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[No. 667.]

GOVERNMENT NOTICE.

DEPARTMENT OF LABOUR.

No. R. 1934.]

[13 December 1963.]

Factories, Machinery and Building Work Act, 1941.

It is hereby notified for general information that the State President has been pleased, under the powers vested in him by section fifty-one of the Factories, Machinery and Building Work Act, 1941 (Act No. 22 of 1941), to make the following regulations with effect from the date of publication hereof.

REGULATIONS.

CHAPTER V.

BUILDING, DEMOLITION AND EXCAVATION WORK.

D.1. INTERPRETATION OF TERMS.

In this chapter unless inconsistent with the context—

“competent person” means a person who has had at least five years’ practical experience in building work or a person who has obtained a degree in civil engineering of a South African University or a degree recognised by the Department of Education, Arts and Science of the Republic of South Africa as equivalent to such first mentioned degree;

“scaffold” means any structure or framework used for the support of persons, equipment and material in elevated positions in connection with building or excavation work;

“putlog scaffold” means a scaffold supported by a single row of standards and the structure in connection with which it is being used;

“light suspended scaffold” means a working platform suspended from overhead cantilevered supports by means of a single suspension from each cantilever support;

“heavy suspended scaffold” means a working platform suspended from overhead cantilevered supports by means of more than one separate suspension from each cantilever support;

“boatswains chair” means a suspended platform seat intended for supporting one person in an elevated position in connection with building or excavation work;

GOEWERMENTSKENNISGEWING.

DEPARTEMENT VAN ARBEID.

No. R. 1934.]

[13 Desember 1963.]

WET OP, FABRIEKE, MASJINERIE EN BOUWERK, 1941.

Hierby word vir algemene inligting bekendgemaak dat dit die Staatspresident behaag het om, kragtens die bevoegdhede hom verleen by artikel een-en-veftig van die Wet op Fabriek, Masjinerie en Bouwerk, 1941 (Wet No. 22 van 1941), die onderstaande regulasies met ingang van die datum van publikasie hiervan, uit te vaardig.

REGULASIES.

HOOFSTUK V.

BOU-, SLOPING- EN UITGRAWINGSWERK.

D.1. VERKLARING VAN UITDRUKKINGS.

In hierdie hoofstuk, tensy met die samehang onbestaanbaar, beteken—

„bevoegde persoon”, ’n persoon wat minstens vyf jaar praktiese ondervinding in bouwerk opgedoen het of ’n persoon wat ’n graad in siviele ingenieurswese aan ’n Suid-Afrikaanse universiteit behaal het of ’n graad wat deur die Departement van Onderwys, Kuns en Wetenskap van die Republiek van Suid-Afrika erken word en wat aan die eersgenoemde graad gelykwaardig is;

„steier”, ’n stellasië of raamwerk wat gebruik word om persone, uitrusting en materiaal op hoë plekke te ondersteun in verband met bou- of uitgrawingswerk;

„kortelingsteier”, ’n steier wat deur ’n enkele ry staanders en die struktuur in verband waarmee dit gebruik word, ondersteun word;

„ligte hangsteier”, ’n werkplatform wat van bo aan vrydraerbalkke by wyse van een afsonderlike suspensie vanaf elke vrydraerbalk hang;

„swaar hangsteier”, ’n werkplatform wat van bo aan vrydraerbalkke by wyse van meer as een afsonderlike suspensie vanaf elke vrydraerbalk hang;

„bootmanstoel”, ’n hangende platformsitplek wat bedoel is om een persoon op hoë plekke te ondersteun in verband met bou- of uitgrawingswerk;

"cantilever or jib scaffold" means a working platform supported on cantilevered or braced outrigger beams;
 "trestle scaffold" means a working platform supported on trestles, stepladders, tripods and the like;
 "builders hoist" means an appliance used in connection with building work for raising or lowering material by means of a platform, skip, cage or other receptacle on a fixed guide or guides.

D.2. CONSTRUCTION AND SELECTION OF PLANT.

The builder shall ensure that all plant and all machinery and every part thereof is of good construction, of suitable and sound material and of adequate strength for the purpose for which it is used.

D.3. SUPERVISION.

(1) The builder shall cause the erection of every structure to be under the supervision of a responsible person who shall be a competent person and who shall be appointed by him in writing.

(2) The person who is appointed in terms of this regulation shall be in general charge of all the building work and shall ensure that—

- (a) the provisions of these regulations are complied with;
- (b) all plant and machinery is maintained in good condition and properly used;
- (c) that all work is carried out in a safe manner and in accordance with the designs and specifications as approved by the appropriate authority.

D.4. GENERAL SAFETY MEASURES.

(1) The builder shall cause—

- (a) all stairways, passageways, gangways, basements and other places where danger may exist through lack of natural light, to be adequately lighted;
- (b) all stairways, passageways and gangways where practicable to be kept free from materials, waste or any other obstructions;
- (c) all openings in floors, hatchways and stairways or any other opening through or from which persons are liable to fall, to be adequately boarded over or to be fenced or enclosed with suitable rails or guards to a height of not less than three feet and not more than three feet six inches from the ground or floor; 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 materials;
- (d) a suitable catch platform or net to be erected above an entrance or passageway or above a place where persons regularly work or pass, or the danger area to be adequately fenced off, if work is being performed above such entrance, passageway or place and there is a danger of persons being struck by falling material.

