International Hazard Datasheets on Occupation

Scaffold Builder (Construction)

What is a Hazard Datasheet on Occupation?

This datasheet is one of the International Datasheets on Occupations. It is intended for those professionally concerned with health and safety at work: occupational physicians and nurses, safety engineers, hygienists, education and Information specialists, inspectors, employers ' representatives, workers' representatives, safety officers and other competent persons.

This datasheet lists, in a standard format, different hazards to which scaffold builders (construction) may be exposed in the course of their normal work. This datasheet is a source of information rather than advice. With the knowledge of what causes injuries and diseases, is easier to design and implement suitable measures towards prevention.

This datasheet consists of four pages:

- Page 1: Information on the most relevant hazards related to the occupation.
- Page 2: A more detailed and systematized presentation on the **different hazards** related to the job with indicators for preventive measures (marked and explained on the third page).
- Page 3: Suggestions for **preventive measures** for selected hazards.
- Page 4: **Specialized information**, relevant primarily to occupational safety and health professionals and including information such as a brief job description, a list of tasks, notes and references.

Who is a scaffold builder?

A construction worker whose main job is to erect or dismantle scaffolds (of metal or timber) on construction sites, and who has received appropriate training in this field (see Note 1)

What is dangerous about this job?

- Scaffold Builders usually work at height. They can fall and get seriously injured or even killed. They may suffer injuries from falling bodies, and from work with hand tools. Examples of other hazards include electric shock, exposure to the weather (including lightning), and injuries or ergonomic hazards caused by lifting and transporting heavy weights

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Hazards related to this job

Specific preventive measures can be seen by clicking on the respective in the third column of the table.

Accident hazards	• Falls from ladders or scaffolds during the erection (in particular before the fitting of planks or rail guards) or the dismantling jobs, or when a scaffold collapses (see Note 2)	1 2 3
	• Injuries caused by falling elements of the scaffolds -standards, ledgers etc., by debris, building materials, tools and other materials, or by pipes, during lifting or transport	4 5
	• Injuries due to the collapse of scaffolds, caused for example by improper	

	erection or securing, use of faulty structural elements, accidental demolition or dislodging by moving vehicles, including trucks and forklifts, overloading or improper load distribution, etc.	4 5
	• Electric shock or electrocution caused by contact with overhead power lines, with defective electric hand tools, with defectively isolated cables, etc.	6
	• Cuts, bruises and pinches by hand tools	
	• Injuries (especially of eyes) caused by flying particles	5
	• Bites by snakes, rodents, dogs, bees and other insects, in particular during ground preparation and clearance work	
	• Injuries caused by pranks and horseplay involving fellow workers	
Physical hazards	• Exposure to UV radiation when routinely working under sun	
	• Exposure to excessive noise from mechanical equipment and hand tools (drills, hammers, saws, etc.)	
	• Exposure to the weather (low or high air temperature, rain, snow, wind) resulting in acute (common cold, heat stroke, etc.) or chronic (rheumatism, etc.) diseases (see Note 3)	7
Chemical hazards	• No specific chemical hazards have been identified for Scaffolders; however, on a construction site, scaffolders may be exposed to chemical hazards generated by the work of others - for example, to paint solvents and to thinners if painting work is being done simultaneously (see Note 4)	
	• Scaffolder who erects scaffolds within an industrial plant is exposed to chemicals specific to that industrial plant	
Biological hazards	• Diseases, e.g., skin rashes, due to exposure to bird droppings, contact with parasites residing in bird nests, bites by mosquitoes, rodents and other pests, etc.	
Ergonomic, psychosocial and organizational factors	• Musculoskeletal injuries related to awkward working postures (including prolonged standing on one's knees, work in a bent posture, reaching upwards, etc.)	8
	• Overexertion while handling heavy and/or bulky objects, such as various scaffold elements - in particular heavy tubular sections, loads of planks, guard rails and toe boards, heavy tools, etc.	8
	• Psychological problems related to prolonged states of apprehension, fear of heights (some times work is carried-out at heights of 100 meters and more - a height that may cause lack of stability and loss of balance) and perceived need to conceal it, and concern of being regarded as "overcautious" by co-workers and superiors	

