

TAMIL NADU FACTORIES RULES, 1950

THE SCHEDULE Serial Section or rule under num- which competency ber. (1) 1 2 is recognised. (2) Rules made under Section 6 and Section 112—Certificate of Stability for buildings. Rules made under Section 21 (2) "Dangerous Machines" Qualification required. (3) Degree in Civil or Structural Engineering or Equivalent. Degree in Electrical or Mechanical or Textile Engineering or Equivalent. (ii) Experience for the purpose. (4) A minimum of ten years experience in the design of construction or testing or repairs of structures ; Knowledge of non-destructive testing, various codes of practices that are current and the effect of the vibrations and natural forces on the stability of the buildings ; and Ability to arrive at a reliable conclusion with regard to the safety of the structure or the building. A minimum of seven years experience in— (a) design or operation or maintenance ; or (b) testing, examination and inspection of relevant machinery, their guards, safety devices and appliances. Facilities at his command. Gauges for measurement ; for instruments measurement of speed and any other equipment or device to determine the safety in the use 3 Section 28 Lifts Hoists. (3) (ii) A degree in Electrical and/or Mechanical Engineering or its equivalent. (4) He shall— (a) be conversant with safety devices and their proper functioning ; (b) be able to identify defects and any other cause leading to failure ; and (c) have ability to arrive at a reliable conclusion with regard to proper functioning of safety device and appliance and machine guard. A minimum experience years in— (a) Design or erection or maintenance ; or (b) inspection and test procedures ; of lifts and hoists. He shall be— (a) Conversant with relevant codes of practices and test procedures that are current ; (b) conversant with other statutory requirements covering the safety of the Hoists and Lifts ; and Facilities for load testing, testing tensile gauges ; equipment/gadgets for measurement and any other equipment required for determining the safe working conditions of Hoists and Lifts. 4 Section 29—Lifting Degree in Metallurgical Engineering and Lift* nical or Electrical Engineering Tackle. cal or Metallurgical Engineering or its equivalent, (i) (ii) (c) able to identify defects and arrive at a reliable conclusion with regard to the safety of Hoists and Lifts. A minimum experience of seven years in— (a) design or erection or maintenance ; or (b) testing, examination and inspection, of lifting machinery, chains, ropes and lifting tackles. He shall be— (a) conversant with the relevant codes of practices and test procedures that are current ; (b) conversant With fracture mechanics and metallurgy of the material of construction ; (c) conversant with heat treatment ; stress relieving techniques as applicable to stress bearing components and parts of lifting machinery and lifting tackles; and (d) capable of identifying defects and arriving at a reliable conclusion Facilities for load testing, tensile testing, heat treatment, equipment, gauges for measurement. gauges and such other equipment to determine the safe working conditions of the lifting machinery tackle. 5 6 (i) Section 36—Precautions against dangerous fumes. (ii)- Rule made under Sections 41 and 112 concerning ship building and ship repairs, Ventilation system as required under various Schedules framed under Section (3) Master's degree in Chemistry or a degree in Chemical Engineering. Degree in Mechanical or Electrical Engineering or Equivalent. (ii) (i) (4) conclusion with regard to the safety of lifting machinery, ropes and lifting chains, tackles. A minimum of seven years in collection and analysis of environmental samples and calibration of monitoring equipment ; He shall— (a) be conversant with the hazardous properties of Chemicals and their permissible limit values ; (b) be conversant with the current techniques of sampling and analysis of the environmental contaminants ; and (c) be able to arrive at a reliable conclusion as regards the safety in respect of entering and carrying out hot work. A minimum of seven years in the design, fabrication, installation, testing or ventilation system and systems used for extraction and (5) instruments and devices duly calibrated and certified for carrying out the tests and certification of safety in working in confined spaces. Facilities for testing the ventilation system, instruments and Section 87, such Schedules on— (i) Grinding glazing of metals and processes incidental thereto ; (ii) or collection of dusts, fumes and other ancillary vapours equipment He shall be with relevant codes of Practice and test procedures that are current in respect of ventilation and extraction system for fumes, and shall be able to arrive at a reliable conclusion with regard to effectiveness of the system. (iii) (W) sandblasting, roughening, etc., of articles by a jet of sand; metal shot or grit, or other abrasive process led by a blast of compressed air or steam ; Handling and processing of asbestos ; Manufacture of Rayon Viscose process ; and ; gauges for testing the effectiveness of the extraction systems for dusts, vapours and fumes, and any other equipment needed for determining

the efficiency and adequacy of these systems. He shall have the assistance of a suitable qualified technical person who can come to a reasonable conclusion as to the adequacy of the system. (v) Foundry operations. '17. Rule 61-A-Testing and Examination of Safety belts