(2) No builder shall require or permit any person to, and no person shall, dispose of debris and material from an elevated position except by hoist or chute unless effective arrangements have been made to ensure the safety of persons.

D.5. WORK IN ELEVATED POSITIONS.

No builder shall require or permit any person employed on building work to perform any work in an elevated position unless such work can be performed safely from a ladder or a scaffold or from a position which is as safe as on a scaffold.

D.6. SCAFFOLDS.

(1) The builder shall cause—

- (a) scaffold standards to be firmly supported and secured against displacement and to be kept vertical except in the case of putlog scaffolds which shall incline slightly towards the structure;

„vrydraer- of kraanbalksteier”, ’n werkplatform wat op vrydraer- of verspande kraanbalke ondersteun word;

„boksteier”, ’n werkplatform wat op bokke, trapler, driepote en iets soortgelyks ondersteun word;

„bouershysmasjiën”, ’n toestel wat in verband met bouwerk vir hysing of neerlating van materiaal deur middel van ’n platform, hysbak, hyshok of ander houer op ’n vaste leispoor of leispoor gebruik word.

D.2. KONSTRUKSIE EN KEUSE VAN UITRUSTING.

Die boumeester moet verseker dat alle uitrusting en alle masjinerie en elke deel daarvan van goeie konstruksie van geskikte en goeie materiaal en van toereikende sterkte is vir die doel waarvoor dit gebruik word.

D.3. TOESIG.

(1) Die boumeester moet die oprigting van elke struktuur onder die toesig van ’n verantwoordelike persoon wat ’n bevoegde persoon moet wees en wat skriftelik deur hom aangestel moet word, laat geskied.

(2) Die persoon wat kragtens hierdie regulasie aangestel word, moet algemeen verantwoordelik wees vir al die bouwerk en moet verseker dat—

- (a) die bepalinge van hierdie regulasies nagekom word;
- (b) al die uitrusting en masjinerie in goeie toestand gehou en behoorlik gebruik word;
- (c) al die werk op ’n veilige wyse en ooreenkomstig die ontwerpe en spesifikasies soos goedgekeur deur die toepaslike owerheid, verrig word.

D.4. ALGEMENE VEILIGHEIDSMATREËLS.

(1) Die boumeester moet—

- (a) alle trappe, gange, loopplanke, kelders en ander plekke waar gevaar kan bestaan deur gebrek aan natuurlike lig, toereikend laat verlig;
- (b) alle trappe, gange en loopplanke, waar prakties moontlik, vry laat hou van materiaal, afval en enige ander hindernisse;
- (c) alle openinge in vloere, luikgange en trappe en enige ander opening waardeur of waarvan persone kan val, toereikend van plankbeskutting laat voorsien of laat omhein of laat toemaak met geskikte relings of skerms wat minstens drie voet en hoogstens drie voet ses duim van die grond of vloer af is; met dien verstande dat sodanige plankbeskutting of beskerming weggelaat of verwyderd mag word vir solank en in die mate wat dit nodig is om aan persone toegang te verleen of om materiaal te vervoer;
- (d) ’n geskikte vangplatform of net bokant ’n ingang of gang of bokant ’n plek waar persone gereeld werk of verbygaan, laat oprig, of die gevaargebied toereikend laat omhein, as werk bokant bedoelde ingang, gang of plek verrig word en daar gevaar bestaan dat persone deur vallende materiaal getref kan word.

(2) Geen boumeester moet vereis of toelaat dat enige persoon, en geen persoon moet puin en materiaal van ’n hoë plek verwyder anders as deur middel van ’n hysmasjiën of glybaan nie, tensy doeltreffende maatreëls getref is om die veiligheid van persone te verseker.

D.5. WERK OP HOË PLEKKE.

Geen boumeester mag van enige persoon werksaam by bouwerk vereis of hom toelaat om enige werk op hoë plekke te verrig nie, tensy sodanige werk veilig vanaf ’n leer of steier of vanaf ’n posisie wat net so veilig is as op ’n steier, verrig kan word.

D.6. STEIERS.

(1) Die boumeester moet—

- (a) steierstaanders stewig laat stut en vassit teen verhuiging en loodreg laat hou behalwe in die geval van kortelingsteiers wat effens na die struktuur moet oorhel;

- (b) (i) standards to be spaced not more than six feet, eight feet and ten feet apart in the case of heavy, medium and light loads respectively if constructed of steel and not more than ten feet apart if constructed of timber;
- (ii) ledgers to be spaced not more than seven feet apart vertically;
- (iii) putlogs or transoms to be spaced not more than five feet, six feet and eight feet apart in the case of heavy, medium and light loads, respectively.

For the purpose of this sub-regulation light, medium and heavy loads shall mean loads of not more than twenty-five, fifty and seventy-five pounds per square foot respectively;

- (c) every member of a scaffold frame which is constructed of timber to have a diameter of not less than three inches or to have a section of equivalent strength.

(2) No builder shall use, or cause to be used, any scaffold unless it is—

- (a) securely and effectively braced to ensure stability in all directions;
- (b) secured at suitable vertical and horizontal distances to the structure on which work is being performed unless it is designed to be completely self supporting;
- (c) so constructed as to have a factor of safety of not less than four;
- (d) inspected by a competent person at least once a week and after inclement weather.

(3) No builder shall require or permit—

- (a) scaffolding, the supporting frame of which is constructed of timber, to exceed a height of 80 feet;
- (b) scaffolding to be erected, altered or taken down other than by or under the personal supervision of a competent person.