Preventive measures

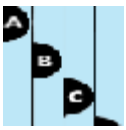
1. Inspect ladder before climbing. Never climb on a shaky ladder or a ladder with slippery or broken rungs
2. Inspect all scaffold elements for safety before beginning erection work (after dismantling; repair the damaged ones, pack and store them in a clean place; use only scaffold-grade planks; do not use badly knotted planks which may be structurally weak; dismantle scaffolds in the same order as during erection; do not throw any structural elements or materials to a lower level, to the ground, or onto safety nets or canopies
3. Use adequate fall arrest equipment (harnesses, lanyards, nets, toe and guard rails, etc.) when working on the scaffold
4. Do not allow uncontrolled movement of trucks, forklifts or other vehicles near the scaffold
5. Always wear adequate personal protective equipment when on the construction site, in particular safety helmets, safety shoes with non-slip soles, knee - pads, goggles, etc.
6. Check electrical equipment for safety before use. Take faulty or suspect electrical equipment to a qualified electrician for testing and repair
7. Wear adequate clothing and head-gear for protection in adverse weather
8. Learn and use safe lifting and moving techniques for heavy or awkward loads; use mechanical aids to assist in lifting

Specialized information

Synonyms

Scaffold erection and dismantling workers; Scaffolder; Scaffolding Rigger

Definitions and/or description



Scaffolders erect and dismantle scaffolding to provide work platforms on building, industrial and other sites, for temporary structures such as stages and catwalks, and for the purpose of painting, repairing, seating, disguising building facades, etc. They check the construction requirements from drawings and written instructions, select materials and set ground levels; fit together steel pipes, support braces and clamps to form bases for scaffolds; lift and position sections of scaffolding and bolt pipes together to build up scaffolding; place planks over horizontal bars to create platforms; check levels in scaffolding structures; use prefabricated scaffolding when available; and dismantle scaffolding at the completion of a job.

Scaffolders mostly work outdoors at a variety of locations and in all weather conditions.

Scaffold Builder, Metal is a structural-steel worker who performs any combination of raising, placing, and uniting girders, columns, and other structural steel members to form completed structure frameworks, working as member of crew: Sets up hoisting equipment, if required, for raising and placing structural-steel members. Fastens steel members together to create the structural framework of the scaffolding [Based on DOT and on data from the Internet]

Related and specific occupations

Scaffolder assistant; steel structures erection worker; also, specific designation according to the type of erection site of the scaffold, e.g., moving scaffold installer, shipyard scaffolder, chimney scaffolder, etc.

Tasks

Bolting; checking; clamping; constructing; creating; dismantling; erecting; fastening; fitting; fixing; forming; hoisting; installing; joining; lifting; performing; placing; positioning; raising; screwing; selecting; setting; supporting; uniting

Primary

Crowbars; hand tools - pliers, hammers, knives, drills, saws, wrenches, etc.; ladders; lifting devices

equipment used (gin wheel, hoist, jack; chains, cables, ropes, etc.); metering tape; safety equipment (belt, crawling boards, harness, safety net, shock-absorbing devices, etc.); turnbuckles; winch; etc.

Workplaces where the occupation is common Construction sites; house maintenance and repair; industrial sites

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Notes

1. Various countries set up definite requirements for a scaffold builder. For example, in Israel the requirements are as follows:

Minimum education: 10-12 years

Passing successfully a scaffolder's course (at least 45 study hours) and getting a certification of "certified scaffold builder"

Age of candidate - no more than 35

Physical conditions - candidate must be in a good physical condition, strong, healthy, and having quick reflexes

He should have excellent sense of balance and stability

He should be able to work, without problems, at considerable heights

He must obtain from an occupational physician a specific permit to work as scaffolder

2. Falls from scaffolds have been reported to account for most fatal accidents in the construction industry, and for a large fraction of non-fatal ones; a significant proportion of the accidents involve non-professional migrant or temporary workers. The hazard of falling is significantly greater when the planks are covered by ice or snow, or cluttered with debris, or in adverse weather - rain, strong winds, etc.

3. It is forbidden to install scaffolds in stormy weather - e.g.: showers, strong winds, lightning storm, etc.

4. It is forbidden to erect scaffolds at the same time that other construction work is being carried out

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References

ILO Encyclopaedia of Occupational Health and Safety, 3rd Edition. Parmeggiani, L, Editor. Vol. 2, pp. 2008-2010, (1983)

ILO Encyclopaedia of Occupational Health and Safety, 4th Edition, Stellman, J. Mager, Editor, Vol. 3, pp. 93.23-26; 93.34, (1998)

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