

Rules for Occupational Safety and Health on Construction Sites	Definitions (Specification of Terms in the Construction Sites Ordinance BaustellV)	<i>RAB 10</i> <i>As of: 12.11.2003</i>
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The Rules for Occupational Safety and Health on Construction Sites (RAB) reflect the state of the art with respect to safety and health protection on construction sites. They are drawn up by the Committee for Safety and Health Protection on Construction Sites (ASGB) and are adapted by this Committee in accordance with developments.

The RAB rules are published by the Federal Ministry of Economics and Labour in the Federal Journal (Bundesarbeitsblatt BArbBl.).

The present document RAB 10 contains definitions concerning the Ordinance on Safety and Health Protection on Construction Sites (BaustellV).

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1 Employees (re Section 1 (1) BaustellV)

The term employees should be understood in the meaning of Section 2 (2) ArbSchG.

2 Construction site (re Section 1 (3) BaustellV)

A construction site is a place at which a construction project is carried out, where one or several physical structures are built, altered or demolished on the instruction of a client and the related preparatory and concluding work is performed.

A construction project involving several physical structures which are directly interconnected in terms of time or location and which are planned and executed jointly normally constitutes a construction site. Even if a construction project is broken down into various construction lots it can be assumed that a construction site is involved.

In cases where overall construction projects are conducted over large extended areas or extended construction periods (e.g. line construction sites, in road construction), these projects may be broken down into several construction projects and hence into separate construction sites.

3 Physical structure (re Section 1 (3) BaustellV)

Physical structures are facilities which are connected with the ground and are made of construction materials or components (including technical service installations in buildings)¹. A connection with the ground exists even when the physical structure rests by force of its own weight on the ground. The physical structures in the meaning of the Construction Sites Ordinance also include, for example, earth banks and excavations², landfills and areas of soil remediation.

Physical structures do not include machines and mechanical installations.

If machines or mechanical installations are installed, dismantled or converted at the same place and time as building work, modification or demolition work of a physical structure, such activities must be included in the measures taken under the Construction Sites Ordinance.

4 Modification of a physical structure (re Section 1 (3) BaustellV)

Modification of a physical structure in the meaning of BaustellV is taken to mean its not inconsiderable redesign.

This includes in particular the modification of the physical structure and modification or replacement of major components (e.g. renewal of roofs and facades, gutting, renewal of the superstructure of road bridges, renewal of road pavement).

Modifications to physical structures can also be made within the framework of maintenance work, including repairs³.

¹ This includes, for example, residential, office and sanitation cabins and lines for the supply of water, gas, electricity and heat and to dispose of waste water or to provide telecommunication services.

² **Earth banks** are all artificial changes to the surface of the ground due to the deposition of materials, especially soil constituents. They include waste heaps, embankments, ricks, elevated terraces and ramps, as well as elevations of the terrain surface. They do not include the temporary storage of materials (e.g. coal stockpiles, construction materials). An essential feature of an earth bank is that it represents a final state.

Excavations are artificial changes to the surface of the ground due to depressions such as are caused by, for example, cuttings, light shafts or cellar ramps.

³ see "DIN 31051 Fundamentals of maintenance"

Modifications to a physical structure do not include simple maintenance work, including restoration and simple repairs, and ongoing construction maintenance measures on a minor scale (e.g. repair jobs on roofs and facades⁴, replacement of floor coverings, work on heating, bathroom renovations, filling of cracks, filling of cavities in road pavements) provided the threshold values⁵ of Section 2 (2) BaustellV are not exceeded.

If it is not possible to establish quite clearly on the basis of the above criteria in individual cases whether a modification to a physical structure is involved, the procedure adopted should be as described in BaustellV.

5 Planning of execution (re Section 2 (1) and Section 3 (2) BaustellV)

During the phase of planning the execution the conditions are created for effective co-ordination of the execution phase. For this purpose the client or the persons charged by him draws up concrete specifications for execution of construction. These include implementation and further development of the existing plans to form invitation to tender documents, the exact determination of the scope of work for construction contracts, the planning of intermediate and final deadlines and the incorporation of statutory and official specifications in the planning.

