



BSI Standards Publication

Railway applications — Track — Safety protection on the track during work

Part 3: Competences for personnel related
to work on or near tracks

National foreword

This British Standard is the UK implementation of EN 16704-3:2016.

The UK participation in its preparation was entrusted to Technical Committee RAE/2, Railway Applications - Track.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Published by BSI Standards Limited 2016

ISBN 978 0 580 85886 4

ICS 93.100

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 November 2016.

Amendments/corrigenda issued since publication

Date	Text affected
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EUROPEAN STANDARD

EN 16704-3

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2016

ICS 93.100

English Version

Railway applications - Track - Safety protection on the track during work - Part 3: Competences for personnel related to work on or near tracks

Applications ferroviaires - Voie - Protection et sécurité durant des travaux sur la voie - Partie 3: Compétences du personnel liées au travail sur ou à proximité de la voie ferrée

Bahnanwendungen - Oberbau - Sicherungsmaßnahmen während Gleisbauarbeiten - Teil 3: Fachkenntnisse des Personals bei Arbeiten neben oder in Gleisen

This European Standard was approved by CEN on 6 August 2016.

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European foreword

This document (EN 16704-3:2016) has been prepared by Technical Committee CEN/TC 256 “Railway applications”, the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2017, and conflicting national standards shall be withdrawn at the latest by May 2017.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

This European Standard is one of the series EN 16704 “*Railway applications – Track – Safety protection on the track during work*” as listed below:

- *Part 1: Railway risks and common principles for protection of fixed and mobile work sites*
- *Part 2-1: Common solutions and technology – Technical requirements for Track Warning Systems (TWS)*
- *Part 2-2: Common solutions and technology – Technical requirements for barriers*
- *Part 3: Competences of personnel related to work on or near tracks*

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

Work on or near railway tracks can, if not executed with the proper package of measures related to safety, endanger the health and safety of personnel on work sites.

It is therefore essential that personnel involved in the work on or near the track are competent to carry out the activity or activities listed in this standard. As job descriptions can vary from country to country and from company to company this standard specifies the activities to be carried out. Job descriptions should specify the activities within the work.

The safety relevant requirements for operation determined in national regulations are mandatory. From the requirements in this EN no presumptions of conformity can be related to national regulations for safety at work.

1 Scope

This European Standard defines activities related to work on or near the railway track and the associated competence profiles of persons who carry out these activities if one or more of the 5 significant risks described inside EN 16704-1:2016 arise as a result of their activities.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 16704-1:2016, *Railway applications – Track – Safety protection on the track during work – Part 1: Railway risks and common principles for protection of fixed and mobile work sites*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

assessment

process by which the evidence generated, gathered and provided about a person is judged to determine the competence of this person

3.2

competence

ability to undertake responsibilities and to perform activities to a recognized standard on a regular basis

Note 1 to entry Competence is the combination of practical thinking skills, experience, individual responsibility, and knowledge, including a willingness to undertake work activities in accordance with agreed standards, rules and procedures.

3.3

track safety card

document that confirms that specific competence has been demonstrated by a person against the requirements of this standard

4 Competences

4.1 Competence level

To be deemed competent a person shall demonstrate a level of predefined competence of theoretical and practical ability as far as necessary for the activity in question as set out in Annex A.

4.2 Requirements for assessment and maintenance of competence

4.2.1 General requirements

The competence of persons who work on safety aspects shall be checked against the requirements set in this standard and a track safety card shall be issued after a positive evaluation by a competent body.

NOTE 1 A body complying with the requirements specified in EN ISO/IEC 17024 is deemed to be competent.

It is permissible that the competent body is part of a larger organization e.g. infrastructure company or trackwork company.

For determining the competence a checking of the medical aptitude is necessary. In case of absence of legal regulations of a country, the medical requirements in this standard are applicable on the initiative of the company doctor.

4.2.2 Maintenance of competence

Compliance with the medical requirements in 5.1 shall be checked at least once every five years and in case of a doubt. If there are concrete reasons for doubts about the health ability, the contractor shall arrange a medical examination of the employee in order to determine his competence.

Persons shall be considered to be complying with the requirements of 5.2.to 5.4 as long as they are pursuing their activity.

