

RWANDA
STANDARD

DRS
354

First edition

2017-mm-dd

**Occupational health and safety for non-
food industrial workers — Facility
requirements**



Reference number

DRS 354: 2017

© RSB 2017

In order to match with technological development and to keep continuous progress in industries, Standards are subject to periodic review. Users shall ascertain that they are in possession of the latest edition

© RSB2017

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without prior written permission from RSB.

Requests for permission to reproduce this document should be addressed to

Rwanda Standards Board

P.O Box 7099 Kigali-Rwanda

KK 15 Rd, 49

Tel. +250 252 586103/582945

Toll Free: 3250

E-mail: info@rsb.gov.rw

Website: www.rsb.gov.rw

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Facility requirements	2
4.1 Accommodation for clothing	2
4.2 Working environment	2
4.3 Lighting	3
4.4 Seating	3
4.5 First aid	3
4.6 Drinking water	3
4.7 Maintenance and calibration of equipment	4
4.8 Toilets	4
4.9 Fire precautions	4
4.10 Hallway signs, colour coding and signalling	5
4.11 Safe entry and exit	5
4.12 Proper storage of hazardous materials	5
4.13 Storage of materials	6
4.9 Protective clothing and equipment	6
4.10 Protection from harmful and noise control	6
Annex A (informative) Categories of ventilation	7
Annex B (normative) Levels of acceptable risks	8
Bibliography	9

Foreword

Rwanda Standards are prepared by Technical Committees and approved by Rwanda Standards Board (RSB) Board of Directors in accordance with the procedures of RSB, in compliance with Annex 3 of the WTO/TBT agreement on the preparation, adoption and application of standards.

The main task of technical committees is to prepare national standards. Final Draft Rwanda Standards adopted by Technical committees are ratified by members of RSB Board of Directors for publication and gazettment as Rwanda Standards.

DRS 354 was prepared by Technical Committee RSB/TC 013, *Environment, Health and Safety*.

In the preparation of this standard, reference was made to the following standard:

BS 3044: 1990, Guide to ergonomics principles in the design and selection of office furniture

The assistance derived from the above source is hereby acknowledged with thanks.

Committee membership

The following organizations were represented on the Technical Committee on *Environment, Health and Safety* (RSB/TC 013) in the preparation of this standard.

Cimenterie du Rwanda (CIMERWA)

Integrated Polytechnic Regional Centre – Kigali (IPRC Kigali)

Kigali Cement Company Ltd (KCC LTD)

Landmark Ltd

Ministry of Natural Resources (MINIRENA)

Ministry of Public Service and Labour (MIFOTRA)

Ruliba Clays Ltd

Rwanda Environment Management Authority (REMA)

Rwanda Environment Management Company Ltd (RWEMACO LTD)

Rwanda Mines Petroleum and Gas Board (RMPGB)

Rwanda Transport Development Agency (RTDA)

Rwanda Water and Forestry Authority

Safari Center Ltd

SULFO INDUSTRIES LTD

Sustainable Agriculture for Food Security and Economic Development (SAFE)

Rwanda Standards Board(RSB) – Secretariat

Copy for public comments

Introduction

Safety is not an accident. The issue of safety involves everyone in every industry.

Workplace injuries and illnesses significantly impact on the employees and employers' interests. However, accidents are preventable with safety protocols, safety products and proper training.

Safety matters to all industries in that it affects employee's health, employer's profits, public health cost and the global economy. Employers who invest in the safety of their employees see improved morale, increased productivity, lower costs and, most importantly, no injuries.

Employers should ensure safety of employees by identifying hazards so that they can be eliminated if practicable. Whereas not practicable, the hazards should be isolated or minimized.

Copy for public comments

Occupational health and safety for non-food industrial workers — Facility requirements

1 Scope

This Draft Rwanda Standard provides facility requirements for non-food industries to ensure safety and health of workers during industrial activities.