D.7. PLATFORMS.

(1) The builder shall cause—

- (a) every scaffold platform which is constructed of timber to be of planks at least nine inches wide by one and one half inches thick;
- (b) every plank which forms part of a scaffold platform to rest on at least three supports, except in the case of trestle scaffolds, and to project at least six inches at intermediate supports and not more than nine inches at the end supports;
- (c) every board of a scaffold platform to be securely fastened to prevent its displacement;
- (d) every platform to be so boarded as to prevent materials and tools from falling through.

(2) The builder shall cause every working platform of a scaffold—

- (a) to be not less than three feet wide, which shall include a clear and unobstructed passage way of not less than eighteen inches; provided that where a platform is used only as a gangway, a total platform width of eighteen inches shall be sufficient;
- (b) which is more than six feet six inches above the floor or ground to be provided with—
 - (i) substantial guard rails at least three feet and not more than three feet six inches high on all sides of the platform except the side facing the structure;
 - (ii) toe-boards on all sides of the platform, except the side facing the structure, which shall be not less than six inches high from the level of the platform and in the case of wood not less than one inch thick so affixed that no open space exists between the toe-board and the platform;
- (c) to be so arranged that the gap between the platform and structure does not exceed three inches, provided that where workmen are required to sit whilst working, this distance may be increased to not more than twelve inches;

- (b) (i) staanders wat van staal gemaak is, nie meer as ses voet, agt voet en tien voet in die geval van swaar, middelmatige en ligte vragte onderskeidelik van mekaar laat spaseer nie en, indien hulle van hout gemaak is, nie meer as tien voet nie;
- (ii) steierbalke nie meer as sewe voet vertikaal van mekaar laat spaseer nie;
- (iii) kortelings of dwarsbalke nie meer as vyf voet, ses voet en agt voet van mekaar in die geval van swaar, middelmatige en ligte vragte onderskeidelik, laat spaseer nie.

Vir die doel van hierdie subregulasie beteken ligte, middelmatige en swaar vragte, vragte van hoogstens vyf-en-twintig, vyftig en vyf-en-sewentig pond per vierkante voet onderskeidelik.

- (c) elke deel van 'n steierraam wat van hout gemaak is 'n diameter van minstens drie duim of 'n deursnee van gelyke sterkte laat hê.

(2) Geen boumeester mag enige steier gebruik of laat gebruik nie, tensy dit—

- (a) stewig en doeltreffend verspan is om stewigheid in alle rigtings te verseker;
- (b) op geskikte vertikale en horisontale afstande vasgesit is aan die struktuur waaraan gewerk word, tensy dit ontwerp is om heeltemal selfondersteunend te wees;
- (c) so gebou is dat dit 'n veiligheidsfaktor van minstens vier het;
- (d) deur 'n bevoegde persoon minstens een keer per week en na slegte weer nagesien word.

(3) Geen boumeester mag vereis of toelaat dat—

- (a) steierwerk, waarvan die ondersteunende raam van hout gemaak is, 'n hoogte van 80 voet oorskry nie;
- (b) steierwerk anders as deur of onder die persoonlike toesig van 'n bevoegde persoon opgerig, verander of afgetakel word nie.

D.7. PLATFORMS.

(1) Die boumeester moet—

- (a) elke steierplatform wat van hout gemaak is van planke laat wees wat minstens nege duim wyd en een en 'n half duim dik is;
- (b) elke plank wat deel van 'n steierplatform uitmaak, op minstens drie stutte laat rus, behalwe in die geval van boksteiers, en minstens ses duim by tussenkomende stutte en hoogstens nege duim by endstutte laat uitsteek;
- (c) elke plank van 'n steierplatform stewig laat vassit om verskuiwing daarvan te voorkom;
- (d) elke platform só laat beplank dat materiaal en gereedschap verhoed word om deur te val.

(2) Die boumeester moet elke werkplatform van 'n steier—

- (a) minstens drie voet wyd laat wees wat 'n vry en onversperde deurgang van minstens agtien duim insluit; met dien verstande dat waar 'n platform slegs gebruik word as 'n loopplank, 'n totale platformwydte van agtien duim voldoende sal wees;
- (b) wat meer as ses voet ses duim bokant die vloer of grond is, laat voorsien van—
 - (i) stewige skutrelings minstens drie voet en hoogstens drie voet ses duim hoog aan alle kante van die platform behalwe aan die kant teenoor die struktuur;
 - (ii) toonborde aan alle kante van die platform, behalwe aan die kant teenoor die struktuur, wat minstens ses duim hoog van die vlak van die platform moet wees en, in die geval van hout, minstens een duim dik is wat so vasgesit moet wees dat daar geen oop ruimte tussen die toonbord en die platform bestaan nie;
- (c) so laat opstel dat die gaping tussen die platform en die struktuur nie drie duim oorskry nie; met dien verstande dat waar dit van werkers vereis word om te sit terwyl hulle werk, hierdie afstand na hoogstens twaalf duim vergroot kan word;

(b) to be kept free of waste, projecting nails or any other obstructions and to be maintained in a non-slippery state.

(3) No builder shall require or permit a working platform which is higher than two feet to be supported on a scaffold platform.

(4) The builder shall cause an additional guard rail to be provided at a height of three feet above every working platform which is supported on a scaffold platform.

(5) The builder shall cause convenient and safe access to be provided to every scaffold platform. Where such access is by means of ladders, the ladders shall be firmly supported at the base, shall extend to at least three feet beyond the platform at the top and shall be firmly secured.

