



1.18 Occupational safety

Updated on: 2019-05-22

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Regulations regarding operation tools complete or modify the execution of safety technical measures which ensure safe operation of the machinery, technological units, devices, working environment and construction modifications. The regulation aims to unify the interpretation of legal acts, guidelines and regulations including generally acknowledged technical rules.

This ITS does not concern any obligations arising from the valid legal regulations of occupational health and safety including internal ŠKODA AUTO standards.

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The latest updated version of this ITS is available at the "<http://cts.skoda-auto.com/>" web site, the company is not obliged to notify their business partners on the ITS update.

Therefore we strongly recommend that everybody checks the ITS regularly. These documents become valid on the date of their last update. For the contracts signed is decisive the validity of the ITS at the time of the order.

Note: In case of any differences between the Czech, English or German language mutation of this ITS, the Czech version takes precedence. The Czech version is available at <http://cts.skoda-auto.com/>.

First issue: 1993-05-01

Change no.:	Date:	Note:
1.	1995-04	fully revised
2.	2002-02-01	Arial font, logotype
3.	2004-07-01	ŠkodaAuto
4.	2009-03-11	fully revised
5.	2010-12-21	update
6.	2011-11-28	fully revised
7.	2012-02-28	update, Verdana font,
8.	2012-04-13	modified sections: 1., 2., 4.1, 7.
9.	2013-02-20	update
10.	2016-03-10	Update
11.	2017-09-26	Update of sections 1., 2., 7., Change of OU abbreviation
12.	2019-05-22	Update of section 7



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1 Technical documentation of machines and devices

Requirements and instructions on securing occupational health and safety must be an integral part of technical documentation of machines and devices (hereinafter M). This is mainly technical documentation (especially operational manual) according to the ČSN EN ISO 12100, point 6.4.5 in the minimal extent in accordance with the point 6.4.5.1 – Contents.

Technical documentation, especially operational manual, has to be in Czech language.

Operational manual or other written instructions have to include the following among other:

- information on machine transport, manipulation and storage,
- information on machine installation and launch into operation,
- information on the machine itself,
- information on operating the machine,
- maintenance information,
- information on decommissioning, disassembly and disposal,
- emergency situation information,
- maintenance instruction for specialists, and maintenance instruction for other personnel,
- controls and revisions instruction,
- where the operational safety rules are requested, submit the document content project to the facility operator

In the part of the operation and maintenance manual, which requires securing the device (e.g. when entering through a safety door) against the risk of unintentional (unauthorized) closure and launch of the device into operation, will be demanded an obligation of using a personal padlock to secure the M. The manual will not allow to use a personal snapping!

Other conditions:

- additional necessary amendments and modifications of the M status submitted by the producer must be discussed in advance with expert internal units and recorded in the technical documentation,
- any amendments and changes in the M and technical documentation may be executed only by the M producer, a person authorized by them or company expert units concerned with repairs of the M,
- measures for removal of the consequences must be indicated in the operation or emergency instructions list which is a part of the technical documentation for workplaces and machinery operation threatening persons and for situations with an elevated risk (explosion, accident, breakdown),
- before concluding the contract, building project preparation must be discussed and mutually approved with respect to a safe and health non-threatening environment which will be created by the placement and operation of the M,
- all warning informative signs on labels, stickers and the like must be written in Czech. Meaning of the graphic symbols used has to be described in technical documentation,
- the supplier is obliged to provide verifiable introduction no later than on the date of give-over and launch of the M into operation with the operator (user) – training on operation and maintenance according to the M operational manual with a written list of trained (educated) employees, who has run the introduction (training), and the content of the introduction (training). Use of internal ŠKODA AUTO company forms is mandatory. The forms are available under Word templates of the company under the following titles and Reg. no.: "Evidence on familiarization with the operational manual of the device Reg. no. / Reg. no. 1747/cz (Czech version), Reg. no. / Reg. no. 1747/cz-de (Czech-German version), Reg. no. / Reg. no. 1747/cz-en (Czech-English version).
- colour finish of the M follows the stipulations in the contract concluded upon purchase and should respect the shades required by the ITS 1.08 – Colour standard
- use of warning safety colours, covers and markers is fully decided and controlled by the producer. Reasons for their use must be given in technical documentation and in the instructions for the use of the M. Safety labels serve only to highlight the risk or danger and do not substitute technical measures
- horizontal self-adhesive marking has to have an anti-skid surface
- self-adhesive tapes may be used in internal places only. For outside marking of permanent operation a coating of paint in accordance with the ITS 1.08 – Colour standards is required.



