



# ERF Recommendations for Sign Inspection



# 1. Inspection details

- a| Name of inspector: \_\_\_\_\_
- b| Date and time: \_\_\_\_\_
- c| Weather conditions: \_\_\_\_\_

# 2. Installation details

	1 (top)	2	3
Picture			
Type of signs according to Vienna convention			
Manufacturer			
Manufacturing date			
Installation date			
GPS coordinates - address			
Post details (diameter, ..)			

# 3. Condition of the Installation

- a| Is the installation obstructing other road users  Yes  No If yes, describe:
  
- b| Stability of the installation  OK  Not OK If not OK, describe:
  
- c| Condition of the support(s)  OK  Not OK If not OK, describe:

## 4. Visibility of the installation (performance)

Are external factors obstructing the visibility of the installation  Yes  No If yes, describe:

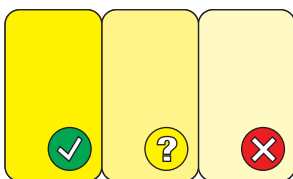
	1	2	3
Sign visibility (day)	<input type="checkbox"/> OK <input type="checkbox"/> NOK	<input type="checkbox"/> OK <input type="checkbox"/> NOK	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Sign visibility (night)	<input type="checkbox"/> OK <input type="checkbox"/> NOK	<input type="checkbox"/> OK <input type="checkbox"/> NOK	<input type="checkbox"/> OK <input type="checkbox"/> NOK
Sign visibility (retroreflection )	<input type="checkbox"/> OK <input type="checkbox"/> NOK	<input type="checkbox"/> OK <input type="checkbox"/> NOK	<input type="checkbox"/> OK <input type="checkbox"/> NOK

Observations and remarks:

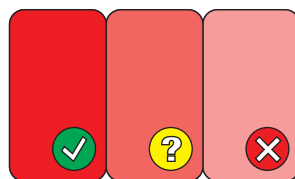
## 5. Sign face condition

	1	2	3
Ageing - discoloration, fading	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Ageing - cracking, delamination	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Contamination, dirt, ...	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO
Damage, graffiti, stickers, ...	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO

Observations and remarks:



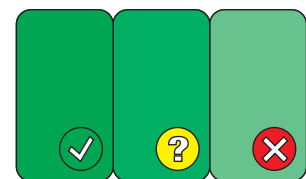
Traffic Sign Yellow



Traffic Sign Red



Traffic Sign Blue



Traffic Sign Green

- The day-time colour meets the agreed requirements for traffic signs. Concerning this matter the traffic sign fulfils its safety-related function.
- The condition of the day-time colour is marginally compliant. The traffic sign should be re-tested within a year or should be replaced with a new one.
- The day-time colour no longer meets the legal requirements for traffic signs. The traffic sign is a safety risk for road traffic and has to be replaced immediately.



The picture colour comparison boxes are compiled in order to be able to assess the condition of a traffic sign colour quickly according to the requirement of EN 12899-1. They do not achieve the accuracy of a metrological examination.

# Inspection guidelines

## Foreword

The “ERF recommendations for sign inspection” is intended as a guideline for a quick assessment of traffic sign conditions.

The visibility of road signs during day and night is critical for the comfort and safety of road users; next to the visibility to the human eye, also the detection by mandatory ISA systems is now adding importance to these signs. Intelligent Speed Adaptation (ISA) is a new ADAS now mandatory for all new vehicle registrations <sup>1</sup>. The system reliability also depends on how easy traffic signs imposing speed limits are detected by vehicle sensors.

The listed parameters can be included in a digital environment/record and upgrade an asset management system. A smartphone application will allow more easy and correct data gathering (GPS coordinates, pictures etc.).

## User Manual and background

### Step 1: Inspection details

Name of the person performing the inspection, inspection date and time of the day. Weather conditions (rain, sun, fog, ... as these will influence the visibility of the sign at time of inspection)

### Step 2: Installation details

A traffic sign can consist of multiple sign faces (messages) on the same post. The table allows to assess each individual sign face. Each sign face should have a label on the back providing the essential information. Each column covers a specific sign face or the post, we recommend starting at the top of the sign and assess the quality of the post/support structure as last.