(6) The provisions of this regulation shall also apply to any working platform from which building, demolition or excavation work is being performed.

D.8. RAMPS.

(1) No builder shall require or permit a ramp to be installed or used, the slope of which exceeds one vertical to one and one-half horizontal.

(2) The builder shall cause every ramp—

(a) the slope of which renders additional foothold necessary, and in every case where the slope is more than one vertical to four horizontal, to be provided with proper stepping laths which shall—

(i) be placed at suitable intervals, and

(ii) extend the full width of the ramp, except that they may be interrupted over a width of not more than nine inches to facilitate the movement of barrows;

(b) which is more than six feet six inches high to be provided on both sides with hand rails and toe-boards to comply in all respects with the provisions of Regulation D.7 (2) (b) (i) and (ii).

D.9. SUSPENDED SCAFFOLDS.

No builder shall require or permit a suspended scaffold to be used unless—

(1) out-riggers are—

(a) of steel, and have a factor of safety of not less than four;

(b) properly supported, suitably spaced and securely anchored, other than by weight, at the inner end;

(c) provided with a stop at the outer end, or other means, to prevent displacement of the rope;

(2) the platform is suspended by steel wire ropes the factor of safety of which is not less than ten based on the maximum load which each rope is required to support;

(3) winches or other hoisting appliances are so constructed and maintained as to prevent accidental movement of the platform and so situated that these are readily accessible for inspection and that the rope connection to the out-rigger is vertically above the platform attachment;

(4) the working platform is—

(a) not less than 18 inches and not more than 36 inches wide for light suspended scaffolds and not less than 36 inches wide for heavy suspended scaffolds;

(b) so suspended as to be as close as practicable to the structure on which work is being performed and secured at every working position to prevent relative horizontal movement between the platform and the structure;

(c) provided with substantial guard rails at least three feet and not more than three feet six inches above and on all sides of the platform except the side facing the structure; provided that in the case of a light suspended scaffold, guard rails, which may be not less than 2 feet 6 inches high, shall be provided on all sides of the platform;

(d) vry van afval, spykers wat uitsteek of enige ander hindernisse en in 'n gelykmatige toestand laat hou.

(3) Gee boumeester mag vereis of toelaat dat 'n werfplatform wat hoër as twee voet is op 'n steierplatform ondersteun word nie.

(4) Die boumeester moet 'n bykomende skutreling op hoogte van drie voet bokant elke werkplatform wat ondersteun word op 'n steierplatform laat verskaf.

(5) Die boumeester moet gerieflike en veilige toegang tot elke steierplatform laat verskaf. Waar sodanige toegang deur middel van lere is, moet die onderente van die leerstewig gestut wees en moet die bo-ente minstens drie voet verby die platform strek en moet stewig vasgemaak word.

(6) Die bepalinge van hierdie regulasie is ook van toepassing op enige werkplatform vanwaar bou-, sloping of uitgrawingswerk verrig word.

D.8. HELLINGSTEIERS.

(1) Geen boumeester mag vereis of toelaat dat 'n hellingssteier opgerig of gebruik word waarvan die helling meer as vertikaal tot een en 'n half horisontaal oorskry nie.

(2) Die boumeester moet elke hellingsteier—

(a) waarvan die helling bykomende vastrapplek nodig maak, en in elke geval waar die helling meer as een vertikaal tot vier horisontaal is, van behoorlike trapplate laat voorsien wat—

(i) op geskikte afstande geplaas moet word,

(ii) oor die volle wydte van die hellingsteier moet strek, behalwe dat hulle oor 'n wydte van hoogstens nege duim onderbreek mag word om die beweging van kruiswaens te vergemaklik;

(b) wat meer as ses voet ses duim hoog is, aan beide kante van handrelinge en voetplanke te laat voorsien ten einde in alle opsigte aan die bepalinge van Regulasie D7 (2) (b) (i) en (ii) te voldoen.

D.9. HANGSTEIERS.

Geen boumeester mag vereis of toelaat dat 'n hangsteier gebruik word nie, tensy—

(1) kraanbalke—

(a) van staal is en 'n veiligheidsfaktor van minstens vier het;

(b) se binne-ente behoorlik gestut, gepas gespasië en stewig geanker is anders as deur gewig;

(c) se buite-ente van 'n stop voorsien is of anderszins wat verskuiwing van die tou sal voorkom;

(2) die platform aan staaldraadtoe hang waarvan die veiligheidsfaktor minstens tien is gebaseer op die maksimum wag wat elke tou vereis word om te dra;

(3) windasse of ander hystoestelle so opgerig en in staal gehou word om onopsetlike beweging van die platform te verhoed en so geleë is dat hulle maklik vir inspeksie toeganklik is en dat die touverbindinge aan die kraanbalk loodreg bokant die platform aanhegting is;

(4) die werkplatform—

(a) minstens 18 duim en hoogstens 36 duim wyd vir ligte hangsteiers en minstens 36 duim wyd vir swaar hangsteiers;

(b) so gehang is om so naby doenlik aan die struktuur waaraan gewerk word, te wees en elke werksposisie vasgemaak is om relatiewe horisontale beweging tussen die platform en die struktuur te voorkom;

(c) van sterk skutrelings minstens drie voet hoogstens drie voet ses duim bo en aan alle kante van die platform behalwe aan die kante teenoor die struktuur voorsien is; met die verstande dat in die geval van 'n ligte hangsteier, skutrelings van minstens 2 voet 6 duim hoog voorsien moet word aan alle kante van die platform;

- (d) provided on all sides, with toe-boards which shall be not less than six inches high from the level of the platform and in the case of wood not less than one inch thick and which shall be so installed that no open space exists between the toe-board and the platform; provided that in the case of heavy suspended scaffolds the toe-boards facing the structure may be not less than two inches high from the level of the platform.