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- labelling of flowing media in piping is part of ITS 1.08 – Colour standards
 - arrangement of multiple machines must fulfil all safety and ergonomic parameters and must not pose a risk for the operator
 - Emergency stop button – For these functions, red colour of the button has been reserved. The button must not be covered by anything and must be mushroom-shaped with minimum diameter of 30 mm, accentuated by yellow underlay in line with ČSN EN ISO 13850. If possible, a label should always be used with an appropriate symbol and EMERGENCY STOP text placed nearby (next to) the emergency stop button, not on the button (ITS 1.11 Electrics, point 4.9).
 - access to information and control elements has to be level with the operation platform, in exceptional cases might be placed on a different level. Access to information and control elements has always be ensured to be free and safe
 - if (under exceptional circumstances) special PPE must be used for a machine's operation, it is the M supplier's duty to define it, and provide suitable means for a limited time period (for the time necessary to procure it)
 - permanent means of access to machinery have to be in accordance with the ČSN EN ISO 14122-1, 2, 3, and 4 Safety of machinery – Permanent means of access to machinery. Their placement mustn't infringe on communication profiles and other frequented places. Colour finish of fixed ladders has to match the ITS 1.08
 - securing work places for machinery construction, reconstruction, reconstruction, and maintenance – in the form of fixed barrier preventing entrance of unauthorized persons, including marking the space with safety notices. Information on risks and preventive measures for decreasing risks will be given to the in-charge on the part of the company or the OSH coordinator in charge or coordinating occupational safety based on signing the "Agreement on the Occupational Safety and Health coordination" (internal form of the company Dohoda o koordinaci BOZP, Vereinbarung über Arbeitsschutzkoordination, Agreement on the OSH Coordination, Ev. no. / Ev.-Nr. 1715).
- 2 Construction requirements:
- Walls and dividing partitions:
in the places of expected manipulation these must be protected from damage by solid barrier and highlighted with a warning paint
 - Protective elements to secure the material against fall from shelf stands or to secure stackable material
must be installed everywhere, where there is a risk of fall of the material in adjacent routes, work spaces, etc.,
 - Doors
 - closing edges of the doors where engine-driven means of transport are expected are to be highlighted with a warning paint including the passage profile (black and yellow stripes in 45° angle in the shape of a „V“). The door must have a warning plate or sign „Passage forbidden“, including securing the locking of the door's wings in an open position
13. Doors with automatic closing
doors with automatic closing mustn't endanger employees by its movement, and appropriate measures must be taken to prevent collisions of transport means (such as signals on both sides of communication). It has to be equipped with an easily recognizable and accessible security mechanism and light signals of its movement. In case of energy outage manual operation has to be ensured.
- Fixed metal ladders
3m and higher must be provided with a protective equipment preventing fall. Commonly used operational ladders will be provided with safety basket. Construction must be in accordance with ČSN 74 3282. Their placement must not interfere with adjacent routes and other frequented places. If the protective e basket is near roads or other hazardous locations, the lower part of the basket will be accentuated in yellow colour.
 - Passage profiles (edges and heights)
up to the height of 2,1m has to be covered by a signal finish and at the point of traffic communication also by height limit of the passage profile (traffic sign)
 - Garde-corps (railing)
rail height is 1,1m. Railing always has to be equipped with a second (central) rail and a baseboard 0,1m tall. The lead-in of the railing must be gradual, fully closed, and with no sharp edges (burrs), see ČSN 74 3305.
 - Staircases
first and last stair is marked by a colour different from the platform, stair surface has to have a non-skid finish when using tiles, we recommend to differentiate the first and last stairs by using a different shade of tiles. Marking can also be done by a coloured stripe 0,1m wide on both sides of stairs, or by any other suitable highlighting visible from both sides, for ascension and descent,