8. Rule 61-B-Examination and Testing of ovens and driers. Bachelor's degree in Mechanical Engineering or Electrical Engineering or its equivalent. Bachelor's degree in Mechanical Engineering or Electrical Engineering or its equivalent. A minimum experience of seven years in testing, examination and inspection of safety belts and shall be conversant with relevant standards of industrial Safety Belts and harnesses and their specifications. (i) A minimum experience of seven years in design or maintenance or operation or testing and examination of ovens and driers. (ii) Knowledge of relevant codes of practices and test procedures that are current. Gauges for measurement and instruments for measuring. (i) (ii) Metres, instruments and devices duly calibrated and certified for carrying out tests and certification of safety. Facilities for carrying out non-destructive test. Added by GO. Ms. No. 105, Labour and Employment (M-2), dated the 16th June, 2010. 9, Rule 61-P (i) sub-rule (16) Testing of heater coil. (ii) Sub-rule (18) Testing of Thermic fluid. Bachelor's degree in Mechanical Engineering or Electrical Engineering or its equivalent. Master's in Chemistry or a Bachelor's degree in Chemical Engineering. (iii) Conversant with statutory requirements regarding the safety of ovens and driers. (iv) Conversant with safety devices and their proper functioning to ensure the safety of ovens and driers. (v) Be able to identify defects and other causes leading to failure of ovens and driers. (vi) Ability to arrive at a reliable conclusion as to the safety of ovens and driers. A minimum experience of seven years in design or operation or maintenance or testing and examination of thermic fluid heater. A minimum experience of seven years in testing of thermic fluids. li

10. Rule 95, Schedule XVI, 11, Para 7, Examination of instruments and safety devices. Rule 95, Schedule XVI. Part 11, Para 15, Testing, Examination and repair of plants and equipments. Bachelor's degree in Chemical Engineering or Technology or Instrumentation Engineering or Technology or Mechanical Engineering. Bachelor's degree in Chemical Engineering or Technology or Instrumentation Engineering or Technology or Mechanical Engineering. A minimum experience of seven years (i) in : — (a) operation or maintenance ; (or) (b) testing, examination and inspection of the process instruments and safety devices. Must be thoroughly conversant with the relevant codes of practices and test procedures that are current, and be able to arrive at a reliable conclusion as regards the reliability and proper functioning of the process instruments and safety devices. A minimum experience of seven years in — the operation or maintenance of (a) process plant in a chemical industry • (or) testing examination and inspection or (b) plant equipment and machinery in a chemical process industry. He shall instruments, Metres, devices and other appropriate facilities duly calibrated and certified for carrying out the tests of process instruments and safety devices. Non-destructive testing equipment such as thickness ultrasonic gauging instrument and flaw detector hydraulic pump portable toxic and namable gas detectors (Multi gas detector). 12, Rule 95, Schedule XVI, Part 11, Para •18, Entry into or work in confined space. Master's degree in Chemistry or a Bachelor's degree in Chemical Engineering. (a) (b) (c) (i) (ii) (a) (b) (c) be thoroughly conversant with the process of hazards involved ; be able to identify the defects and other causes which may lead to failure of the plant equipment and machinery in chemical process industry ; have ability to at a reliable conclusion with regard to the safety and integrity of the plant equipment and machinery. A minimum experience of seven years in collection and analysis of environmental Samples and calibration of monitoring equipments. He shall — be conversant with the hazardous properties of chemicals and their permissible limit value ; be conversant with the current and analysis of be able to arrive at a reliable conclusion as regards the safety in respect of entering the confined space and Portable Multi gas Detectors as applicable to the Chemical gases or fumes in the confined space, oxygen level meter. Bachelor's degree in Plastic Technology or Chemical Engineering or Technology or Mechanical Engineering or Electrical Engineering. carrying out hot work maintenance work. (i) A minimum experience years in (a) (b) (ii) (a) (b) (c) (d) operation or maintenance of process plant in a chemical industry ; (or) testing examination and inspection of plant and equipment made from reinforced plastics in a chemical industry. He shall — be thoroughly knowledgeable about the Indian Standards or any other National Standards as regards the plant and equipment made of reinforced plastics. be fully conversant with the chemical compatibility of reinforced plastics ; be able to identify the defects and other caused which may lead to failure of the plant and equipment made of reinforced plastics. have ability to arrive at a reliable

conclusion with regard to the safety and integrity of the plant and equipment made of reinforced plastics. Non-destructive testing equipment such as ultra-sonic thickness gauging equipment, flaw detector, and hydraulic pump.] Dry bulb R 481 [W 53 TAMIL NADU FACTORIES RULES, 1950 3. Space around machines.—The space surrounding every wood-working machine in motion shall be kept free from obstruction