NOTE Regular practice is considered to be very important for keeping the competence at the required level.

4.3 Withdrawal of track safety card

A track safety card should be withdrawn for the following reasons in particular:

- making a decision resulting in a major breach of safety;
- taking action that endangers the safety of self or others;
- person demonstrates a history of poor safety behaviours;
- the medical details have expired and there is no record that a renewal has taken place;
- the failure and/or refusal of a Drugs and Alcohol Screening.

On withdrawal of the track safety card the reasons shall be recorded.

It shall be decided in relation to the reason for the competence being withdrawn how long the person shall be prevented from being re-issued with the track safety card.

5 Competence requirements

5.1 Medical requirements

5.1.1 General vision

The following vision requirements shall be met:

- aided or unaided distance visual acuity: minimum of 0,8 (right eye + left eye – measured separately); minimum of 0,3 in worse eye;
- intermediate and near vision: sufficient whether aided or unaided;
- contact lenses are allowed;
- vision field: normal (absence of any abnormality affecting the task to be performed);
- vision for both eyes: present;
- binocular vision: present;
- contrast sensitivity: normal;
- absence of progressive eye disease.

NOTE Measurement of visual acuity is defined in EN ISO 8596.

5.1.2 Colour vision

Normal colour vision shall be assessed using a recognized test, such as the Ishihara test, complemented by another recognized test as required.

5.1.3 Hearing

Sufficient hearing confirmed with tone audiogram that person's hearing is good enough to hear warning signals, to keep a phone conversation going and able to hear alert tones and radio messages.

Hearing loss should not exceed 30 dB averaged over frequencies of 0,5 kHz, 1 kHz and 2 kHz in either ear.

There shall be no evidence of medical condition likely to cause a sudden or unpredictable change in hearing.

5.1.4 Basic fitness

Persons shall not be suffering from medical conditions, or taking any medical treatment, likely to cause in particular:

- sudden loss of consciousness;
- impairment of awareness or concentration;
- sudden incapacity;
- visual impairment of a temporary or transient nature;
- impairment of balance or co-ordination;
- significant limitation of mobility.

Persons shall have physical capabilities e.g. to lift up to 25 kg, to negotiate steps and to step over obstructions such as rails.

5.2 Psychological requirements

The aim of psychological assessment is to support the appointment of staff who demonstrate the cognitive, psychomotor, behavioural aptitudes and personality factors required to perform their roles to the standard required.

Assessment tools that are chosen shall be reliable, validated and consistently applied.

NOTE There are no internationally recognized testing procedures for psychological requirements.

To assess the cognitive, psychomotor, behavioural aptitudes and personality factors required, psychological assessments shall take into account the following criteria:

- Attention and concentration (Ability to attend and acknowledge different sources of information/stimuli at the same time and collect and manage selected information/stimuli either under time pressure and/or while being presented with other sources of information/stimuli);
- Memory (Ability to learn and store job related details and relationships in appropriate time limits);
- Perceptive capability (Ability to anticipate, recognize and correctly interpret stimuli);
- Reasoning (Ability to exhibit flexible thinking and find relationships and essential cues in basic, technical and practical fields to make correct decisions);

- Speed of reaction (React to acoustic and /or visual signals in a timely and defined way);
- Gestured co-ordination (Appropriate and controlled movements in response to any complex stimuli);
- Emotional self-control (Ability to control oneself, in particular one's emotions and desires, especially in difficult situations);
- Behavioural reliability (Consistently demonstrates the required level of performance, quality and safety by exhibiting the behavioural aptitudes to undertake the role to the standard required);
- Autonomy (Ability to work effectively in an independent manner);
- Conscientiousness (Wishing to do one's work or duty well and thoroughly).

5.3 Communication requirements

5.3.1 Reading/writing

The following levels of competence shall be applied:

- a) Level 1: Can read and demonstrate understanding of basic written instructions in the language, or languages, in which the railway infrastructure operates.
- b) Level 2: Can read and demonstrate understanding of complex written instructions and write basic records of actions taken in the language, or languages, in which the railway infrastructure operates.
- c) Level 3: Can read and demonstrate understanding of complex written instructions and write complex records and instructions in the language, or languages, in which the railway infrastructure operates.