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- Roofs
A roof has to be equipped by rails or retaining system for security of maintenance operators and for securing their tools when executing control, maintenance, and repairs of the roof or devices and constructions accessible from the roof in accordance with the planned traffic.
Recommended list of documents for give-over of retaining, capturing system, system for work in suspension on a rope (technical documentation):
 - certificate – authorization for installation of the anchoring system in question – of anchoring points
 - installation manual for individual anchoring points types
 - types of anchors used and their parameters
 - anchoring protocol signed by a technician authorized for installation
 - drawing of a real installation
 - certificates for all kinds of anchoring points
 - static calculation of connection to load-bearing construction or test protocol of connection to the type of load-bearing construction in question
 - technical sheet for anchor points
 - photographic documentation of anchors with their identification before the thermoinsulation is installed
 - Declaration of Conformity
 - training of operators
 - operational manual
 - inspection log book
 - information on warranty, maintenance and inspections
 - drawing of risk zones of possible falls and lengths of connecting ropes (if not included in the operational manual)
 - agreement of the authorized person with the permanent operation/use
- Gridwork
floor, communication, and stair gridworks must be fixed installations. The implementation is done in accordance with the ČSN 74 6930
- Transparent or glass doors and glass or transparent walls and partitions
their form and labelling must follow GR no. 101/2005 Coll.,
- Barriers (solid)
on routes and in manipulation spaces must be provided with a warning paint up to 2.1m. For extensive barriers only edges are to be highlighted in the width of 0.1 m
- Storage spaces
must be labelled with the highest permissible load of the floor (in kg/m²)
- Loading ramps, loading docks
have to be adapted by their parameters for the type of manipulation executed by driven manipulation devices, free edges will be permanently highlighted by safety markings and warning notices
- Common spaces
will be set up near the workplace, and with a level 0 planning priority
- Object transport communications
their width must adhere to the expected activity and material transported in line with ČSN 269010 and must be properly labelled with white stripes 0.1m wide. In the places where pedestrian routes are to be used simultaneously with other means of transport, requirements of the supplement to GR no. 101/2005 Coll., article 5.13 must be fulfilled. Highlighted stripes may be part of the width of the communication. Panoramic mirrors will be installed on unclear places or on places with low view distances based on traffic and view situation. Other object transport communication requirements are in the ON.1.045 Traffic operation rules, and GR no. 101/2005 Coll.
- Industrial distribution
their implementation and markings have to be in accordance with the GR no. 101/2005 Coll., ITS 1.08 Colour standards, and ITS 1.14 Pipes, valves, instruments
- Building modifications influencing smooth and safe operation will always be discussed in advance and approved by expert and operation units in accordance with ON.1.045, Traffic operation rules of the company.



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3 Machinery and other devices

- Highest M spots and M placed in the route of a cradle, must have a black-yellow warning paint. The same applies to those parts of machinery units which exceed their rim and interfering into passage profiles of routes and corridors.
- No fly-aways of mechanical or other parts of the machined or otherwise processed material from the M work space are permissible. Chemical substances or aerosols, including dust, have to be captured as close to their source, as technically possible. Radiation sources have to be shaded and must not be a source of danger as per GR no. 291/2015 Coll., on occupational health protection against non-ionizing radiation.
- Working decks higher than 0.5m will be provided with a protective railing and access staircase. The deck will be labelled with a permissible load (kg/m²). Permanent workplaces on working decks are set up only exceptionally in the case that other solutions are unacceptable on technological reasons.
- Protective covers of transmissions must be provided with a warning paint with an indication of the direction of turning. Direction of turning will also be indicated on the covers of el. engines.
- Manually manipulated units (manipulation trucks, delivery trucks, transporting platforms, etc.), will be introduced into operation only if equipped with a wheel cover to protect the operator's leg, if this is not ensured by the chassis bodywork profile according to the ČSN EN ISO 3691-1 (an example of a protective wheel cover is given in ČSN EN 1757-3, fig. 5). This does not apply if the wheel covers cannot be used for technical reasons (small diameter of the wheels, use in other technology, etc.).