Planning execution of a construction project also encompasses integration of the measures taken by the client or the authorised third party in accordance with Section 2 and Section 3 Subsections 1 and 2 BaustellV. Depending on the individual construction project, these include

- adherence to the General Principles according to Section 4 of the Occupational Safety and Health Act,
- transmission of a prior notice to the competent authority,
- appointment of a co-ordinator,
- co-ordination in the execution planning phase,
- drawing up of a safety and health plan and
- compilation of a document for subsequent work.

⁴ This also includes, for example, painting, plastering, insulation work, cut stone work, metal work, glazing, replacement of windows and facade cleaning.

⁵ The threshold values are normally not exceeded when single-family and two-family houses are modified.

These measures are geared to the objective of the ordinance, namely a substantial improvement in the safety and health protection of employees on construction sites, and they are intended to ensure that risks are identified and minimised even before commencement of the construction work. The measures are also intended to help ensure that, where a number of companies are to be contracted, the information relevant to safety and health protection as required for work preparation is available for the parties involved at an early point in time within the framework of the services to be contracted out.

The execution planning phase of a construction project therefore begins at the latest when the draft for the execution of a construction project has been prepared and presented in a sufficiently concrete form and it ends in the majority of cases with the placement of the respective contract.

In cases where the companies are to be granted a certain scope for design and planning, e.g. in the case of ancillary offers or special proposals, or of a functional invitation to tender, and therefore major parts of measures provided for under the Construction Sites Ordinance for the planning of execution cannot be completed before placement of the contract for the construction work, the planning of execution may last until commencement of the construction work. In view of his responsibility for organisation, the client must take suitable precautions to ensure that, also after placement of contract, all the duties of the client or the authorised third party in the execution planning are being fulfilled. In such a case the client must make available to the company/companies the necessary specifications from the preceding planning stages.

6 General Principles according to Section 4 of the Occupational Safety and Health Act during application of the Construction Sites Ordinance (re Section 2 (1), Section 3 (2) No. 1 and Section 3 (3) No. 1 BaustellV)

RAB 33 specifies adherence to the General Principles according to Section 4 of the Occupational Safety and Health Act (ArbSchG) and their co-ordination during the execution planning and co-ordination of the application of the General Principles during the execution of construction projects by the individuals addressed as they fulfil their obligations under the Construction Sites Ordinance (BaustellV).

7 Occupying more than 20 employees simultaneously (re Section 2 (2) BaustellV)

"Occupying simultaneously" in the meaning of BaustellV means that at least 21 employees perform work simultaneously as scheduled on the site over a period of at least one work shift.

8 Person day (re Section 2 (2) BaustellV)

A person day encompasses the work performed by one person during a work shift.

9 Setting up the construction site (re Section 2 (2) BaustellV)

Setting up the construction site in the meaning of BaustellV begins with the main preparatory work at the construction site which has to be performed immediately before the project is executed, e.g. setting up social facilities, installation of supply and disposal facilities, delivery of construction materials, machines and equipment.

10 Prior notice (re Section 2 (2) BaustellV)

A specimen prior notice is given in Annex A.

The client or a third party authorised by him under Section 4 BaustellV is responsible for ensuring that the prior notice is displayed visibly on site in such a way that all those affected, for example employees or employers who are new to the site, can immediately note its content. It is absolutely essential for this purpose that the legibility of the prior notice, which may be adversely affected by weather, is maintained during the construction work. If there are major modifications, the prior notice on the site must be updated. Further notification of the authority is not necessary.

11 Adaptation of the prior notice in the case of major modifications (re Section 2 (2) BaustellV)

"Major modifications" with respect to the content of the prior notice (Annex I BaustellV) concern, for example:

- change of client/s or the third party authorised by him/them under Section 4 BaustellV,
- first appointment of the co-ordinator or change of the co-ordinator(s) already appointed,

- curtailment of the duration of construction work where this necessitates greater simultaneous or unscheduled shift working,
- occupying employees of several employers for the first time,
- major increase in the maximum number of people employed simultaneously or the number of employers or the number of contractors without employees.