2 Normative references

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

RS 183, *Occupational health and safety — Management systems — Requirements*

RS 236, *Acoustics — Noise pollution — Tolerance limits*

3 Terms and definitions

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

3.1

health

state of complete physical, mental and social well-being and not merely the absence of disease and infirmity

3.2

safety

condition of being protected from harm or other non-desirable outcomes. Safety can also refer to the control of recognized hazards in order to achieve an acceptable level of risk in accordance with Annex B

3.3

facility

something designed, built, installed, etc., to serve a specific function affording a convenience or service: e.g transportation facility, educational facility; a new research facility. Something that permits the easier performance of an action, course of conduct, etc. to provide someone with everything he/she needs in order to accomplish a task

3.4

non-food industry

establishment that produces, manufactures or supplies items other than food

3.5

non-food industrial worker

employee of complex global collective of diverse business(es) that produce items other than food used by world population

3.6

ergonomics

scientific study of the relationship between people, the equipment they use, and the environment they work in

3.7

drinking water

portable water intended for human consumption

4 Facility requirements

4.1 Accommodation for clothing

4.1.1 The employer shall provide separate changing rooms for each sex equipped with individual lockable or padlockable wardrobes for keeping clothes that are not worn during working hours. The facility shall also be provided with adequate lighting and ventilation.

4.1.2 Arrangement for washing and drying clothes shall be made at the establishment premises.

4.2 Working environment

4.2.1 Premises shall be adequately ventilated. Annex A provides categories of ventilation. Ventilation equipment shall be regularly inspected, tested and maintained in order to prevent pollution caused by hazards originating from the industry.

4.2.2 A number of factors involved in working environment such as room temperature, humidity, air velocity, dust, sound and the temperature difference shall be considered, when deciding what control measures shall be taken. Care shall be taken in heating workplaces that no fumes are introduced that are likely to cause offense or harm.

4.3 Lighting

4.3.1 Lighting design shall ensure a uniform distribution of light over the work area to help reduce visual fatigue and provide for the health and safety of all persons in the place of work. Lighting shall be provided over the entire place of work, including amenity rooms, passages, stairs, ramps, ladders and gangways, which all shall be capable of being lit at such times as people pass along or use them.

4.3.2 Outside areas shall be satisfactorily lit for work and access during hours of darkness to provide safety and security. A place within the outer boundaries, which is used only occasionally for work does not need to be lit constantly, electric switches shall be so located that light is conveniently and immediately available, and that such switches shall be readily identifiable.

4.4 Seating

4.4.1 Seating shall be provided for employees whose work is done standing to provide an opportunity to sit.

4.4.2 When selecting seating, ergonomic principles in accordance with ISO 6385 shall be considered to ensure that factors such as the height, weight, adjustability, construction and stability of the seating is appropriate for the task or situation for which it has been provided.

4.5 First aid

4.5.1 In the event of an emergency, easy access to medical equipment is crucial. Facility shall be stocked with an assortment of first aid equipment, including both general first aid response items, as well as, some tailored to specific work environment, and they shall be well identified.

4.5.2 All employees shall have at least minimal training for using the first aid equipment. In many cases, it is necessary to have staff members who are specially trained in first aid such as Cardio-Pulmonary Resuscitation (CPR).

4.5.3 The employer shall provide and maintain health services, first aid facilities, (including first aid rooms) appliances and requisites in accordance with the requirements of the factories and commercial premises. A first aid box or cabinet shall be located close to washing facilities (including hot and cold water, soap and clean towels) and shall be kept stocked with first aid equipment and materials appropriate for the work being undertaken and the number of persons employed.

4.5.4 Emergency procedures shall be developed and practised regularly in accordance with the Ministerial Order No 01 of 17/05/2012.

4.6 Drinking water

4.6.1 Drinking points shall not be located in sanitary accommodation.

4.6.2 Any appliance used to cool drinking water shall be regularly inspected, tested and maintained to ensure water is not contaminated.

4.6.3 Where unsafe water is provided for use in industrial processes or for fire protection, effective precautions shall be made to prevent human consumption.

4.6.4 Precautions are required to ensure that drinking water supplies are not contaminated by any process or activity in the workplace.

4.7 Maintenance and calibration of equipment

4.2.1 Maintenance or calibration plan shall be available when required.

4.2.2 Every employer shall take all practicable steps to ensure that all facilities are clean and hygienically maintained, fit and suitable for use, and perform to the standard that they are designed or installed to achieve, and records shall be maintained.

4.8 Toilets

Suitable and sufficient sanitary conveniences shall be provided for the exclusive use of both males and females engaged or employed in or about the place of work.

