DEPARTMENT OF LABOUR

Government Notice. R: 2281 **16 October 1987**

Environmental Regulations for Workplaces, 1987

The Minister of Manpower has, in terms of section 35 of the Machinery and Occupational Safety Act, 1983 (Act 6 of 1983) made the regulations contained in the Schedule hereto.

SCHEDULE

Definitions

1. In these regulations "the Act" means the Machinery and Occupational Safety Act, 1983 (Act 6 of 1983), and any expression to which a meaning has been assigned in the Act shall have the meaning so assigned and, unless the context indicates otherwise -

"acclimatised" means physiologically adapted to a particular thermal environment and work rate;

"attenuation" means the proven capability of hearing protectors to reduce the equivalent noise level to which the wearer thereof is exposed;

"building work" means work defined as such in regulation 1 of the General Administrative Regulations promulgated in terms of section 35 of the Act and published under Government Notice R. 2206 of 5 October 1984;

"dB (A)" means a unit of measurement of sound pressure level as contemplated in SABS 083;

"directional luminaire" means a luminaire from which the light radiation is confined to a well-defined narrow beam;

"equivalent noise level" … replaced by "equivalent sound pressure level";
[substituted by G.N.R.489 of 18 March 1994]

"equivalent sound pressure level" is the value of the equivalent continuous sound level which would deliver the same amount of sound energy as the actual fluctuating sound, measured over the same time period, and

"equivalent noise level" has a corresponding meaning;

[inserted by G.N.R489 of 18 March 1994]

"exposed" means exposed whilst at work, and "exposure" has a corresponding meaning;

[added by G.N.R489 of 18 March 1994]

"exposure limit" means a value as defined in the Asbestos Regulations, 1987, promulgated in terms of section 35 of the Act and published under Government Notice R 773 of 10 April 1987;

“hearing protectors” means ear muffs or ear plugs of a type approved by the chief inspector and in respect of which an efficiency test as prescribed by SABS 572 has been conducted by the South African Bureau of Standards or an approved inspection authority;

“heat stroke” means a pathological condition arising form thermoregulatory failure of the human body;

“illuminance” means the intensity of light falling on a surface, measured in lux;

“luminaire” means a light fitting which supports a lamp and provides it with electrical connections;

“noise zone” means an area where the equivalent noise level is equal to or exceeds 85 dB (A) when measured in accordance with SABS 083;

“regional director” means the regional director as defined in regulation 1 of the General Administrative Regulations published under Government Notice No. R.2206 of 5 October 1984 and amended by Government Notice No R.2131 of 1990;

[inserted by G.N.R.489 of 18 March 1994]

“respiratory protective equipment” means a device as defined in the Asbestos Regulations, 1987, promulgated in terms of section 35 of the Act and published under Government Notice R. 773 of 10 April 1987;

“SABS 083” means the South African Bureau of Standards’ Code of Practice for the Measurement and Assessment of Occupational Noise for Hearing Conservation Purposes, SABS 083;

“SABS 1451: Part I” South Africa Standard. Standard Specification for Hearing Protectors, Part I: Ear muffs;

[inserted by G.N.R.489 or 18 March 1994]

“SABS 1451: Part II” South African Standard. Standard Specification for Hearing Protectors, Part II: Ear plugs;

[inserted by G.N.R.489 of 18 March 1994]

“SABS 572” … deleted

[deleted by G.N.R.489 of 18 March 1994]

“time-weighted average” means the average of a number of representative measurements that are taken over a period of time and that are calculated as follows:

$$\text{Time-Weighted average} = \frac{x1t1 + x2t2 + x3t3 + \ldots. + xn.tn}{t1, + t2 + t3 + \ldots. + tn}$$

where x1, x2, etc., are the observed measurements during the corresponding periods t1, t2, etc., minutes, and t1, + t2 + t3 + …. + tn is the total time in minutes over which the measurements are taken;

“WBGT index” means a number which characterises the thermal conditions in the environment to which that number applies; it is calculated by adding seven tenths of the reading in degrees Celsius obtained with a naturally ventilated wet-bulb thermometer to one fifth of the reading in degrees Celsius obtained with a globe thermometer and adding that sum to one tenth of the reading in degrees Celsius obtained with a dry-bulb thermometer; the index may also be obtained by using

an electronically integrating direct-reading instrument which has been designed, built and calibrated for that particular purpose;

“working plane”, means a horizontal plane at the level where work is performed.