4. Floors.—The floor surrounding every wood-working machine shall be maintained in good and level condition, and shall not be allowed to become slippery, and, as far as practicable, shall be kept free from chips or other loose material

5. Training and supervision.—(1) No person shall be employed at a wood-working machine unless he has been sufficiently trained to work that class of machine, or unless he works under the adequate supervision of a person who has a thorough knowledge of the working of the machine. (2) A person who is being trained to work a wood-working machine shall be fully and carefully instructed as to the dangers of the machine and the precautions to be observed to secure safe working of the machine

6. Circular saws.—Every circular saw shall be fenced as follows (a) Behind and in direct line with the saw there shall be a riving knife, which shall have a smooth surface, shall be strong, rigid and easily adjustable, and shall also conform to the following conditions : (i) The edge of the knife nearer the saw shall form an arc of a circle having a radius not exceeding the radius of the largest saw used on the bench. (ii) The knife shall be maintained as close as practicable to the saw, having regard to the nature of the work being done at the time, and, at the level of the bench table, the distance between the front edge of the knife and the teeth of the saw shall not exceed 12.7 millimetres. (iii) For a saw of a diameter of less than 61 centimetres, the knife shall extend upwards from the bench table to within 2.5 centimetres of the top of the saw, and for a saw of a diameter of 61 centimetres or over shall extend upwards from the bench table to a height of at least 22.9 centimetres. (b) The top of the saw shall be covered by a strong and easily adjustable guard, within a flange at the side of the saw farthest from the fence. The guard shall be kept so adjusted that the said flange shall extend below the roots of the teeth of the saw. The guard shall extend from the top of the riving knife to a point as low as practicable at the cutting edge of the saw. TAMIL NADU FACTORIES RULES, 1950 (c) The part of the saw below the bench table shall be protected by two plates of metal or other suitable material one on each side of the saw ; such plates shall not be more than 15.2 centimetres apart, and shall extend from the axis of the saw outwards to a distance of not less than 5.1 centimetres beyond the teeth of the saw, Metal plates, if not beaded, shall be of a thickness of at least 3 millimetres or, if beaded, be of a thickness of at least 3 millimetres

7. Push sticks.—A push stick or other suitable appliance shall be provided for use at every circular saw and at every vertical spindle moulding machine to enable the work to be done without unnecessary risk

8. Band saws.—Every band saw shall be guarded as follows (a) Both sides of the bottom pulley shall be completely encased by sheet or expanded metal or other suitable materials. (b) The front of the top pulley shall be covered with sheet or expanded metal or other suitable materials. (c) All portions of the blade shall be enclosed or otherwise fully guarded except the portion of the blade between the bench and the top guide

9. Planing machines. A planing machine (other than a planing machine which is mechanically fed) shall not be used for overhand planing unless it is fitted with a cylindrical cutter block. (2) Every planing machine used for overhand planing shall be provided with a " bridge " guard capable of covering the full length and breadth of the cutting slot in the bench, and so constructed as to be easily adjusted both in a vertical and horizontal direction. (3) The feed roller of every planing machine used for thicknessing, except the combined machine for overhand planing and thicknessing, shall be provided with an efficient guard

10. Vertical spindle moulding The cutter of every vertical spindle moulding machine shall be guarded by the most efficient guard having regard to the nature of the work being performed. (2) The wood being moulded at a vertical spindle moulding machine shall, if practicable, be held in a jig or holder of such construction as to reduce, as far as possible, the risk of accident to the worker. 53 TAMIL NADU FACTORIES RULES, 1950 11, Chain mortising chain of every chain mortising machine shall be provided with a guard which shall enclose the cutters as far as practicable, 12, Adjustment and maintenance of guards—The guards and other appliances required under this schedule shall be— (a) maintained in an

efficient state, (b) constantly kept in position while the machinery is in motion, and (c) so adjusted as to enable the work to be done without unnecessary risk