12 Occupying employees of several employers (re Section 2 (3) and Section 3 (1) BaustellV)

The situation where employees of several employers are occupied shall apply when it is foreseeable that employees of at least two employers are performing work on the construction site simultaneously or in succession.

The situation where employees of several employers are occupied shall not apply when the interval between the work performed by employees of a single employer is so great that the construction site is set up anew after it has been cleared.

The situation where employees of several employers are occupied shall also not apply when, in addition to the employees of one employer, those of other employers:

- only work for a short period, for example when transporting materials, components or equipment to or from the site and unloading, and during inspections, sampling operations and surveying work,
- are performing only monitoring and/or co-ordinating activities.

13 Safety and health plan (re Section 2 (3) BaustellV)

The safety and health plan is specified concretely in RAB 31.

14 Adaptation of the safety and health plan where there are major modifications to the execution of the construction project (re Section 3 (3) BaustellV)

A major change in the execution of the construction project which leads to an adaptation of the safety and health plan applies when such a change affects the co-ordination from then on.

15 Co-ordination (re Section 3 BaustellV)

Co-ordination in the meaning of the Construction Sites Ordinance means making information comprehensible and available and ensuring that the measures envisaged for the individual jobs are mutually adjusted and, if necessary, summarized and optimized within the framework of a safety and health plan.

The co-ordinator's tasks given in Section 3 Subsections 2 and 3 BaustellV take account directly of this:

For example, the safety and health plan, which provides a major information base for all employers, is of prime importance. Also of prime importance are the tasks of the co-ordinator according to Section 3 (3) BaustellV which involve bringing together and advising all participating parties in terms of co-ordination and optimisation, organising the collaboration between several employers and co-ordinating the monitoring measures taken by the individual employers. This does not mean monitoring fulfilment of occupational safety and health obligations which the individual employers have to fulfil.

The responsibility of the employers for fulfilling their occupational safety and health obligations is not affected by measures taken under the Construction Sites Ordinance, and so they still bear personal responsibility for organising, implementing and monitoring the guarantee of their employees' safety and health protection.

16 Appointment of the co-ordinator (re Section 3 (1) BaustellV)

When appointing the co-ordinator, the tasks laid down in Section 3 Subsections 2 and 3 BaustellV must be delegated to him in combination with Section 3 RAB 30.

The appointment should be made in writing.

The appointment of the co-ordinator according to Section 3 (1) BaustellV must be performed in good time to ensure that the co-ordinator's tasks to be performed during the planning of the execution of the construction project under Section 3 (2) BaustellV can be dealt with.

When selecting the co-ordinator the client must take account of his suitability.

17 Suitable co-ordinator (re Section 3 (1) BaustellV)

The suitable co-ordinator is specified in RAB 30.

18 Subsequent work on the physical structure (re Section 3 (2) No. 3 BaustellV)

Subsequent work within the meaning of Section 3 (2) No. 3 BaustellV encompasses in particular foreseeable work on physical structures. This includes, for example, according to the systematic approach of:

- "DIN 31051 Fundamentals of maintenance" and "DIN 4426 Safety requirements for workplaces and accesses", the maintenance, consisting of servicing, inspection and repair

and

- of "ZTV BEA-StB Supplementary Technical Contractual Conditions and Directives for the Structural Maintenance of Traffic Surfaces – Asphalt Modes of Construction", the operational and structural maintenance of infrastructural facilities.

19 Document for subsequent work (re Section 3 (2) No. 3 BaustellV)

The document for subsequent work is specified in RAB 32.

20 Compilation of a document (re Section 3 (2) No. 3 BaustellV)

Compilation in the meaning of the Construction Sites Ordinance includes the call for the necessary information for the safe and healthy performance of subsequent work on the physical structure and the related systematic documentation.

21 Client (re Section 4 BaustellV)

The term client should be understood within the meaning of the relevant planning regulations law.

22 Authorisation of a third party (re Section 4 BaustellV)

A third party in the meaning of Section 4 BaustellV is a person who takes individual responsibility under the agreement on measures of the client in accordance with Sections 2, 3 (1) Sentence 1 BaustellV. Third parties in this sense may be a natural person (e.g. an architect, planning engineer and building contractor) or a legal person (e.g. a firm of consultants organised as a formal company).