Thermal requirements

2. (1) Subject to the provisions of subregulation (2), no employer shall require or permit an employee to work in an environment in which the time-weighted average dry-bulb temperature taken over a period of four hours is less than 6°C, unless the employer takes reasonable measures to protect such employee against the cold and further takes all precautions necessary for the safety of such employee: Provided that, where outdoor work is performed, the employer shall take such measures and such precautions in an environment in which the actual dry-bulb temperature is less than 6°C at any time.

(2) No employer shall require or permit an employee to work in a refrigerated environment in which the actual dry-bulb temperature is below 0°C unless -

(a) the maximum exposure of the employee does not exceed the periods as indicated in the following table :

Temperature °C	**Maximum exposure**
0° to -18°	No limit.
Lower than -18° but not lower than -34° degrees	Maximum continuous exposure during each hour = 50 minutes. After every exposure in a low-temperature area at least 10 minutes must be spent, under supervisions, in a comfortably warm environment.
Lower than -34° but not lower lower than -57°	Two periods of 30 minutes each, at least 4 hours apart. Total low- temperature exposure: 1 hour per day.
Lower than -57°	Maximum permissible exposure = 5 minutes during any 8-hour period.

(b) the employee is provided with the following protective clothing:

(i) A nylon freezer suit or equivalent and, where the said temperature is below -34°C, such suit or equivalent shall be of double layer;

(ii) a woolen Balaclava or equivalent;

(iii) fur-lined leather gloves or equivalent;

(iv) waterproof outer gloves with knitted woolen or equivalent inners as well as a waterproof apron where wet or thawing substances are handled;

(v) woolen socks; and

(vi) waterproof industrial boots or equivalent;

Provided that an employee who works in a low-temperature area in which the temperature is not lower than - 18°C for periods not exceeding five minutes in

every hour need only be provided with an ordinary overall, gloves shoes, or equivalent;

(c) the employee is, beforehand and thereafter, at intervals not exceeding one year, certified fit to work in such environment by a registered medical practitioner or a registered nurse according to a protocol prescribed by such practitioner, and such employee is issued with a certificate to that effect; and

(d) all the clothing worn by the employee is dry prior to entering the low-temperature area.

(3) Where hand-held tools which vibrate at a frequency of vibration of less than 1 000 Hz are used at an actual dry-bulb temperature below 6°C, the employer shall provide an employee operating such tools with lined gloves, and ensure that he wears them.

(4) Where the time-weighted average WBGT index, determined over a period of one hour, exceeds 30 in the environment in which an employee works, the employer of such employee shall -

(a) if practicable, take steps to reduce the said index to below 30; or

(b) where it is not practicable to reduce the said index to below 30 and where hard manual labour is performed-

(i) have every such employee beforehand and thereafter, at intervals not exceeding one year, certified fit to work in such environment by a registered medical practitioner or a registered nurse according to a protocol prescribed by such practitioner, and every such employee shall, if found fit to work in such environment, be issued with a certificate to that effect by such practitioner or nurse;

(ii) ensure that every such employee is acclimatised to such working environment before he is required or permitted to work in such environment;

(iii) inform every such employee of the need to partake of at least 600 millilitres of water every hour;

(iv) train every such employee in the precautions to be taken to avoid heatstroke; and

(v) provide the means whereby every such employee can receive prompt first-aid treatment in the event of heatstroke:

Provided that, where the question arises as to whether any particular type of work does in fact constitute hard manual labour, the decision of an inspector shall be decisive.

Lighting

3. (1) Every employer shall cause every workplace in his undertaking to be lighted in accordance with the illuminance values specified in the Schedule to these regulations: Provided that where specialised lighting is necessary for the performance of any particular type of work, irrespective of whether that type of work is listed in the Schedule or not, the employer of those employees who

perform such work shall ensure that such specialized lighting is available to and is used by such employees.

(2) The chief inspector may, by notice in the Gazette, from time to time modify the Schedule to these regulations as he deems necessary.