4.9 Fire precautions

4.9.1 The Management shall ensure that the facility and all its work areas comply with fire safety requirements. Requirements include the number, type, and location of fire extinguishing devices, alarms, and evacuation systems and installations.

4.9.2 The employer shall ensure that employees are suitably trained in the use and operation of portable or other fire fighting equipment provided at the place of work.

4.9.3 Control precautions shall be required in workplaces in which there are processes or materials which in the event of a fire are liable to burn with extreme rapidity, emit poisonous fumes or cause explosions.

4.9.4 Precautions shall include the display of safety warning signs, for example, those prohibiting smoking or the introduction of naked flames or any other source of ignition into those parts of the place of work.

4.9.5 All fire fighting equipment, apparatus and warning signs shall be regularly checked and maintained and records shall be kept.

4.9.6 Fires are classified as:

- a) Class A – Fires involving solid materials such as wood, paper or textiles;
- b) Class B – Fires involving flammable liquids;
- c) Class C – Fires involving gases;
- d) Class D – Fires involving metals, for example, aluminium, magnesium, sodium; and
- e) Class K – Fires involving cooking oils.

4.9.7 The materials available for fire fighting have to be appropriate for the type of fire likely to be encountered. Table 1 is a general guide and specialist advice may be necessary for particular situations.

Table 1 — Classification of fire fighting material/equipment

S/N	Class of fire	Suitable fire fighting material/equipment
1.	A	Water, Foam, multi-purpose powder extinguishers
2.	B	Foam
3.	C	Dry powder, but seek specialist advice. In some instances it may be better to leave fire burn until fuel may be cut off
4.	D	Specialist fire fighting issue
5.	F	Fire blankets

4.10 Hallway signs, colour coding and signalling

Appropriate warning signs shall be provided in areas where hazards are identified. These signs shall be positioned to ensure visibility to all those who work in, or come into, the area.

4.11 Safe entry and exit

4.11.1 Entry and exit shall be provided throughout the workplace. All access and exit routes shall be free of obstructive material and properly maintained. Safe access shall allow all persons, including the disabled, to move through the entire establishment easily and safely and while performing their regular tasks. Marked aisles and hallways facilitate the identification of access routes.

4.11.2 Floors shall be level, obstacle-free, and slip-resistant. All doors and other means of entry and exit in the worksites shall be kept unlocked and free from any obstacles while there are workers present. If the doors must be locked for security reasons, they shall be able to be opened from the inside without a key to ensure a quick exit at any time.

4.12 Proper storage of hazardous materials

4.12.1 Employers shall ensure that every container in a place of work which holds any material or substance that is corrosive, irritant, toxic, radioactive, explosive, or otherwise capable of endangering the safety or health of any person who may come into contact with it is suitable for the material or substance being held, and where required, approved for such storage.

4.12.2 Such materials or substances shall be safely and securely stored; clearly labelled and, where necessary, containers containing incompatible materials and substances shall be properly isolated from each other.

4.12.3 Material safety data sheets (MSDS) shall be available in each workplace for all stocks and appropriate training and protective clothing /equipment provided.

4.13 Storage of materials

4.13.1 Employers shall take all reasonable steps to ensure that all goods, materials, substances and equipment in workplaces are so stacked, stored, secured and kept that they do not constitute a danger to persons in their vicinity, in the event of an earthquake or during the course of daily operations.

4.13.2 All workers who are responsible for stacking, storing, securing, or keeping or removing any goods, materials, substances, or equipment shall be fully trained in safe methods of doing so.

4.13.3 Where manual stacking or storage is appropriate, work methods shall be designed to ensure that individual loads are not excessive, to avoid injuries.

4.13.4 Where machinery such as forklifts are used, particular attention shall be made in terms of operator training and machinery maintenance.

4.14 Protective clothing and equipment

4.14.1 Employer shall provide for workers who are engaged in any process or activity that involves a risk of bodily injury to them, or a danger to their health, the protective clothing and equipment necessary to afford them reasonable protection against that risk or danger.