D.10. BOATSWAIN'S CHAIR.

The builder shall cause every boatswain's chair or similar appliance to be securely suspended and to be of such construction as to prevent any occupant from falling therefrom.

D.11. CANTILEVER AND JIB SCAFFOLDS.

No builder shall require or permit a cantilever or jib scaffold to be used unless—

- (i) the outriggers are of steel and have a factor of safety of not less than four;
- (ii) it complies with the provisions of Regulation D.7.

D.12. TRESTLE SCAFFOLDS.

No builder shall require or permit a trestle scaffold to be used which is more than ten feet high or which is constructed in more than two tiers.

D.13. ROOF WORK.

The builder shall provide, and cause to be used, suitable roof ladders or duck or crawling boards for persons required to work on any roof having a pitch of more than 34 degrees or on any roof which is covered or is to be covered with material through which a person is liable to fall; provided that suitable safety belts with an adequate length of rope attached to the structure may be used in place of roof ladders, duck or crawling boards on pitched roofs covered with non-fragile material.

D.14. DEMOLITION WORK.

(1) No builder shall require or permit demolition work or work incidental thereto to be carried out unless such work is done by or under the constant personal supervision of a responsible person who has had at least two years' practical experience in the demolition of structures and who has been appointed specifically for that purpose. Joint general charge of demolition work shall in no case be exercised by two or more persons.

(2) The responsible person shall ensure that—

- (a) all electric, water, gas or other supply lines have been effectively disconnected from the source of supply before demolition work is commenced;
- (b) no floor, roof or other part of the structure is so overloaded with debris or material as to render it unsafe;
- (c) all practicable precautions are taken to avoid danger from collapse of the structure when any part of the framing of a framed or partly-framed building is removed or when cutting reinforced concrete;
- (d) precautions are taken by adequate shoring or by such other means as may be necessary to prevent the accidental collapse of any part of the structure or adjoining structure.

D.15. BUILDER'S HOISTS.

(1) The builder shall cause the tower of every builder's hoist—

- (a) to be secured to the structure or braced by steel wire guy ropes and to extend to such a distance above the highest landing as to allow a clear and unobstructed space of at least three feet for over-travel;

- (d) aan alle kante van toonborde wat minstens ses duim hoog van die vlak van die platform en, in die geval hout, minstens een duim dik moet wees, voorsien is en wat so geïnstalleer moet word dat geen oop ruimte tussen die toonbord en die platform bestaan nie; met dien verstande dat in die geval van swaar hangsteiers, die toonborde aan die kant teenoor die struktuur minstens twee duim hoog van die vlak van die platform mag wees.

D.10. BOOTMANSTOEL.

Die boumeester moet elke bootmanstoel of soortgelyke toestel stewig laat hang en van sodanige konstruksie laat wees dat enige insittende verhoed word om daaruit te val.

D.11. VRYDRAER- EN KRAANBALKSTEIERS.

Geen boumeester mag vereis of toelaat dat 'n vrydraer- of kraanbalksteier gebruik word nie, tensy—

- (i) die kraanbalke van staal is en 'n veiligheidsfaktor van minstens vier het;
- (ii) dit aan die bepalings van Regulasie D.7 voldoen.

D.12. BOKSTEIERS.

Geen boumeester mag vereis of toelaat dat 'n boksteier gebruik word wat meer as tien voet hoog is of wat uit meer as twee reekse bestaan nie.

D.13. DAKWERK.

Die boumeester moet geskikte daklere of plankmatte of kruipplanke voorsien en toesien dat dit gebruik word vir persone van wie dit vereis word om op enige dak wat 'n helling van meer as 34 grade het of op enige dak wat bedek is of bestem is om bedek te word met materiaal waardeur 'n persoon kan val, te werk; met dien verstande dat geskikte veiligheids gordels wat met 'n tou wat lank genoeg is en wat aan die struktuur vasgemaak is, op skuinsdakke wat bedek is met nie-breekbare materiaal gebruik mag word, in plaas van daklere, plankmatte of kruipplanke.

D.14. SLOPINGSWERK.

(1) Geen boumeester mag vereis of toelaat dat slopingswerk of werk samehangend daarmee, verrig word nie, tensy sodanige werk gedoen word deur of onder voortdurende persoonlike toesig van 'n verantwoordelike persoon wat minstens twee jaar praktiese ondervinding opgedoen het in die sloping van strukture en wat uitdruklik vir daardie doel aangestel is. Gesamentlike algemene beheer oor slopingswerk moet in geen geval deur twee of meer persone uitgeoefen word nie.