(3) With respect to the lighting to be provided in terms of subregulation (1), the employers shall ensure that -

(a) the average illuminance at any floor level in a workplace within five meters of a task is not less than one fifth of the average illuminance on that task;

(b) glare in any workplace is reduced to a level that does not impair vision;

(c) lighting on rotating machinery in such that the hazard of stroboscopic effects is eliminated; and

(d) luminaires and lamps are kept clean and, when defective, are replaced or repaired forthwith.

(4) With a view to the emergency evacuation of indoor workplaces without natural lighting or in which persons habitually work at night, every employer shall, in such workplaces, provide emergency sources of lighting which are such that, when activated, an illuminance of not less than 0.3 lux is obtained at floor level to enable employees to evacuate such workplaces: Provided that where it is necessary to stop machinery or shut down plant or processes before evacuating the workplace, or where dangerous materials are present or dangerous processes are carried out, the illuminance shall be not less than 20 lux.

(5) An employer shall ensure that the emergency sources of lighting prescribed by subregulation (4) -

(a) are capable of being activated within 15 seconds of the failure of the lighting prescribed by subregulation (1);

(b) will last long enough to ensure the safe evacuation of all indoor workplaces;

(c) are kept in good working order and tested for efficient operation at intervals of not more than three months; and

(d) where directional luminaires are installed, these are mounted at a height of not less than two meters above floor level and are not aimed between 10° above and 45° below the horizontal line on which they are installed.

(6) An employer engaged in building work shall cause all rooms, stairways, passageways, gangways, basements and other places where danger may exist through lack of natural light, to be lighted such that it will be safe.

Windows

4. (1) In order to effect visual contact with areas outside a workplace, where employees work the majority of their shift in a room of which the floor area is less than 100 square meters, the employer of such employees shall cause every such room to be provided with windows in such a way that -

(a) the total glazed area of such windows is not less than three fifths of the square root of the floor area of the room, both areas measured in square meters;

(b) the window sills are not higher and the window heads are not lower than one and a half meters above the floor level of the room; and

(c) such windows are glazed with transparent material.

(2) Unless an inspector otherwise directs, the provisions of subregulation (1) shall not apply under conditions where natural light will have an adverse effect on the process or material used in a room, or where the process in a room has to be conducted under critical conditions of light, temperature, humidity or air movement, or where the judgement of texture or colour in a room has to be done under conditions of constant lighting quality and intensity, or where, for reasons of safety, privacy or security, compliance with the intended provisions becomes impracticable.

(3) Where the penetration of direct sunlight into any workplace may pose a threat to the safety of persons in such workplace, the employer concerned shall ensure that such workplace is screened to avoid such penetration, but retaining, as far as is practicable, outside visual contact.

Ventilation

5. (1) An employer shall ensure that every workplace in his undertaking is ventilated either by natural or mechanical means in such a way that -

(a) the air breathed by employees does not endanger their safety;

(b) the time-weighted average concentration of carbon dioxide therein, taken over an eight-hour period, does not exceed one half per cent by volume of air;

(c) the carbon dioxide content thereof does not at any time exceed three per cent by volume of air;

(d) the prescribed exposure limits for airborne substances therein are not exceeded; and

(e) the concentration therein of any explosive or flammable gas, vapour or dust does not exceed the lower explosive limit of that gas, vapour or dust.

(2) Where the measures prescribed by subregulation (1) are not practicable, or where there is a danger of unsafe air in the breathing zone of an employee, the employer shall provide every such employee with, and ensure that he correctly uses, respiratory protective equipment of a type that reduces the exposure of the employee to a safe level and the employer shall, further, inform him of the dangers of and the precautionary measurers against excessive exposure.

(3) The provisions of subregulation (1) (b) and (c) shall not apply in respect of workplaces where the ambient pressure differs by more than 20 percent from atmospheric pressure at sea level.

Housekeeping

6. (1) A user of machinery shall provide and maintain sufficient clear and unobstructed space at every machine to enable work to be carried out without danger to persons.