5.3.2 Verbal communication

The following levels of competence shall be applied in the language, or languages, required by the infrastructure manager:

- a) Level 1:
 - can demonstrate understanding of basic verbal instructions;
 - can communicate basic safety related information;
 - can cope with practical situations involving an unforeseen element;
 - can describe;
 - can keep a simple conversation going.
- b) Level 2:
 - can demonstrate understanding of complex verbal instructions;
 - can communicate complex safety related information;
 - can put forward an opinion;
 - can negotiate;
 - can persuade;

- can give advice;
- can cope with totally unforeseen situations;
- can make assumptions;
- can express an argued opinion.

5.4 Professional skills

The following levels of competence shall be applied:

- a) Level 1: Understands the basic railway safety principles and acts upon them.
- b) Level 2: Understands the railway safety principles, selects those appropriate to a given situation and applies them. Implements safety plans and instructs track workers on site.
- c) Level 3: Has extensive knowledge of the railway safety principles. Performs risk analysis and writes safety plans for work to be undertaken.

Annex A (normative)

Assessment of competences

A.1 General

This annex provides requirements for the competences to be proven.

A.2 Assessment

The practical and theoretical competence shall be proven for every person working on or near the railway track. Criteria for the competence levels are listed in Table A.1.

Table A.1 — Competence levels

Activity	Competences														Specific requirements				
	5.1.1	5.1.2	5.1.3	5.1.4	5.2	Attention/concentration	Memory	Perceptive capability	Reasoning	Speed of reaction	Gestured coordination	Emotional self-control	Behavioural reliability	Autonomy		Conscientiousness	5.3.1	5.3.2	5.4
Working on track under supervision	+	-	+	+	-	-	-	-	-	-	-	-	-	-	+	L1	L1	L1	A.3.1
Working on track individually	+	+	+	+	+	+	+	+	+	+	-	-	+	+	+	L2	L1	L2	A.3.2
Observing trains Signalling trains Warning coworkers	+	+	+	+	+	-	-	+	-	+	+	+	+	+	+	L1	L1	L1	A.3.3
Communicating warnings via radio or directly	-	-	+	+	+	+	+	-	-	-	-	+	+	-	+	L1	L1	L1	A.3.4
Overseeing people leaving dangerous zone	+	-	+	+	+	-	-	-	-	+	+	+	+	+	+	L1	L1	L1	A.3.5
Preventing unintended entering of the dangerous zone	+	-	+	+	+	-	-	-	-	+	+	+	+	+	+	L1	L1	L1	A.3.6
Directing and supervising track work machines	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	L2	L2	L2	A.3.7

Activity		Competences														Specific requirements			
		5.1.1 General vision	5.1.2 Colour vision	5.1.3 Hearing	5.1.4 Basic fitness	5.2 Attention/concentration	5.2 Memory	5.2 Perceptive capability	5.2 Reasoning	5.2 Speed of reaction	5.2 Gestured coordination	5.2 Emotional self-control	5.2 Behavioural reliability	5.2 Autonomy	5.2 Conscientiousness		5.3.1 Reading/writing required level	5.3.2 Verbal communication required level	5.4 Professional skill required level
Operating track work machines on worksite		+	+	+	+	-	-	-	-	-	-	-	-	-	-	-	L1	L1	A3.8
Operation of warning systems		+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	L1	L1	A3.9
Communication with traffic control		+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	L1	L2	A3.10
Implement safety plans		+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	L2	L2	A3.11
Instruct personnel		+	-	+	-	+	+	+	+	+	+	+	+	+	+	+	L2	L2	A3.12
Perform risk assessment and plan work site safety		-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	L3	-	A3.13
Visiting track accompanied at all times		-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	L1	A3.14

Key
+ Competence necessary for activity
- Competence not necessary for activity
L1, L2, L3 Competence necessary for activity on level as described in 5.3 and 5.4

A.3 Competence levels

A.3.1 Working on track under supervision

A.3.1.1 Knowledge requirements

Persons shall have knowledge and understanding of:

- a) medical and fitness conditions that prohibit them to work on or near the track;
- b) what terms are used to describe track and trackside features;
- c) the significant railway risks as specified in EN 16704-1:2016;
- d) the basic railway safety principles and act upon them;
- e) how to identify others within the work group and the roles and responsibility of each;
- f) the types of protection and the difference in risks each poses;
- g) what the briefing arrangements are and what to do if they do not understand the briefing;
- h) what general signs are used on or near the line and what each sign means;
- i) why it is important that personal protective equipment (PPE) is worn, clean and correctly fastened;
- j) what constitutes a place of safety;
- k) what warning methods are used and how to react when a warning is given;
- l) what means of communication are available and how to use them;
- m) why not to rely on using signal aspects, level crossing gates, barrier position as a method of warning;
- n) what the limits of their own authority are and who to communicate with when the task at hand exceeds this limit;
- o) what actions to take in an emergency;
- p) what the requirements of walking on or near the line/crossing the railway safely are;
- q) how unattended tools can endanger people or vehicles on or near the track and what precautions need to be taken.

A.3.1.2 Performance statements

Persons shall be able to:

- a) work safely at all times, complying with the relevant rules and guidelines;
- b) identify key personnel associated with the activities;
- c) follow instructions effectively to demonstrate their own safety when walking or working on or near the line;

- d) use appropriate personal protective equipment (PPE) and confirm it is fit for purpose;
- e) accurately judge where the limit of 'On or Near the Track' is and identify a suitable place of safety;
- f) identify hazards that can cause impaired safety on or near the line and the precautions to be taken;
- g) take appropriate action when warnings are given from all appropriate sources;
- h) recognize dangers, deal promptly and effectively with problems within their control;
- i) challenge unsafe working practices;
- j) implement emergency actions when required;
- k) complete recording, reporting and escalation procedures as appropriate.

A.3.2 Working on track individually

A.3.2.1 Basic requirements

All requirements specified in A.3.1 shall apply.

A.3.2.2 Additional knowledge requirements

A.3.2.2.1 Planning phase

Persons shall have knowledge and understanding:

- a) how to find and access the relevant information on the access routes to, from and within the location of the activities;
- b) how to use sources of information to identify and judge risks to personal safety;
- c) what safety measures are available and how to use these;
- d) whom shall be contacted when protection arrangements are not adequate or the risks to personal safety are too great;
- e) what documentation is required to be completed.

A.3.2.2.2 Execution phase

Persons shall have knowledge and understanding of:

- a) the principles of working alone safely and how to apply them;
- b) how to identify places of safety relevant to the location;
- c) how to implement the protection arrangements required to control the previously defined risks;
- d) how to effectively monitor safety measures to confirm their continued integrity and effectiveness;
- e) how to identify where changing conditions impact on the protection and the actions required to counter this;
- f) what the limits of their responsibility and authority are;

- g) how to avoid personal injury during the activities;
- h) reporting lines and escalation procedures;
- i) protocols relating to communication of important safety information.

A.3.2.3 Additional performance statements

A.3.2.3.1 Planning phase

Persons shall be able to:

- a) identify and review information on the risks associated with the activities and location in advance of going on or near the line;
- b) accurately assess railway specific risks for its impact on personal safety;
- c) accurately identify the safest route to and from the required location;
- d) accurately identify suitable protection arrangements from the information obtained;
- e) check and identify any inconsistencies in the protection information which may impact on the safety and integrity of the protection arrangements;
- f) complete recording, reporting and escalation procedures as appropriate;
- g) accurately record details of the activities, route and protection arrangements prior to going on or near the line.

A.3.2.3.2 Execution phase

Persons shall be able to:

- a) work safely at all times, complying with relevant rules and guidelines;
- b) take the previously identified safest route to and from the required location;
- c) test protection arrangements prior to commencing activities;
- d) identify the location of a suitable place of safety prior to commencing activities;
- e) monitor protection arrangements on a regular basis to confirm continued personal safety;
- f) assess changing conditions and circumstances for their impact on the ability to undertake activities safely;
- g) suspend the activities when protection arrangements are no longer adequate to control the risks to personal safety and take a place of safety;
- h) follow recording, reporting and escalation procedures.