(2) Die verantwoordelike persoon moet verseker dat—

- (a) alle elektriese, water-, gas- of ander toevoerlyne effektief ontkoppel word van enige toevoerbron voordat daar met slopingswerk begin word;
- (b) geen vloer, dak of ander deel van die struktuur so oorlaai is met puin of materiaal dat dit onveilig gemaak word nie;
- (c) alle voorsorgmaatreëls wat prakties moontlik is, getref word om die gevaar van instorting van die struktuur te vermy wanneer enige deel van die raamwerk van 'n geraamde of gedeeltelike geraamde gebou verwyder word of wanneer gewapende beton deurgekap word;
- (d) voorsorgmaatreëls getref word deur middel van toereikende skoring of deur sodanige ander middels as wat nodig mag wees om die onopsetlike instorting van enige deel van die struktuur of aangrensende struktuur te voorkom.

D.15. BOUERSHYSMASJIENE.

(1) Die boumeester moet die toring van elke bouers-hysmasjien—

- (a) aan die struktuur laat vasmaak of met staaldraad-ankertoue laat verspan en dit só ver bokant die hoogste landingsplek laat strek dat dit 'n vry en onversperde ruimte van minstens drie voet laat vir oorhysing;

- (b) to be enclosed on all sides at the bottom, and at all floors where persons are liable to be struck by moving parts of the hoist, except on the side or sides giving access to the conveyance, with walls or other effective means, to a height of at least seven feet from the ground or floor level;
- (c) to be provided with a door or gate at least five feet high at each landing and such door or gate shall be kept closed except when the conveyance is at rest at that landing.
- (2) The builder shall ensure that—
 - (a) the conveyance and counterweight, if any, of every builder's hoist is guided throughout its travel by rigid guides;
 - (b) no suspension rope is used unless it is constructed of steel wire of good quality and manufacture and has a factor of safety of not less than six based on the maximum load it is required to support, provided that where persons are permitted to be conveyed in terms of sub-regulation (4) of this regulation the factor of safety shall be not less than ten;
 - (c) each suspension rope is free of joints and secured to the conveyance by splicing or suitable rope clamps or other means approved by an inspector;
 - (d) the suspension rope is securely attached to the drum and that at least two turns of rope remain on the drum at all times;
 - (e) the winding drum is provided with flanges to prevent the rope from slipping off and that the diameter of such drum, as well as any deflector pulley or sheave, is not less than 350 times the diameter of the largest outer wire in the rope;
 - (f) the hoist is provided with—
 - (i) an efficient brake by means of which the load can be effectively controlled and which will automatically stop the hoist when the devices referred to in sub-regulation (4) (b) operate;
 - (ii) an effective device on the operating lever so arranged as to prevent accidental movement of the lever;
 - (g) effective arrangements are made for clear signals for the operation of the hoist to be given from each landing at which the hoist is being used;
 - (h) the conveyance is so constructed as to prevent material from falling out.
- (3) No builder shall require or permit and no person shall cause trucks, barrows or material to be conveyed on or in the conveyance unless such trucks, barrows or material are so secured or contained that displacement cannot take place during conveyance.
- (4) No builder shall require or permit any person to and no person shall, ride on a builder's hoist unless—
 - (a) such hoist is provided with a cage enclosed on all sides which are not entrances, and covered with a substantial roof;
 - (b) it is provided with suitable automatic devices which will prevent the cage from being raised beyond the safe limit and will ensure that the cage comes to rest above the lowest point to which the cage can travel;
 - (c) the doors or gates required to be provided in terms of sub-regulation (1) (c) are so arranged that the hoist cannot be moved whilst any door or gate is open;
 - (d) the speed of the cage does not exceed 120 feet per minute;
 - (e) control of the hoist, whilst persons are being conveyed, is from the cage only;
 - (f) such person is engaged on the construction of the structure in connection with which the hoist is being used;
 - (g) permission for the use thereof has been obtained from the inspector in writing.