(2) An employer shall -

(a) with the exclusion of workplaces where building work is performed, make at least 2.25 square meters of effective open floor area available for every employee working in an indoor workplace;

(b) make available and maintain an unimpeded work space for every employee;

(c) keep every indoor workplace clean, orderly and free of materials, tools and similar things which are not necessary for the work done in such work place;

(d) keep all floors, walkways, stairs, passages and gangways in a good state of repair, skid-free and free of obstructions, waste or materials;

(e) keep the roof and walls of every indoor workplace sound and leak-free;

(f) board over or fence, or enclose with rails or guards, or take other measures which may be necessary under the circumstances to ensure the safety of persons, all openings in floors, all hatchways and all stairways and any open sides of floors or buildings through or from which persons are liable to fall: Provided that such boarding or guarding may be omitted or removed for the time and to the extent necessary for the access of persons or the movement of material; and

(g) erect a catch platform or net above an entrance or passageway or above a place where persons work or pass, or fence off the danger area if work is being performed above such entrance, passageway, place or danger area and there is a possibility of persons being struck by falling objects.

(3) No employer shall require or permit any person to, and no person shall, dispose of any article from a high place except by hoist or chute unless arrangements have been made to secure the safety who may be struck by falling objects.

Noise and hearing conservation

7 Repealed by GN R307 of 7 March 2003

Precautions against flooding

8. (1) Where a substantial risk exists that a workplace may be flooded, the employer shall take measures to be informed forthwith of any imminent flooding.

(2) Every employer shall take measures to be informed forthwith of any imminent flooding from constructions for conserving water, or which may cause

water to converge or accumulate on his premises, and shall, prior to the erection of such a construction, give notice in writing to all persons situated in the danger zone below such construction of the possibility of flooding owing to such construction.

Fire precautions and means of egress

9. (1) In order to expedite the evacuation of a workplace in case of fire, every employer shall ensure that -

(a) any emergency escape door from any room or passage or at a staircase shall, as far as is practicable, be hung so as to open outwards;

(b) every door of a room in which persons may be present, and every door of a passage or at a staircase serving as a means of exit from such room, shall be kept clear and capable of being easily and rapidly opened from inside so as to ensure quick and easy evacuation;

(c) the provisions of paragraphs (a) and (b) shall also be complied with in respect of the outer escape exit from the workplace;

(d) staircases and steps leading from one floor to another or to the ground shall be provided with substantial hand-rails;

(e) staircases intended to be used as fire escapes shall -

(i) be constructed of non-combustible material;

(ii) be kept clear of any material or other obstruction; and

(iii) not terminate in an enclosed area;

(f) staircases, passages and exits intended for escape purposes shall be of a width and of a gradient which will facilitate the quick and safe egress of the number of persons intended to make use of them; and

(g) having regard to the size, construction and location of a workplace, the number of persons, and the activity therein, such workplace is provided with at least two means of egress situated as far apart as is practicable.

(2) Having regard to the size, construction and location of the workplace, and the amount and type of flammable articles uses, handled or stored on the premises, an employer shall provide on the premises an adequate supply of suitable fire-fighting equipment at strategic locations or as may be recommended by the fire chief of the local authority concerned, and such equipment shall be maintained in good working order.

Offences and penalties

10. Any person who contravenes or fails to comply with any provision of regulation 2, 3(1), 3(3), 3(4), 3(5), 3(6), 4(1), 4(3), 5(1), 5(2), 6, 7, 8 or 9 shall be guilty of an offence and liable on conviction to a fine not exceeding R1 000 or to imprisonment for a period not exceeding six months and, in the case of a continuous offence, to an additional fine of R5 for each day on which the offence

continues or to additional imprisonment of one day for each day on which the offence continues: Provided that the period of such additional imprisonment shall in no case exceed 90 days.

Withdrawal of regulations

The following regulations are hereby withdrawn:

(a) Regulations B.1 (1), B.1 (2), B.1 (3), B.1 (4), B.2, B.5, B.11, B.13, B.15 and B.17, published under Government Notice R. 929 of 28 June 1963, as amended by Government Notice R. 2237 of 30 November 1973;

(b) regulations C.10, C.11 and C.12, published under Government Notice R.929 of 28 June 1963; and

(c) regulation D.4, published under Government Notice R. 1934 of 13 December 1963, as amended by Government Notice R. 3475 of 9 October 1969.