A.3.3 Observing trains and transmitting warning to co-workers

A.3.3.1 Basic requirements

All requirements specified in A.3.1 shall apply.

A.3.3.2 Additional knowledge requirements

Persons shall have knowledge and understanding of:

- a) the risks associated with different safe systems of work in relation to stationary or moving worksites;
- b) whom is responsible for setting up, maintaining and withdrawing a safe system of work;
- c) whom is responsible for appointing and positioning the person protecting the working group;
- d) what methods and equipment are used to give warning of approaching trains and the situations in which they should be used;
- e) what action to take when a person being protected fails to acknowledge a warning;
- f) what action to take when changing situations affect the person's ability to protect the working group;
- g) whom to communicate with and when;
- h) why it is important that the person is not distracted, maintains vigilance and what to do if the person is unable to remain vigilant;
- i) what actions need to be taken in an emergency and how to complete these actions;
- j) what the limits of their own authority are;
- k) a place of safety;
- l) what recording, reporting and escalation procedures apply.

A.3.3.3 Additional performance statements

Persons shall be able to:

- a) follow instructions effectively to confirm their own safety and those of others when performing the activities;
- b) identify situations that can cause impaired safety and the precautions to be taken;
- c) check that their equipment required to complete the activities is in good condition/working order;
- d) check and use appropriate personal protective equipment (PPE), which is fit for purpose;
- e) identify the group under their protection and be clearly identifiable by that group;
- f) warn the group against approaching trains;
- g) maintain a watch for changing situations that may endanger themselves or those they are protecting;
- h) take prompt, appropriate action when changes occur;
- i) effectively deal with situations where people in the protected group do not react to warnings;

- j) identify changing situations that may affect their ability to protect the group and promptly take appropriate action;
- k) comply with safe system of work briefings.

A.3.4 Communicating warnings via radio or directly

A.3.4.1 Basic requirements

All requirements specified in A.3.1 shall apply.

A.3.4.2 Additional knowledge requirements

Persons shall have knowledge and understanding of:

- a) the risks associated with different safe systems of work in relation to stationary or moving worksites;
- b) whom is responsible for setting up, maintaining and withdrawing a safe system of work;
- c) what methods and equipment are used to give warning of approaching trains and the situations in which they should be used;
- d) what action to take when a person being protected fails to acknowledge a transmitted warning or moves into a place of danger;
- e) what action to take when changing situations may affect their ability to protect the working group;
- f) whom to communicate with and when;
- g) why it is important that the person is not distracted, maintains vigilance and what to do if the person is unable to remain vigilant;
- h) what actions need to be taken in an emergency and how to complete these actions;
- i) what the limits of their authority are and who to communicate with when the activities required exceeds this limit;
- j) a place of safety;
- k) what recording, reporting and escalation procedures apply.

A.3.4.3 Additional performance statements

Persons shall be able to:

- a) follow instructions effectively to confirm their own safety and those of others when performing the activities;
- b) identify situations that can cause impaired safety and the precautions to be taken;
- c) check that their equipment required to complete the activities is in good condition/working order;
- d) check and use appropriate personal protective equipment (PPE), which is fit for purpose;
- e) identify the group under their protection and be clearly identifiable by that group;

- f) communicate warnings of approaching trains;
- g) effectively deal with situations where people in the protected group do not react to warnings;
- h) identify changing situations that may affect their ability to protect the group and promptly take appropriate action;
- i) comply with safe system of work briefings.

A.3.5 Overseeing people leaving danger zone

A.3.5.1 Basic requirements

All requirements specified in A.3.1 shall apply.

A.3.5.2 Additional knowledge requirements

Persons shall have knowledge and understanding of:

- a) the risks associated with different safe systems of work in relation to stationary or moving worksites;
- b) whom is responsible for setting up, maintaining and withdrawing a safe system of work;
- c) what methods and equipment are used to give warning of approaching trains and the situations in which they should be used;
- d) what action to take when a person being protected fails to acknowledge a warning or returns into a place of danger;
- e) what action to take when changing situations may affect their ability to protect the working group;
- f) whom to communicate with and when;
- g) why it is important that they are not distracted, maintain vigilance and what to do if they are unable to remain vigilant;
- h) what actions need to be taken in an emergency and how to complete these actions;
- i) what the limits of their authority are and whom to communicate with when the activities required exceeds this limit;
- j) when they should be in a place of safety;
- k) what recording, reporting and escalation procedures apply.