The authorisation must be performed in good time and should be in writing.

The authorisation may relate to a part of the measures mentioned above. In such a case the client is obliged to take the remaining measures himself. According to the scope of the authorisation he is then exempted from his obligations under Section 2 and Section 3 (1) Sentence 1.

It is thus not permissible to subsequently delegate all the obligations of the client on a generalised basis.

23 Taking into account the directions of the co-ordinator and the safety and health plan (re Section 5 (1) and Section 6 Sentence 2 BaustellV)

The specifications of Section 5 (1) and Section 6 Sentence 2 BaustellV make clear that the employers and contractors without employees working on the construction site must, in equal measure, note the directions of the co-ordinator and the safety and health plan and incorporate them in their own occupational safety and health planning.

If the co-ordinator establishes that employers or contractors without employees operating on the construction site do not follow his directions or the safety and health plan, he must notify the client or authorised third party, where no more extensive powers have been delegated to him to take the necessary action.

24 Comprehensible form and language (re Section 5 (2) BaustellV)

Providing information in comprehensible form and language means that the employees can understand the information. Important information must be translated if it cannot be guaranteed that it will be understood in any other form. Comprehensible forms of information may include pictures, pictograms, practical instruction at the workplace and workplace-related demonstrations.

25 Particularly hazardous work in the meaning of the Construction Sites Ordinance (re Annex II BaustellV)

re No. 1

"Work where the employees are exposed to the risk of sinking, being buried in excavations or trenches with a depth of more than 5 metres or of falling from a height in excess of 7 metres"

Substances in which a person can sink include bentonite suspension, sludge, loose bulk materials such as cement, corn, sugar etc.

re No. 2

"Work where the employees are exposed to **explosive, highly inflammable, carcinogenic** (category 1 or 2), **mutagenic, toxic to reproduction** or **highly toxic substances and preparations** in the meaning of the Hazardous Substances Ordinance or **biological agents of risk groups 3 and 4** in the meaning of the Council Directive 90/679/EEC of 26 November 1990 on the protection of employees against the hazards from biological agents at work (EC OJ No. L 374 P. 1)⁶"

"Exposed" in the meaning of BaustellV means that, in the employees' working area, one or more of the aforementioned substances or preparations are released and that for example the employees are exposed via the ubiquitous air pollution (i.e. which is present naturally in the environment) or by contact an intake of the substances or preparations through the skin or the intestines.

⁶ The classification of risk groups was laid down in the Biological Agents Ordinance with identical national content

Substances and preparations are

- **explosive** when they can react exothermically or with the rapid development of gases in solid, liquid, pasty or gelatinous form even if no oxygen is involved and which detonate, deflagrate rapidly or explode when heated with partial enclosure under test conditions laid down (e.g. peroxides such as dibenzoyl peroxide),
- **highly inflammable** when, liquid state, they have an extremely low flashpoint or low boiling point or, as gases, they have an explosion range at normal temperature and normal pressure when mixed with air (e.g. acetylene, propane, butane, dimethyl ether),
- **carcinogenic** when they can cause cancer or can increase the frequency of cancer when breathed in, swallowed or taken in through the skin (e.g. asbestos, azo dyes, benzo[a]pyrene, beech sawdust, cadmium/cadmium compounds, 4.4'-diaminodiphenylmethane, diesel engine emissions in inadequately ventilated areas, oak sawdust, ceramic fibres, nickel oxides),
- **mutagenic** when they can cause inheritable genetic damage or increase the frequency of such damage when breathed in, swallowed or taken in through the skin (e.g. benzo[a]pyrene),
- **toxic to reproduction** when they can cause or increase the frequency of non-inheritable damage to offspring (embryonic damage) or can impair male or female reproductive functions and ability when breathed in, swallowed or taken in through the skin (e.g. benzo[a]pyrene, lead/lead compounds, carbon monoxide, 2-methoxyethanol, polychlorinated biphenyls (PCB)),
- **highly toxic** when they can lead to death or cause acute or chronic health damage in very small quantities when breathed in, swallowed or taken in through the skin (e.g. chromium-bearing 'CKB' wood preservatives).