Short title

12. These regulations shall be called the Environmental Regulations for Workplaces, 1987.

Schedule
Minimum average values of maintained illuminance
(Measured on the working plain)

Location/Industry	Place or type of activity	Lux
Abattoirs(See also outdoor areas)	Cold store, casting & stunning pens	100
	Bleeding area, slaughtering	150
	Dressing, evisceration, washing, tripery and skin sorting	200
	Inspection and grading	300
	Boning, cleaning, grinding, packing, & cutting	200
	Manufacture of by-products	100
Ablutions	Wash-rooms, toilets & changing rooms	100
Abrasive blasting	Sand or other	200
Aircraft manufacture	Stock park production	300
	Drilling, sheet aluminium layout, template work, wing section, cowling, welding, sub- assembly, landing gear, fuselage, final assembly	200
	Maintenance and repairs (hangers)	200
Assembly plants	Rough work, eg frame assembly, heavy	100

	machinery assembly	
	Medium work, eg machined parts, engine assembly, vehicle body assembly	200
	Fine work, eg radio & telephone equipment, typewriter & office machinery assembly	500
	Very fine work, eg small precision assembly	1000
Bakeries	Mixing & make-up rooms, oven rooms, wrapping rooms	100
	Decorating and icing	200
	General working areas	100
Banks	Counters (See also Offices)	300
	General working areas	200
Blacksmith	General working area	75
	Tempering	50
Boiler houses	Coal and ash handling	75
	Boiler rooms	100
Bookbinding	Folding, pasting, punching, stacking	200
	Cutting, assembly, embossing	300
	Finishing, blocking, inlaying and inspection	500
Boot and shoe	Sorting and grading	500
	Clicking & closing: Preparatory operations	500
	Cutting table & presses, stitching	500
	Bottom stock prep, lasting, bottoming, finish	500
	Shoe rooks	500
Box, carton & paper bag making	Corrugated boards, cartons, containers & bag manufacture, coating & laminating	150
	Associated printing	200
Brewing, distilling & softdrinks	General working area	100
	Brewing, bottling & canning plants	300
	Bottle inspection	300
Building & construction	Industrialized building plants	200
	Concrete shops	150
	General working areas	20
	Walkways and access	5
Canning & preserving	Inspection of products	300
	Preparation, kettle areas, mechanical cleaning, dicing, trimming	200

	Canned and bottle goods: retorts	150
	High speed labelling lines	200
	Can and bottle inspection	300
	Automatic processes	25
Carpet making	Winding, beaming	150
	Designing, Jacquard card cutting, patter work, tufting, topping, cutting, hemming, fringing	200
	Weaving, mending, inspection	300
	Dyeing	400
Cement, asbestos, etc. gypsum, talc, etc, products & moulded goods	Fiberising, mixing, shredding, agitating, flat & corrugated sheets & moulding goods mnf	200
	Pipe & pole manufacture: mixing, spinning, reinforcing, stripping	150
Cement manufacture	Control room, milling, conveying, drying, pumping, burners platform, coal plant milling feeding, bagging, bulk filling, loading	150
	Vertical control panel face	200
Ceramics	See Pottery & clay products	
Chemical works (See also Outdoor areas)	Hand furnaces, boiling tanks, stationary driers, stationary or gravity crystallizers, mechanical driers, evaporators, filtration plants, mechanical crystallizing, bleaching percolators, nitrators, electrolytic cells	100
	Controls, guages, valves, etc	100
	Control rooms: Vertical control panels	200
	Control desks	200
	General working areas	100
Clothing	Matching up	300
	Sorting, cutting, sewing	300
	Pressing, cloth treating	200
	Inspections, hand tailoring	500
Cold stores	General working areas	100
Confectionery (chocolates & sweets)	Mixing, blending, boiling	100
	Husking, winnowing, fat extraction, crushing, refining, feeding, bean cleaning, sorting, milling, cream making	150
	Hand decorating, inspection, wrapping,	200

	packing.	
Court rooms	Seating	100
	Court	300
Dairies	General working areas	150
	Bottle inspection	300
	Bottle filling	300
	Despatching	100
Die-sinking & engraving	General	200
	Fine	500
	Hand engraving	500
Dry cleaning	See Laundering and dry cleaning	
Dye works	Reception, 'grey perching'	500
	Wet processes	150
	Dry processes	150
	Dyers offices	500
	Final perching (examination)	1500
Electrical goods manufacture	Impregnating processes, mica working	150
	Coil and armature processes : general	200
	fine (instrument coils)	400
Electricity generating stations (See also Outdoor areas)	Turbine halls (operating floor)	200
	Blowers, auxiliary generators	100
	Transformer chambers, etc	75
	Cable tunnels	50
	Battery and charging equipment rooms	100
	Boiler front (operating floor)	150
	Between boilers (operating floor), stairs, & operating platforms, & precipitator high voltage chamber	100
	Pulverizers, feeders, ash plant, conveyors (tunnel, junction tower)	75
	Boiler house and turbine house basements	100
	Pump houses & rooms, water treatment plant	100
	Overland conveyor housing walkways	50
	Control rooks: vertical control panel face	200
	rear of control panel	100