A.3.5.3 Additional performance statements

Persons shall be able to:

- a) follow instructions effectively to confirm their own safety and those of others when performing the activities;
- b) identify situations that can cause impaired safety and the precautions to be taken;
- c) identify the group under their protection and be clearly identified by that group;

- d) protect the group from approaching trains;
- e) maintain a watch for changing situations that may endanger themselves or those they are protecting;
- f) take prompt, appropriate action when changes occur;
- g) effectively deal with situations where people in the protected group do not react to warnings;
- h) identify changing situations that may affect their ability to protect the group and promptly take appropriate action.
- i) comply with safe system of work briefings.

A.3.6 Preventing unintended entering of the danger zone

A.3.6.1 Basic requirements

All requirements specified in A.3.1 shall apply.

A.3.6.2 Additional knowledge requirements

Persons shall have knowledge and understanding of:

- a) the risks associated with different safe systems of work in relation to stationary or moving worksites;
- b) whom is responsible for setting up, maintaining and withdrawing a safe system of work;
- c) what action to take when a person being protected fails to acknowledge a warning and moves into a place of danger;
- d) what action to take when changing situations may affect their ability to protect the working group;
- e) whom to communicate with and when;
- f) why it is important that they are not distracted, maintain vigilance and what to do if they are unable to remain vigilant;
- g) what actions need to be taken in an emergency and how to complete these actions;
- h) what the limits of their authority are and whom to communicate with when the activities required exceeds this limit;
- i) the boundaries of the danger zone
- j) what recording, reporting and escalation procedures apply.

A.3.6.3 Additional performance statements

Persons shall be able to:

- a) follow instructions effectively to confirm their own safety and those of others when performing the activities;
- b) identify situations that can cause impaired safety and the precautions to be taken;

- c) check that their equipment required to complete the activities is in good condition/working order;
- d) identify the group under their protection and be clearly identifiable by that group;
- e) keep people out of the danger zone;
- f) maintain a vigilant watch for changing situations that may endanger themselves or those they are protecting;
- g) take prompt, appropriate action when changes occur;
- h) effectively deal with situations where people in the protected group do not react to warnings;
- i) identify changing situations that may affect their ability to protect the group and promptly take appropriate action;
- j) comply with safe system of work briefings.

A.3.7 Directing and supervising track work machines

A.3.7.1 Basic requirements

All requirements specified in A.3.1 shall apply.

A.3.7.2 Additional knowledge Requirements

Persons shall have knowledge and understanding of:

- a) how the infrastructure functions under normal operating conditions;
- b) what effect the train movements within the worksite might have on the safe operation of the activities;
- c) rules, regulations and procedures which apply to the movement of trains within worksites;
- d) what responsibilities key personnel have with relation to the movement of trains;
- e) what procedures to follow in the event of difficulties arising in train movements in the worksite;
- f) what methods of communication are available, whom should they communicate with, and what protocols should be implemented;
- g) what the procedures are for propelling movements and the importance of clear and effective communication in propelling;
- h) what documentation needs to be completed in relation to the associated activities;
- i) whom to escalate to when the activities undertaken are beyond their limits of authority.

A.3.7.3 Additional performance statements

Persons shall be able to show they can:

- a) confirm the status of the infrastructure prior to all train movements;
- b) confirm that personnel working in the worksite are aware of train movements;

- c) give instructions to drivers as to the location of the movement;
- d) accurately establish the position of each train before authorizing further train movements;
- e) authorize all movements within the limits of their own authority;
- f) monitor all train movements at regular intervals within the work site to establish relative place and timings;
- g) identify and deal with any difficulties relating to train movements in accordance with industry regulations;
- h) communicate with others in a clear, concise, and timely manner and in accordance with industry rules and protocols;
- i) complete relevant documentation accurately associated with the activities;
- j) follow recording, reporting and escalation procedures.

A.3.8 Operating trackwork machines on worksite

A.3.8.1 Basic requirements

All requirements specified in A.3.1 shall apply.