#### Picture:

Take a picture of the frontal view of the sign as close as possible.

#### Type according to Vienna Convention<sup>2</sup>:

UNECE transport division has published a convention proposing an international uniformity of signs, signals and symbols. For road signs, the convention proposes eight sections:

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<sup>i</sup>[https://road-safety.transport.ec.europa.eu/european-road-safety-observatory/statistics-and-analysis-archive/esafety/intelligent-speed-adaptation-isa\\_en](https://road-safety.transport.ec.europa.eu/european-road-safety-observatory/statistics-and-analysis-archive/esafety/intelligent-speed-adaptation-isa_en). Check as well regulation EU 2021/1958 june 23rd of 2021

<sup>ii</sup> The whole convention document can be consulted here:

<https://unece.org/road-traffic-and-road-signs-and-signals-agreements-and-conventions>

A: Danger warning signs



B: Priority signs



C: Prohibitory or restrictive signs



D: Mandatory signs



E: Special regulations signs



F: information, facilities or service signs



G: direction, position or indication signs



H: additional panels



Manufacturer and manufacturing date can be found on the label on the backside.

Installation date may be more difficult to find on the sign itself. This information may be available if you can connect to a sign inventory database, and it may provide information about the items below.

### GPS coordinates

From mobile device, one can find GPS coordinates by “dropping a pin” on your location in the google maps app.

### Post details

Add relevant information related to the support structure (could be a single post up to a more complex structure). Briefly describe and mention the material used (metal, wood, concrete...).

## Step 3: Condition of the Installation

- Verify if the sign could obstruct other road users. For example, installation too close to a biking path. If yes, describe how the sign could pose a risk (bad location, road users affected).
- Verify that the installation is sufficiently stable and has no tendency to tilt or fall. If not OK, describe the potential risk or danger.
- Describe the condition of the support structure: rust, damage, missing parts, ... that could affect the strength of the structure. If not OK, mention the defects and potential risks.

## Step 4: Visibility of the Installation

### External factors

This part covers if the environment around the sign is potentially obstructing the visibility of the message to the road users. If yes, mention what is blocking the view.

Example 1: parking spaces (with large vehicle) in front of the sign could temporarily obstruct the view.

Example 2: vegetation, if not under control, could grow in front of the sign.

Please indicate if the above issues apply to each sign face (=each message).

### Visibility

If possible, also assess if the problem poses itself during the day and/or night. We realise that measuring retroreflection needs specific equipment but please indicate if you feel the sign does not have the right material to reflect (enough) light back to the driver. Example: the sign face is just simply painted material.

## Step 5: Sign face condition

This part concerns the condition of the front area generating the message on the sign face.

**Discoloration** is generally the first sign of ageing. Red colour tends to fade faster than others. So, indicate if the colour change is still acceptable or not. Please refer to the colour ruler to rate the level of fading in the observations and remarks box.

### Cracking and delamination

Indicate if any damage to the ink or film.

### Contamination and dirt

Verify the loss of visibility due to contamination of the sign face. Next to dirt from road traffic or birds, also algae and moss could obstruct the information on the sign. Note in the observations and remarks box if simple cleaning could remove the contamination.

### Damage, graffiti, stickers

Here indicate any human inflicted damage is visible on the sign face.

Use the observations and remarks boxes to share any additional information about the related items.

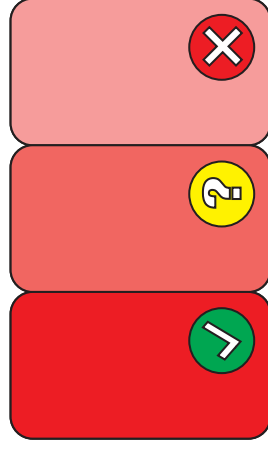
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### Colour ruler

*This colour ruler is normally printed on reflective sheeting, while now printed on paper the colours might not represent a real-life scenario. The three shades for each colour are to be used as a quick tool to determine the colour shift.*



Traffic Sign Yellow



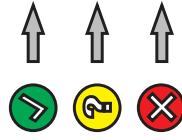
Traffic Sign Red



Traffic Sign Blue



Traffic Sign Green



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Concerning this matter the traffic sign fulfils its safety-related function.
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