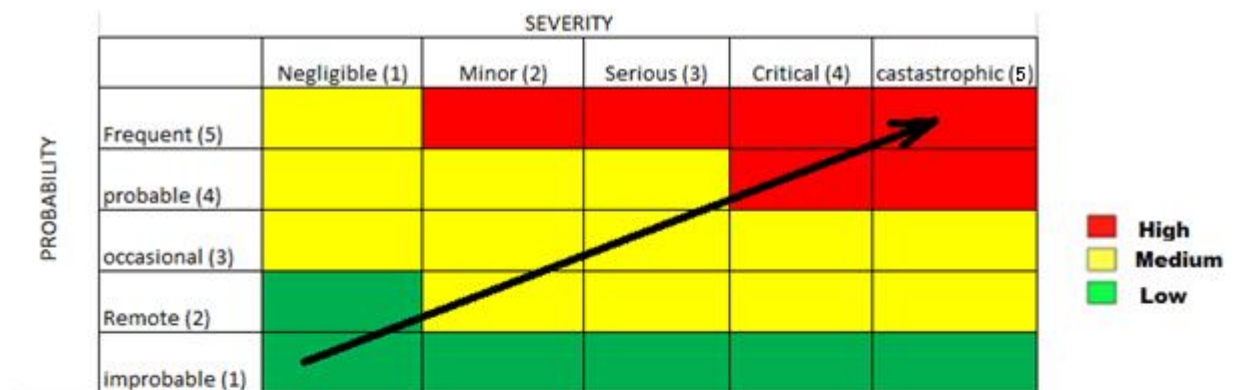
4.14.2 Protective clothing shall be considered as the last option where engineering or management controls cannot completely eliminate or isolate the hazard at source.

4.15 Protection from harmful and noise control

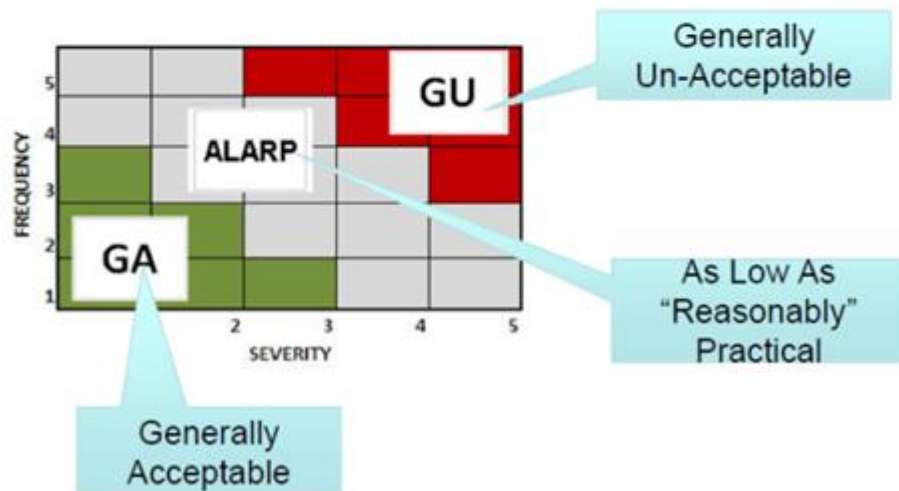
All employers shall take all practicable steps to effectively manage the hazards associated with excessive noise. The maximum levels of noise that people can safely be exposed to are set out in Table1 of RS 236.

Annex A (normative)

Levels of acceptable risks



Severity of Harm		Probability of Occurrence	
S-5	Catastrophic	O-5	Frequent
S-4	Critical	O-4	Probable
S-3	Serious	O-3	Occasional
S-2	Minor	O-2	Remote
S-1	Negligible	O-1	Improbable



Annex B
(normative)

Categories of ventilation

S/N	Category of ventilation	Definition
1.	Natural ventilation	Refer to intentionally designed passive methods of introducing air from outside to a space without the use of mechanical system
2.	Mechanical ventilation	Refer to system that uses mechanical means such as fan to introduce outside air to a space. This includes positive pressure ventilation and balanced system that uses both supply and exhaust ventilation
3.	Mixed mode ventilation (hybrid ventilation)	Uses both natural and mechanical processes

Bibliography

- [1] *Ministerial Order No 02/17/05/2012 No 02/17/05/2012 determining conditions for occupational health and safety*
- [2] *Guidelines for the Provision of Facility and General Safety and Health in Commercial and Industrial premises*, October 1995, New Zealand
- [3] RS EAS 12: 2014 *Portable water — Specification*
- [4] ISO 6385: 2016 *Ergonomics principles in the design of work system*

Copy for public comments

Copy for public comments