A.3.8.2 Additional knowledge requirements

Persons shall have knowledge and understanding of:

- a) what means of communication are available and how to use them e.g. protocols relating to communication of important safety information;
- b) how to handle electrical risks in case of an emergency.

A.3.9 Operation of warning systems

A.3.9.1 Basic requirements

All requirements specified in A.3.1 shall apply.

A.3.9.2 Additional knowledge requirements

Persons shall have knowledge and understanding of

- a) what means of communication are available and how to use them e.g. protocols relating to communication of important safety information;
- b) what actions shall be taken in case of an emergency.

A.3.10 Communication with traffic control

A.3.10.1 Basic requirements

All requirements specified in A.3.1 shall apply.

A.3.10.2 Additional knowledge requirements

Persons shall have knowledge and understanding of:

- a) rules of communication via telephone and radio;
- b) the availability and suitability of methods of communication;
- c) the roles and responsibilities of personnel involved in the protection arrangements;
- d) whom to escalate to when the activities undertaken are beyond their limits of authority.

A.3.10.3 Additional performance statements

Persons shall be able to show they can:

- a) communicate via telephone and radio in the prescribed way;
- b) identify and test communications arrangements and methods to demonstrate that contact with the appropriate personnel can be achieved;
- c) check and identify any inconsistencies in the protection information which may impact on the safety and integrity of the protection arrangements;
- d) confirm any changes to the overall safety measures are agreed, communicated and documented clearly and concisely.

A.3.11 Implement safety plans

A.3.11.1 Basic requirements

All requirements specified in A.3.1 shall apply.

A.3.11.2 Additional knowledge requirements

Persons shall have knowledge and understanding of:

- a) how to implement the protection arrangements required;
- b) what effects the protection arrangements might have on the safe operation of the railway;
- c) rules, regulations and procedures which apply to the implementation of the safety measures
- d) what elements of the protection arrangements need to be in place before authorizing the commencement of the activities;
- e) how authorization to start the activities shall be communicated to the group;
- f) how to identify any changes in protection arrangements from the relevant documentation supplied;
- g) how to recognize where planned protection arrangements are unsuitable;
- h) whom to contact when protection arrangements are beyond the competence of the person;
- i) all relevant documentation associated with the implementation of protection arrangements.

A.3.11.3 Additional performance statements

Persons shall be able to show they can:

- a) implement protection arrangements in accordance with the planned safe system of work;
- b) confirm protection methods are appropriate to the safety measures identified for the site of work;
- c) set up protection methods safely and systematically;
- d) set up Track Safety Warning devices (where utilized) in accordance with their operating instructions;
- e) confirm that the protection arrangements are in place with the working group prior to authorizing the commencement of activities;
- f) clearly communicate authorization to work to the working group;
- g) accurately identify protection methods which are outside the person's competence and take appropriate action;
- h) follow recording, reporting and escalation procedures.

A.3.12 Instruct personnel

A.3.12.1 Basic requirements

All requirements specified in A.3.1 shall apply.

A.3.12.2 Additional knowledge requirements

Persons shall have knowledge and understanding of:

- a) effective communication methodology and how to apply these;
- b) the details and requirements of the safe system of work and the risks associated with the site of work;
- c) the different required track safety cards for different activities
- d) how to check that track safety cards are valid and what action to take if track safety cards are invalid or unavailable;
- e) how external factors such as noise and distraction might affect the briefing;
- f) how to check that the group has understood the briefing;
- g) what to do if a member of the working group arrives late;
- h) what documentation needs to be completed at the time of the briefing;
- i) what recording, reporting and escalation procedures apply.

A.3.12.3 Additional performance statements

Persons shall be able to show they can:

- a) wear the appropriate identification;
- b) check and document, prior to briefing, the track safety cards and equipment of all personnel;
- c) identify and use a suitable location to give the briefing;
- d) communicate in a clear and concise manner, the details of the safe system of work including access and egress arrangements and place of safety;
- e) fully describe specific risks relating to the safety of the site of work;
- f) explain the protection arrangements to control the risks;
- g) respond fully and clearly to questions from the working group relating to the safe system of work and the site of work;
- h) check and record the understanding of all members of the working group to confirm proper application of the safe system of work;
- i) follow relevant recording, reporting and escalation procedures.