	control desks	200
	Computer room	500
	Switch houses & rooms	150
	Relay and telecommunication rooms	200
	Nuclear reactors and steam raising plants	150
	Reactor areas, boilers, galleries	150
	Gas circulator bays	150
	Reactor charge / discharge face	150
	High voltage substations	100
Fire stations	Appliance rooms	100
	External rooms	30
Forging	General	100
Foundries	Charging floor, tumbling, cleaning, shaking out, rough moulding and core making	100
	Fine moulding and core making , inspection	200
Furniture factories	Raw materials store	50
	Finished goods store	75
	Wood machining and assembly	150
	Rough sawing and cutting	150
	Machining, sundry & assembly of components	250
	Cabinet making: veneer sorting & preparation	500
	: veneer pressing	250
	: components store	75
	: fitting & final inspection	400
	Upholstery: cloth selection	750
	: filling, covering	250
	: slipping	400
	: cutting, sewing	400
	Mattress making: assembly	250
	: tape edging	500
	Tool rooms : general	250
	: benches	400
	Spray booths: colour finishing	250
	: clear finishing	150
Garages	Parking areas (interior)	50
	Washing, polishing, greasing	100
	Servicing pits	100

	Repairs	200
	Work bench	250
	Apron fuel pumps	100
Gasworks (See also Outdoor areas)	Retort houses, oil gas plants, purifiers, coke screening and coke handling plants	50
	Governor, meter, compressor, booster, and exhauster houses	75
Gauge & tool rooms	General	500
General factory areas	Canteen / dining rooms	100
	Cloak rooms	100
	Entrances	100
	Rest rooms	100
	First aid rooms	100
Glass processing	Furnace rooms, bending, annealing ovens, mixing rooms, forming (blowing, drawing, pressing, rolling)	100
	Cutting to size, grinding, polishing, toughen	150
	Finishing (bevelling, decorating, etching, silvering)	200
	Brilliant cutting	500
	Inspections: general	150
	: fine	500
Glove making (See also Clothing)	General working areas	300
Hat making (See also Clothing)	Stiffening, braiding, cleaning, refining	200
	Forming, sizing, punching, flanging, finishing, ironing	100
	General working areas	100
Hosiery & knitwear	Circular and flat knitting machines, universal winders, cutting out, folding and pressing	200
	Lock stitch and overlocking machines	300
	Mending: light goods	800
	: dark goods	1000
	Examining and hand finishing: light goods	400
	: dark goods	800
	Linking or running up	300
Hotels & restaurants	Entrance halls	100
	Reception and accounts	200

	Stairs, corridors	100
	Laundries	150
	Kitchens	150
	General working areas	50
Inspection areas (engineering)	Rough work, eg counting, rough visual checks	100
	Medium work, eg 'go-no go' gauges	200
	Sub-assemblies	200
	Fine work, eg radio & telecommunications eqpt, calibrated scales, precision mechanisms, instruments	500
	Very fine work, eg gauging & inspection of small intricate parts	1000
	Minute work	1500
Iron and steel	Slab yards, melting shops, ingot stripping, soaking pits, blast furnace working areas, pickling & cleaning lines, mechanical pump houses, slapping & large section rolling mill	75
	Moulding preparation, light section, wire and cold strip mills, mill inspections and conditioning, sheet & plate finishing, tinning. galvanizing and roll shops	100
	Plate inspection	200
	Tinplate inspection & pulpits (control rooms)	200
	General working areas	75
Jewellery & watchmaking	Fine processes	500
	Minute processes	3000
	Gem cutting, polishing & setting	1000
Laboratories & test rooms	General laboratories, balance rooms	200
	Electrical & electronic instrument labs	300
	Calibrated scales, precision mechanical instruments	300
Laundering & dry cleaning	Receiving, sorting, washing, drying, ironing, (calendering), despatch	150
	Dry cleaning, bulk machine work	150
	Hand ironing, pressing, inspection, mending	200
	Spotting	250
Leather & tanning	Vats, cleaning, tanning, stretching, cutting, fleshing and stuffing	100