- (b) aan alle kante aan die onderkant en by alle vloere waar persone deur bewegende dele van die hysmasjië getref kan word, laat toemaak met mure of ander doelmatige middels tot 'n hoogte van minstens sewe voet vanaf die grond- of vloervlak, behalwe aan die kant of kante wat toegang tot die hysmasjië verleen;
- (c) van 'n deur of hek, ten minste vyf voet hoog, by elke landingsplek laat voorsien en so 'n deur of hek moet toe gehou word tensy die vervoermiddel by daardie landingsplek stilstaan.
- (2) Die boumeester moet verseker dat—
 - (a) die vervoermiddel en teengewig, indien enige, van elke bouershysmasjië oor die hele afstand wat dit beweeg, deur stewige leispore gelei word;
 - (b) geen hangtouw gebruik word nie tensy dit van staal-draad gemaak is en van goeie kwaliteit en fabrikaat is en 'n veiligheidsfaktor van minstens ses het, gebaseer op die maksimum vrag wat dit vereis word om te dra; met dien verstande dat waar persone ingevolge subregulasie (4) van hierdie regulasie toegelaat word om vervoer te word, moet die veiligheidsfaktor minstens tien wees;
 - (c) elke hangtouw vry van lasse is en aan die vervoermiddel deur middel van 'n splitslas of geskikte touklampe of ander middels, goedgekeur deur 'n inspekteur, vasgemaak is;
 - (d) die hangtouw stewig aan die trom vasgeheg is en dat minstens twee windings van die tou ten alle tye op die trom bly;
 - (e) die hystrom van flense voorsien is om te voorkom dat die tou afgly en dat die deursnee van sodanige trom, asook enige defleksiekatrol of katrol wiel, minstens 350 maal die diameter van die grootste buitenste draad in die tou is;
 - (f) die hysmasjië voorsien is van—
 - (i) 'n doeltreffende rem deur middel waarvan die vrag doeltreffend beheer kan word en wat die hysmasjië outomaties tot stilstand sal bring wanneer die toestelle vermeld in subregulasie (4) (b) in werking is.
 - (ii) 'n doeltreffende toestel aan die bedieningshefboom wat so aangebring is dat die onopsetlike beweging van die hefboom verhoed word;
 - (g) doeltreffende reëlins getref word dat duidelike tekens vir die bediening van die hysmasjië gegee word vanaf elke landingsplek waar die hysmasjië gebruik word;
 - (h) die vervoermiddel so gebou is dat materiaal verhoed word om uit te val.
- (3) Geen boumeester mag vereis of toelaat en geen persoon moet stootwaens, kruise waens of materiaal in of op die vervoermiddel laat vervoer nie, tensy bedoelde stootwaens, kruise waens of materiaal so vasgemaak of ingesluit is dat verskuiwing nie gedurende vervoer kan plaasvind nie.
- (4) Geen boumeester moet van enige persoon vereis of hom toelaat en geen persoon mag op 'n bouershysmasjië ry nie, tensy—
 - (a) sodanige hysmasjië van 'n hyshok voorsien is, wat aan alle kante, wat nie ingange is nie, toegemaak is, en wat met 'n sterk dak bedek is;
 - (b) dit van geskikte outomatiese toestelle voorsien is wat sal verhoed dat die hyshok verby die veilige hysgrens gelig word en sal verseker dat die hyshok bokant die laagste punt tot stilstand sal kom;
 - (c) die deure of hekke wat nodig is kragtens subregulasie (1) (c) so gestel is dat die hysmasjië nie beweeg kan word terwyl enige deur of hek oop is nie;
 - (d) die spoed van die hysbak nie 120 voet per minuut oorskry nie;
 - (e) die hysmasjië slegs van die hysbak beheer word terwyl persone vervoer word;
 - (f) sodanige persoon by die oprigting van die struktuur, in verband waarmee die hysmasjië gebruik word, werksaam is;
 - (g) skriftelike toestemming van die inspekteur vir die gebruik daarvan, verkry is;

(5) The builder shall cause every builder's hoist to be inspected at least once every week by a person who has had at least one year's experience in the erection and maintenance of builders' hoists or similar work and who shall examine the entire hoist including guides, ropes and their connections, drums, sheaves or pulleys and all safety devices and who shall enter and sign the result of each such inspection in a record book which shall be kept for that purpose and which shall be retained by the builder for inspection by an inspector at any time. If as a result of any examination any weakness or defect is found, such weakness or defect shall be reported immediately to the builder and the hoist shall not be used until such weakness or defect has been rectified.

D.16. EXCAVATIONS

(1) The builder or excavator shall cause every excavation which is accessible to the public or which is adjacent to public roads or thoroughfares or whereby the safety of persons may be endangered to be—

- (a) adequately protected by a barrier or fence at least two feet high and as close to the excavation as practicable;
- (b) provided with red warning lights at night.

(2) No builder or excavator shall, except for the purpose of erecting, shoring or bracing, require or permit any person to, and no person shall, work in an excavation under unsupported overhanging material or in an excavation which is more than five feet deep and which has not been adequately shored and braced; provided that shoring and bracing shall not be necessary where the sides of the excavation are sloped to at least the angle of repose of the earth or where such excavation is in solid rock.

(3) The builder or excavator shall cause all shoring and bracing to be supported by cross-braces of adequate strength, cleated and wedged into position or secured by other suitable means. Where the width of the excavation is such that cross-bracing is not possible, supporting braces shall bear against footings so arranged as to prevent the braces from kicking out.

(4) The builder or excavator shall ensure that the shoring and bracing is of sufficient strength to support all excavated or other material, equipment or other loads.

(5) The builder or excavator shall ensure that all excavated or other material and equipment is prevented from falling into the excavation.

(6) The builder or excavator shall cause convenient and safe means of access to be provided to every excavation in which persons are required to work and which is more than five feet deep; provided that where an excavation is longer than 150 feet a safe means of access shall be provided at intervals of not more than 150 feet.

(7) The builder or excavator shall ascertain as far as practicable the location and nature of underground services likely to be effected by the excavation and take such steps as may be necessary to prevent danger to persons.

(8) Where the stability of a structure is likely to be affected by an excavation, adequate steps shall be taken to ensure the stability of the structure and every builder or excavator shall take such steps as are necessary to ensure the safety of persons.

(9) The builder or excavator shall cause every excavation which is more than five feet deep, including all bracing and shoring, to be inspected by a person who is competent to do so, at least once in every shift and before the commencement of work after rain, to ensure the safety of persons.

(5) Die boumeester moet elke bouershymsasjien ten minste een keer per week laat inspekteer deur 'n persoon wat minstens een jaar ondervinding in die oprigting en instandhouding van bouershymsasjiene of soortgelyke werk gehad het en wat die hele hyser insluitende leispore, toue en hul verbindings, tromme, katrolwiele of katrolle en alle veiligheidstoestelle moet ondersoek en wat die uitslag van elke sodanige inspeksie in 'n rekordboek, wat vir daardie doel bygehou moet word, moet aanteken en onderteken en wat deur die boumeester bewaar moet word vir inspeksie deur 'n inspekteur te enige tyd. Indien enige swakheid of defek ontdek word as gevolg van enige ondersoek, moet die swakheid of defek onmiddellik aan die boumeester gerapporteer word en die hysmasjien mag nie gebruik word totdat sodanige swakheid of defek herstel is nie.