A.3.13 Perform risk assessment and plan work site safety

A.3.13.1 Knowledge requirements

Persons shall have knowledge and understanding of:

- a) the railway risks and common principles for protection of fixed and mobile worksites as described in EN 16704-1:2016;
- b) how to identify and access the relevant information on the site of work;
- c) how to interpret sources of information to gather relevant knowledge on the site of work including (but not limited to):
 - access and egress arrangement;
 - hazards that could compromise safety of the working group;
 - dangers to the operational railway;
 - limitation of the site of work.
- d) how to assess the impact of risk related to each hazard in the site of work;
- e) how to identify inconsistencies in the relevant sources of information;
- f) how to confirm personal safety when on or near the line during a visual inspection;
- g) to whom to report any inconsistencies in the planned work;
- h) what documentation needs to be completed when:

- visually inspecting the site of work;
 - reviewing the planned safe system of work;
 - identifying the inconsistencies.
- i) what recording, reporting and escalation procedures apply when undertaking the activities.

A.3.13.2 Performance statements

The person shall be able to show they can:

- a) review working activity to identify requirements;
- b) gather all required information relating to site and nature of the work;
- c) deal with any inconsistencies or missing information appropriately;
- d) review and identify the physical limits, potential safety risks and any restrictions associated with the site of work;
- e) review and assess the information to identify the most suitable safe system of work;
- f) identify the most suitable protection arrangement for the working activity;
- g) determine the resource requirements for the safe system of work;
- h) identify the type, location, duration and timing of the protection to confirm the safety of the working group and the operational railway;
- i) identify and take into account any conflict or compatibility issue with other work activity and/or protection arrangements in the same area/timeframes;
- j) communicate with all relevant parties involved in the planning process;

A.3.14 Visiting track accompanied at all times

Applicants for a visitor permit shall provide satisfactory medical self-certification information to state their basic fitness.

Visitors to a worksite shall be accompanied by an adequate number of persons competent to work on the track individually, see A.3.2, under the supervision of a person competent to implement safety plans, see A.3.10.

Visitors shall be briefed on:

- relevant railway terminology;
- significant railway risks;
- safe system of work;
- place of safety;
- expected behaviour;
- activities they are permitted to undertake.

Annex B (informative)

A-deviations

A-deviation: National deviation due to regulations, the alteration of which is for the time being outside the competence of the CEN/ CENELEC member.

This European Standard does not fall under any Directive of the EU.

In the relevant CEN/ CENELEC countries these A-deviations are valid instead of the provisions of the European Standard until they have been removed.

<u>Clause</u>	<u>Deviation</u>
5.1.1 and 5.1.3	<p>In Switzerland, the following medical requirements apply for the employees involved in safety relevant activities:</p> <ul style="list-style-type: none">— Regulation on safety related activities (OASF; SR 742.141.2);— Regulation of DETEC (Federal Department of the Environment, Energy and Communications) ruling the admittance for safety related activities (OAASF; SR 742.141.22);— Directive of FOT (Federal Office of Transport) “medical aptitude test for employees involved in safety related activities according to OCVM and OAASF”;— Annex 3 of the FOT’s directive regarding the medical aptitude test for employees involved in safety related activities. <p>On the basis of the above provisions, the following values shall be applied:</p> <ul style="list-style-type: none">— Visual acuity for far distances:<ul style="list-style-type: none">— till 35 years old: at least 0,7 for the best eye and at least 0,5 for the worst eye;— more than 35 years old and during medical checks: at least 0,5 for the best eye and at least 0,3 for the worst eye.— Auditory acuity:<ul style="list-style-type: none">— At 2000 Hz, a discrepancy of 40 dB is tolerable.

Reason:

For all employees involved in safety related activities, standard values are applied according to the requirement levels.

Bibliography

- [1] EN ISO 8596, *Ophthalmic optics - Visual acuity testing - Standard optotype and its presentation (ISO 8596)*
- [2] EN ISO/IEC 17024, *Conformity assessment - General requirements for bodies operating certification of persons (ISO/IEC 17024)*

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