	Finishing, staking, splitting	150
	Pressing and glazing	300
	Cutting, scarfing and sewing	500
	Grading and matching	500
Libraries, museums & art galleries	Shelves	100
	Binding	300
	Cataloging, sorting	200
	General working areas	100
Lifts	Car interior	100
	Motor rooms	300
Machine shops & fitters benches	Rough bench & machinery work, rough checking and stock parts	100
	Medium bench and machine work, ordinary automatic machines, rough grinding, medium buffing and polishing	200
	Fine bench & machinery work, fine automatic machines, medium grinding, fine buffing & polishing	500
	Extra-fine bench & machine work, fine grinding	800
Materials handling	Wrapping, packing, labelling, despatch	150
	Sorting stock, classifying, loading	100
Milling (flour)	Cleaning, grinding, rolling, purifying, silks and packing	150
	Wetting tables, product control	200
Motor vehicle manufacture	General sub-assemblies, chassis assembly, trim. shops, body sub-assembly, body assembly	200
	Upholstery	400
	Final inspection	300
	Spray booths (See paint shops & spraying booths).	
Offices	Entrance halls and reception areas	100
	Conference rooms, general offices, typing & filing	300
	Computer and business machine operators	500
	Drawing offices	500
Outdoor areas	Abattoirs: lairage	20
	: race	50

	Ash handling, precipitator & fan area	20
	Bulk loading / unloading areas where manual operations are performed	50
	Bulk loading / unloading areas where operations are performed mechanically	10
	Cool-water screens	20
	Fuel pumps	100
	Storage areas (excluding dumps)	5
	Water clarification plant & storage tanks (operating areas)	50
	Marshalling yards	10
	Main entrances and exits	20
	Transformer and reactor terrain	20
	High voltage yard, distribution & substation	10
	Gangways, catwalks, stairways, etc	20
	Conveyor structure	10
Paint manufacture	Filling, blending, dispersion & reactor platform	150
	Batch mixing	300
	Colour matching	300
Paint shops and spraying booths	Rubbing, dipping, ordinary painting, spraying and finishing	200
	Fine painting, spraying and finishing	300
	Retouching and matching	500
Paper & paper board manufacture	Paper and board making: Machine houses, calendering, pulp mills, preparation plants, cutting, finishing, trim.	150
	Inspection and sorting (overhauling)	200
	Paper converting processes: general	150
	: associated printing	200
Passages & lobbies	All areas	75
Pharmaceutical & fine chemical	Raw material storage	150
	Control laboratories and testing	200
	Pharmaceutical manufacture:	
	grinding, granulating, mixing, drying, tabletting, sterilizing, washing, preparation of solutions, filling, labelling. capping, inspection	200
	Fine chemical manufacture: plant processing	150
	: fine chemical finishing	200

Photographic	Safety light: dark room	5
Plastics	Manufacture (See Chemical Works)	
	Processing:	
	calendering, extrusion	200
	moulding - compression, injection, blowing	150
	Sheet fabrication:	
	shaping	150
	trimming, machining, polishing	200
	cementing	150
Plating	Vats & baths, buffing, polishing, burnishing	200
Post offices	Counters	200
	General working areas	100
Pottery and Clay products	Grinding, filter pressing, kiln room, moulding, pressing, cleaning, trimming, glazing, firing	200
	Enamelling, colouring, decorating	300
Printing -	Type foundries:	
	Matrix making, dressing type, hand and machine casting	150
	Font assembly, sorting	300
	Printing plants:	
	Machine composition, imposing stones	150
	presses	200
	composition room	300
	proof reading	300
	Electrotyping:	
	Block-making, electroplating, washing, backing	150
	Moulding, finishing, routing	200
	Photo-engraving: Block making, etching, masking	200
	Finishing, routing	300
	Colour printing: inspection areas	500
Refrigeration	Chilling and cold rooms, icemaking	100
Rubber processing	Stock & fabric preparation	150
	Dipping, moulding, compounding, calendering	150
	Tyre and tube making	200
	Curing and inspection	300
Schools & educational institutions	Stairs, corridors	100