4 Working environment

- Working environment must be solved so that optimal conditions are secured for the fulfilment of the required working task and simultaneously to prevent or reduce disturbing or dangerous (risk factors) conditions on the work station in the sense of currently applicable regulations and guidelines currently applicable,
- Securing optimal conditions concerns in particular:
 - overall dimensions of the workplaces, which must adhere to the character of the working system
 - sufficient air circulation according to the number of people, intensity of physical activity, workplace parameters, intensity of polluting substances emissions, etc.
 - suitable temperature conditions (temperature and air humidity, airflow speed, heat emission, energetic demands on work activities, requirements on apparel and PPE),
 - suitable type and intensity of lighting for visual perception of the monitored and recognized information during fulfilment of the required working task with regard to brightness, colour, light distribution, glare and unwanted reflections, bright and colour contrast,
 - special attention should be paid to selection of colour design of rooms and working equipment, in particular distribution of brightness, structure and quality of visual field as well as perception of safety colours in the sense of ČSN EN 12464-1,
 - acoustic conditions at the workplace so that harmful and disruptive influences of noise are prevented, including the noise from external sources, paying attention to the level of acoustic pressure, frequency range, distribution in time, perception of acoustic signals and comprehensibility of speech,
 - vibrations and impacts transmitted on the employees which must not reach a level at which health could be harmed, pathological or physiological reactions may occur or sensomotors could be compromised,
 - influence of dangerous substances and harmful radiation on the operator which must be prevented
 - work outside the buildings; suitable protection against severe weather conditions must be procured.

4.1 Work station safety

- work station has to be set up in a manner not endangering lives and health of persons, and meeting ergonomic requirements
- work station should be arranged so that it enables comfortable and safe access and, if necessary, also the most advantageous use of mechanizing, storage and transport tools. If the working place is integrated into the conveyor system, ITS 1.02 must be taken into account,
- dangerous places which may be a source of working risk at the work station or nearby or which may require solution using access floors, platforms, staircases, railings, etc., regulations under ČSN EN ISO 12100-1, ČSN EN 999, ČSN EN ISO 14121-1, ITS 1.08 must be taken into account.



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5 Working risk

Eliminating or reducing dangerous risk factors concerns:

- mechanical risk
- electrical risk
- temperature risk
- risk arising from materials, chemical substances
- risk arising from neglect of ergonomic rules
- risk arising from energy supply outage, breaking of a part of a machine or other functional defects
- risk arising from noise, vibration, radiation
- risk caused by missing, incorrectly positioned safety devices and measures
- risk arising from climate conditions

5.1 Effective protection against risk

If the possibility of foreseeable or actual risk cannot be ruled out when fulfilling the required working task, it is necessary to secure suitable and effective protection according to the foreseeable or actual risk

6 Safety colours and marks

ČSN ISO 3864-1, 2, 3, and 4 (01 8011)

Safety colours (see ITS 1.08) and marks do not substitute but only complete technical measures necessary for preventing or reducing the health threat

7 Legal regulations:

- Act no. 262/2006 Coll.,
- Act no. 309/2006 Coll.,

Labour Code, as amended
stipulating other requirements on working safety and health protection in industrial relations and on securing of safety and protection of health during activities or provision of services outside of industrial relations (act on securing other OSH conditions),
which sets technical requirements on products, as amended,

hereinafter

- GR no. 378/2001 Coll.

which stipulates in detail requirements on safe operation and use of machines, technical equipment, devices and tools, as amended
on detailed requirements for workplaces and working environment,
on evaluation of matching for electric devices designated for use in defined voltage limits and their supply into the market,
on evaluation of matching for products in terms of electromagnetic compatibility during their supply to the market,
on evaluation of matching for simple pressure vessels during their supply to the market,

- GR no. 117/2016 Coll.,

on evaluation of matching for equipment and protective systems intended for use in potentially explosive environment,

- GR no. 119/2016 Coll.,

on technical requirements on machinery, as amended,

- GR no. 116/2016 Coll.,

on evaluation of matching for pressure devices during their supply to the market,

- GR no. 176/2008 Coll.,

which stipulates conditions of working safety, as amended,

- GR no. 272/2011 Coll.,

on health protection against harmful impacts of noise and vibrations,

- GR no. 291/2015 Coll.,

on occupational health protection against non-ionizing radiation,



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- 2016/426/EU

Regulation (EU) of the European parliament and of the council on appliances burning gaseous fuels and repealing Directive,

hereinafter

- Act no. 89/2012 Coll.,
- Act no. 174/1968 Coll.,
- Act no. 251/2005 Coll.,
- Act no. 258/2000 Coll.,
- GR no. 495/2001 Coll.,

