drive.

Risk factors

- High speed may result in accidents and running over road workers
- Wrongly set up signs may mislead road users and result in accidents and congestion

Safety measures

- Repeat signs of speed limit and “No overtaking” after each side road, and every 500 m
- If necessary, set up signs in both sides of the roadway
- If necessary, supplement the speed limit with humps or other speed limiting devices
- Take care that the signs are always clean and in good condition

M7-EN.3.5 Information and direction signs

Information signs inform the road users about changes in the course of the lane. Direction signs inform road users about alternative routes if the road works result in closing or relocating the course of a road. (M7.EN3-1.jpg)

Risk factors

- Sudden changes in the course of the lanes without any prior warning can confuse road users and add to the risk of accidents or running over road workers or equipment
- Bad marking of diversions and changed course of road can both annoy and confuse road users. Both add to the risk of accidents or collisions.

Safety measures

- Take care to indicate the changed course of road lanes as correctly as possible
- If necessary, combine with lane lining (centre and marginal strip) on the roadway
- Adapt, remove or cover up the existing signs so there is no misunderstanding or misinterpretation of these signs

M7-EN.3.6 Marginal strip lining

The function of marginal strip lining is partly to guide the traffic past the working area, to protect the people who are employed in the road works, and partly to add to safe management of the traffic around the working area.

Products to be used for marginal strip lining may be warning trailers, edge-marking

plates, marking cones, marking pellets, marking lights, direction arrows and barring devices. When choosing and placing marginal strip lining, the type and duration of the work should always be taken into consideration as well as the traffic conditions on the spot.

Risk factors

- Wrong choice or wrong use of the equipment can be misleading to the road users and lead to collisions and accidents
- Faulty equipment that has not been placed correctly can be overlooked by road users and add to the risk of collisions and accidents

Safety measures

- Always use equipment corresponding to the directions
- Always use the right equipment in relation to the job
- Be careful about correct setting up and illumination of the equipment
- Particular care should be taken that the equipment is visible in curves and behind hills
- Take thorough care of check-up, cleaning and maintenance of equipment

(M7-EN3-2.jpg)

M7-EN.3.7 Marking on the roadway

Temporary marking on the roadway is made with a yellow colour, and should be carried out, so that road users are not confused about the current marking. It may be necessary to cover or remove the existing white marking during the work period.

The yellow marking may be supplemented with road studs with yellow reflexes.

Risk factors

- As is the case with all forms of marking, there is the hazard that marking which has not been made correctly will confuse road users so the probability for collisions and accidents is increased.
- Scars after temporary marking may be difficult to be repaired and add to the probability of accidents

Safety measures

- Be careful that the temporary marking is correct and firmly fixed
- Be careful about maintenance – especially tape used for roadway marking can easily become loose and disappear