	Class and lecture rooms	200
	General working areas	100
Sheet metal	Benchwork, pressing, punching, shearing stamping, spinning, folding	150
	Scribing	200
	Sheet inspection	300
Shops, store rooms and warehouses	Stair, corridors	100
	General working areas	100
Soap manufacture	All processes, eg kettle houses & ancillaries batch or continuous soap rooting, soap stamping	150
	General areas	100
	Vertical control panel face	200
	Edible product processing & packing	150
Stairs, escalators & ramps	General	100
Storage battery manufacture	General	100
Structural steel fabrication	General	100
	Marking off	200
Sugar	Manufacture: crushing, settling, evaporating, boiling, curing, drying, packing	100
	Refining: centrifuging, metering, filtering, condensing	100
	Planning, mixing, drying	200
	Grading, colour inspection	500
Surgeries, hospitals & clinics	Stairs, corridors	100
	General working areas	100
Tailoring	Hand tailoring	500
Telephone exchanges	Manual exchange rooms (on desk)	100
	Main distribution frame rooms in automatic exchanges	200
	Battery rooms	100
Textile (cotton or linen)	Bale breaking, blowing, carding	100
	Roving, slubbing, spinning (ordinary counts), winding, hackling, spreading, cabling	100

	Warping, slashing, dressing, dyeing, doubling(fancy), spinning (fine counts)	150
	Heading (drawing in)	500
	Weaving: patterned cloth	500
	plain 'grey' cloth	500
	Cloth inspection	500
Textile (jute)	Weaving, spinning flat, jacquard carpet looms,. top winding	150
	Yarn calender	100
Textile (silk or synthetic)	Soaking, fugitive tinting, conditioning or setting of twist	150
	Spinning	300
	Winding, twisting, rewinding & combing, quilling, slashing	200
	Warping	200
	Healding (drawing in)	500
	Weaving, finishing	500
	Inspection	500
Textile (woollen)	Scouring, carbonizing, teasing, preparing, raising, brushing, pressing, back-washing, gilling, crabbing and blowing	100
	Blending, carding, combing (white), tentering drying, cropping	150
	Spinning, roving, winding, warping, combing (coloured), twisting	300
	Healding (drawing in)	500
	Weaving:	
	fine worsteds	500
	medium worsteds, fine woolens	300
	Heavy woollens	200
	Burling, mending	500
	Perching:	
	'grey'	500
	Finals	1500
Theatres, cinemas & halls	Stairs, corridors	100
	Booking offices	200
	Projection rooms	150
Tobacco	Primary manufacture: weighing, blending,	100

	conditioning, threshing, cutting	
	Cigarette making: manufacturing processes, filter plug-making	500
	Inspection (catcher)	500
	Cigarette or tobacco packing	500
Upholstering	Furniture and vehicles	200
Warehouses & bulk storage (See also Material handling)	Small materials, racks, packing & despatch	150
	Issue counters	200
	Loading bays, large materials	75
	Inactive storage	20
Welding & soldering	Gas & arc welding, rough spot welding	150
	Medium soldering, brazing & spot welding (eg. domestic hardware)	500
	Fine soldering & spot welding, eg. instruments radio set assembly	500
	Very fine soldering & spot welding eg electronic printed circuits	1500
Woodworking & sawmilling	Rough sawing & bench work, sizing, planing, rough sanding	150
	Medium machine & bench work, gluing, veneering, cooperage	200
	Fine bench & machine work, find sanding and finishing	200

Incorporation of Safety Standards

MACHINERY AND OCCUPATIONAL SAFETY ACT, 1983

Under the powers vested in me by section 36(1) of the Machinery and Occupational Safety Act, 1983 (Act 6 of 1983), I, Pieter Theunis Christiaan du Plessis, Minister of Manpower, hereby incorporate the South African Bureau of Standards Code of Practice for the Measurement and Assessment of Occupational Noise for Hearing Conservation Purposes, SABS 083-1983 and the South African Bureau of Standards Specification for the Acoustical Properties of Ear Protectors, SABS 572-1973, into the Environmental Regulations 1987.

P.T.C. DU PLESSIS

Minister of Manpower