Civil Code, as amended,
 on expert state supervision over occupational safety, as amended,
 on work inspection, as amended,
 on the protection of public health, as amended
 establishing the extent and detailed conditions for the provision of personal protective equipment, washing, cleaning and disinfection means on appearance, placement and design of safety signs and signage and introduction of signals,
 on detailed requirements regarding safety and protection of health during work on construction sites, as amended,
 laying down basic requirements for ensuring safety of work and of technical equipment
 which determines certain pressure equipment subject to specific obligations and provides for certain conditions to ensure the safety thereof,
 specifying selected lifting equipment and laying down some requirements to ensure its safety, as amended,
 determination of electrical devices and their division into classes and groups and detailed conditions of the safety thereof,
 which determines certain gas equipment subject to specific obligations and provides for certain conditions to ensure the safety thereof, as amended,
 on professional expertise in electrical engineering as amended,
 laying down the conditions for dividing jobs into categories, limit values of biological exposure tests, sampling conditions of biological material for biological exposure tests and requirements for reporting work with asbestos and biological agents, as amended,

- GR no. 375/2017 Coll.,

- GR no. 591/2006 Coll.,

- Reg. CUBP no. 48/1982 Coll.,

- Reg. CUBP no. 18/1979 Coll.,

- Reg. CUBP no. 19/1979 Coll.,

- Reg. CUBP no. 73/2010 Coll.,

- Reg. CUBP no. 21/1979 Coll.,

- Reg. CUBP no. 50/1978 Coll.,

- Reg. Health min. no. 432/2003 Coll.,

Standards:

- ČSN EN ISO 12100

Safety of machinery – General principles for design – Risk assessment and risk reduction

- ČSN 74 4505

Floors – Common Regulations

- ČSN EN 12464-1

Light and lighting – Lighting of work places. Part 1, Indoor work places

- ČSN 73 1901

Designing of roofs – Basic provisions

- ČSN EN 795

Personal fall protection equipment Anchor devices

- ČSN EN 365

Personal protective equipment against falls from a height – General requirements for instructions for use, maintenance, periodic examination, repair, marking and packaging

- ČSN EN ISO 3691-1

Industrial trucks – Safety requirements and verification. Part 1, Self-propelled industrial trucks, other than driverless trucks, variable-reach trucks and burden-carrier trucks

- ČSN EN 1757-3

Safety of Industrial trucks – Pedestrian controlled manual and semi-manual trucks. Part 3, Platform trucks

- ČSN 73 4130

Stairways and sliding ramps – Basic requirements

- ČSN 74 3305

Garde-corps

- ČSN 74 3282

Fixed metal ladders for use in construction works

- ČSN EN ISO 13850

Safety of machinery – Emergency stop – Principles for design



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- ČSN EN ISO 13855	Safety of machinery – Positioning of safeguards with respect to the approach speeds of parts of the human body
- ČSN 74 6930	Steel floor grids – Common regulations
- ČSN 26 9010	Materials handling – Widths and heights of roads and aisles
- ČSN EN ISO 14122-1	Safety of machinery – Permanent means of access to machinery – Part 1: Choice of fixed means of access between two levels and general access requirements
- ČSN EN ISO 14122-2	Safety of machinery – Permanent means of access to machinery – Part 2: Working platforms and walkways
- ČSN EN ISO 14122-3	Safety of machinery – Permanent means of access to machinery – Part 3: Stairs, stepladders and guard-rails
- ČSN EN ISO 14122-4	Safety of machinery – Permanent means of access to machinery – Part 4: Fixed ladders
- ČSN ISO 3864-1	Graphical symbols – Safety colours and safety signs – Part 1: Design principles for safety signs and safety markings
- ČSN ISO 3864-2 +Adm. 1	Graphical symbols – Safety colours and safety signs – Part 2: Design principles for product safety labels
- ČSN ISO 3864-3	Graphical symbols – Safety colours and safety signs – Part 3: Design principles for graphical symbols for use in safety signs
- ČSN ISO 3864-4	Graphical symbols – Safety colours and safety signs – Part 4: Colorimetric and photometric properties of safety sign materials

Internal regulations:

ON.1.040	Emergencies
ON.1.045	Transport operation rules
ON.1.059	Occupational safety and health
ON.1.024	Chemical products management
ON.1.035	Environment and working environment protection
ON.1.016	Machinery
ITS 1.02	Conveyor systems
ITS.1.08	Colour standards
ITS 1.11	Electrics
ITS 1.19	Protection against noise, ultrasound, and vibrations
ITS 2.00	Artificial lighting of work stations