Biological agents of risk group 3 in the meaning of the Biological Agents Ordinance are substances and agents which can cause serious illness in people and can be a serious hazard for employees; the danger of spreading within the population may exist, but normally effective prevention or treatment is possible (e.g. bacillus anthracis, the anthrax pathogen).

Biological agents of risk group 4 in the meaning of the Biological Agents Ordinance are substances and agents which can cause serious illness in people and can be a serious hazard for employees; the danger of spreading within the population may under certain

circumstances be great; normally effective prevention or treatment is not possible (e.g. the ebola virus).

re No. 3

"Work with ionising radiation which requires that control and inspection areas be specified in the meaning of the Radiation Protection Ordinance and of the X-ray Ordinance"

On construction sites this includes, for example, non-destructive material testing, soil moisture testing, silo installations with filling level measuring installations with radioactive substances.

Control areas are areas where persons may receive an effective dose of more than 6 millisievert or organ doses of more than 45 millisievert for the optical lens or 150 millisievert for the skin, hands, lower arms, feet and ankles in a calendar year as a result of handling radioactive substances or operating installations to generate ionising radiation.

Monitoring areas are areas which do not belong to the control area and in which persons may receive an effective dose of more than 1 millisievert or organ doses of more than 15 millisievert for the optical lens or 50 millisievert for the skin, hands, lower arms, feet and ankles in a calendar year as a result of handling radioactive substances or operating installations to generate ionising radiation.

The crucial factor when fixing the boundary of the control area or monitoring area is a presence time for 40 hours a week and 50 weeks a calendar year when radioactive substances are being handled, provided no other indications are given for the presence time with reasons.

The person responsible for establishing the radiation protection areas (control and monitoring areas) is the person handling the radioactive substances or operating the installations to generate ionising radiation.

re No. 4

"Work at a distance from high-voltage power lines of less than 5 metres"

High-voltage power lines within the meaning of BaustellV are non-insulated exposed lines carrying a voltage of more than 1 kV AC or 1.5 kV DC. The distance to be determined is that between the greatest work-related range of a person including work equipment or the

greatest range of a machine being used and the live cable. Where necessary, the objects to be transported and possible swing of the cable must be taken into account.

re No. 5

"Work involving the direct risk of drowning"

There is a direct risk of drowning in the meaning of BaustellIV if work is being carried out on or above liquid, especially water, at a distance of less than 2.00 metres from the edge without technical safety measures.

re No. 6

"Well construction"

Well construction work in the meaning of BaustellIV is work performed to erect, modify, maintain or repair wells of all kinds where there is a risk of falling in, being buried, drowning, being poisoned or of detonation due to an explosive gas-air mixture.

re No. 7

"Work with diving equipment"

Work with diving equipment is work in liquid media where the divers are supplied with respiration gas.

The divers are in an environment which is hostile to life. Failure of the respiration gas supply means acute danger to the diver's life. Such work may therefore only be performed if special protection measures are taken, see the UVV accident prevention regulation "Diving Work" (BGV C 23).

re No. 8

"Work in compressed air"

Work in compressed air is work where the employees are exposed to a pressure of more than 0.1 bar and hence to special hazards. During such work the Compressed Air Ordinance (DruckLV) must be applied. RAB 25 "Work in Compressed Air (specifying provisions to DruckLV)" contains recommendations on the provisions of DruckLV and answers to frequently asked questions with respect to DruckLV.

re No. 9

"Work where explosives or detonating fuses are used"

Work where explosives or detonating fuses are used is work which involves handling potentially explosive substances. Employees who carry out such work in an improper fashion expose themselves and others to an acute danger to life. When such work is being performed, therefore, the Explosives Act, the Ordinances to the Explosives Act and the UVV accident prevention regulation "Blasting Work" (BGV C 24) must be applied.

re No. 10

"Setting up or dismantling solid construction elements with a unit weight of more than 10 tonnes"

Construction elements in solid construction are bodies with relatively large mass regardless of the construction material selected; these may be brickwork, concrete and reinforced concrete, steel and wood.

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