D.16. UITGRAWINGS.

(1) Die boumeester of uitgrawer moet elke uitgraving wat vir die publiek toeganklik is of wat aan publieke paaie of deurgange grens of waardeur die veiligheid van persone in gevaar gestel kan word—

- (a) toereikend deur 'n versperring of omheining wat minstens twee voet hoog en so naby doenlik aan die uitgraving is, laat beskerm;
- (b) van rooi waarskuwingsligte gedurende die nag laat voorsien.

(2) Geen boumeester of uitgrawer mag, behalwe vir die doel om skoring of verspanning op te rig, van enige persoon vereis of hom toelaat en geen persoon mag in 'n uitgraving onder ongestutte oorhangende materiaal of in 'n uitgraving wat meer as vyf voet diep is en wat nie toereikend geskut en verspan is, werk nie; met dien verstande dat skoring en verspanning nie nodig sal wees nie waar die kante van die uitgraving 'n skuinste het wat gelyk is aan die natuurlike helling van die grond of waar sodanige uitgraving in soliede rots is.

(3) Die boumeester of uitgrawer moet alle skoring en verspanning deur kruisverspanstukke van toereikende sterkte wat in posisie geklamp en vasgewig of vasgesit is deur ander geskikte middels laat ondersteun. Waar die wydte van die uitgraving sodanig is dat kruisverspanning nie moontlik is nie, moet ondersteunende stutte teen voetstukke druk wat so geplaas is dat stutte verhoed word om uit te skop.

(4) Die boumeester of uitgrawer moet verseker dat die skoring en verspanning sterk genoeg is om al die uitgegrawe of ander materiaal, uitrusting of ander vrage te ondersteun.

(5) Die boumeester of uitgrawer moet verseker dat alle uitgegrawe en ander materiaal en uitrusting verhoed word om in die uitgraving te val.

(6) Die boumeester of uitgrawer moet 'n gerieflike en veilige wyse van toegang tot elke uitgraving waarin persone vereis word om te werk en wat meer as vyf voet diep is, laat voorsien; met dien verstande dat waar 'n uitgraving langer is as 150 voet, veilige toegangsmiddels op afstande van hoogstens 150 voet verskaf moet word.

(1) Die boumeester of uitgrawer moet, sover doenlik, die ligging en aard van ondergrondse dienste wat moontlik deur die uitgraving geraak kan word, vasstel en sodanige stappe doen as wat nodig mag wees om gevaar vir persone te voorkom.

(8) Waar die stewigheid van 'n struktuur deur 'n uitgraving moontlik geaffekteer kan word, moet toereikende stappe gedoen word om die stewigheid van die struktuur te verseker en elke boumeester of uitgrawer moet sodanige stappe as wat nodig is doen om die veiligheid van persone te verseker.

(9) Die bouer of uitgrawer moet elke uitgraving wat meer as vyf voet diep is, insluitende alle skoring en verspanning, minstens een keer elke skof en voor die aanvang van werk na reën, laat inspekteer deur 'n persoon wat bevoeg is om dit te doen, om die veiligheid van persone te verseker.

D.17. PROTECTIVE CLOTHING AND APPLIANCES.

The builder or excavator shall provide free of charge and maintain in good condition adequate protective clothing, appliances and material including, where necessary, safety belts, safety helmets, goggles, gloves or footwear, to any person who is exposed to the danger of falling, or to danger from falling or flying objects, or who is exposed to wet or dusty work which may be injurious to health, or to any person where required by an inspector.

D.18. APPLICATION OF OTHER REGULATIONS.

The provisions of the regulations under Parts II and III of Chapter IV shall *mutatis mutandis* apply to all plant, equipment and machinery used in connection with building or excavation work.

D.19. OFFENCES AND PENALTIES.—CHAPTER V.

Any person who fails to comply with the provisions of this Chapter shall be guilty of an offence, and shall be liable on conviction to a fine not exceeding two hundred rand or to imprisonment for a period not exceeding one year, or both such fine and imprisonment.

D.17. BESKERMENDE KLERE EN TOESTELLE.

Die boumeester of uitgrawer moet toereikende beskermende klere, toestelle en materiaal met inbegrip van, indien nodig, veiligheids gordels, veiligheidshelms, skermbrille, handskoene of skoesel kosteloos verskaf, en in goeie toestand hou, aan enige persoon wat blootgestel is aan die gevaar om te val, of aan die gevaar van vallende of vlieënde voorwerpe, of wat blootgestel is aan nat of stowwerige werk wat nadelig vir die gesondheid kan wees, of aan enige persoon wanneer dit deur 'n inspekteur vereis word.

D.18. TOEPASSING VAN ANDER REGULASIES.

Die bepalings van die regulasies in Dele II en III van Hoofstuk IV is *mutatis mutandis* van toepassing op alle installasies, uitrusting en masjinerie wat in verband met bou- of uitgrawingswerk gebruik word.

D.19. MISDRYWE EN STRAFBEPALINGS.—HOOFSTUK V.

Enige persoon wat versuim om aan die bepalings van hierdie hoofstuk te voldoen, is aan 'n misdryf skuldig en is by skuldigbevinding strafbaar met 'n boete van hoogstens tweehonderd rand of met gevangenisstraf vir 'n tydperk van hoogstens een jaar, of met sowel sodanige boete as gevangenisstraf.

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