13. Exemptions—Paragraph 6, 8, 9 and IO shall not apply to any wood-working machine in respect of which it can be proved that other safeguards are provided, maintained and used which render the machine as safe as it would be if guarded in the manner prescribed in this schedule. **Schedule IV Rubber and Plastic Mills and Injection Moulding Machine** 1. Definitions. — For the purpose of this Schedule, — (a) "Rubber Mill or Plastic Mills" shall mean machines with rollers used in breaking down, cracking, washing, grating, mixing refining and warming rubber or rubber goods plastic or plastic compound; shall mean machine with rolls used for (b) "calendar frictioning, sheeting coating and spreading of rubber compounds and plastic or plastic compounds; Injection Moulding Machine" shall mean a moulding machine wherein a heat-softened plastic material is forced from a cylinder into a relatively cool cavity, which gives the article the desired shape. Rubber and plastic Mills shall be so 2. Installation of machines. — installed that top of the front roll is not less than one metre above the floor or working level, provided that in existing installations where the top of the front roll is below this height, a strong rigid distance bar guard shall be fitted across the front of the machine in such position that the operator cannot reach the nip of the roller from the normal working position of the operator

3. Safety Devices.— (1) (a) Rubber and plastic Mills shall be equipped with hoppers so constructed or guarded that it is impossible for the operators to come into contact in any manner with the nip of the rolls or horizontal safety-trip rods or tight wire cable across both front and rear, which will when pushed or pulled operate instantly to disconnect the power and apply the brakes or to reverse the rolls. (b) Safety-trip rods or tight wire cable on rubber Mills shall extend across the entire length of the face of the rolls and shall be located not more than 170 centimeters above the floor or working level. (2) (a) Calendar machines shall be equipped with horizontal safety-trip rods or tight wire across both front and rear, which will when pushed or pulled, operate instantly to disconnect the power and apply the brakes or to reverse the roll; (b) Safety-trip rods or tight wire cables on calendar machines shall extend across the entire length of the face of the rolls and shall be located not more than 170 centimeters above the floor or working level. (c) On each side of all calendars and near both ends of the face of the rolls there shall be a vertical tight wire cable connecting with the bar tripping sub. by GO. Ms. No.255, Labour and Employment (M2), 25th October 2013. mechanism at the top and fastened to the frame within centimeters of the nip cables should be positioned at a distance of not more than 10 centimeters from the face of the mill and at a distance not less than 24 millimeters from calendar frame 44 Maintenance and Safety Devices, Safety trip rods and tight cables on all rubber mills and calendars shall be examined and tested daily in presence of the manager or other responsible person and if any defect is disclosed by examination and the mill or calendars shall not be used until such defect is remedied, of such examination and testing shall be maintained. **Injection Moulding Machine.** — (1) A suitable interlock arrangement shall be provided and maintained so that moulds cannot be closed unless the front safety gate is fully closed and on opening the front safety gate, the movement ceases. Will stop automatically. No access shall be available to the moulds through safety gate (2) In addition to the above, a hydraulic safety arrangement shall also be incorporated with the front safety gate. This shall prevent the top mould plate from moving forward on opening of the front safety gate (3) At the rear of the machine there shall be provided either permanent fixed guard or a sliding gate which shall be suitably interlocked with the movement of the mould plates in the manner of the front safety gate as required under — (1) above so as to prevent access to the danger zone of the moulds in motion from the rear. (4) The injection unit and all other accessible parts shall be adequately insulated or guarded and warning signs shall be displayed where hot parts are necessarily exposed

6. Safety Precautions.— (1) Suitable provisions shall be provided and maintained for collection and removal of gases and fumes from the source of generation to outside of the workroom (2) Workers shall be provided with suitable personal protective equipment to prevent burns from contact with hot surfaces or splatters of hot plastic and gases. (3) Written safe system of work shall be developed and followed for safety of all working on the machine, mould changing and maintenance work and all such workers shall be adequately trained and instructed in the safe method of work before being employed. 1 TAMIL NADU FACTORIES RULES, 1950 R. 53] or other responsible person and, if any defect is disclosed by such examination and test, the mill shall not be used until such defect has been remedied. **SCHEDULE V** 1. Special rule for printing presses In printing works, every platen machine driven by power shall be fitted

with an efficient finger-guard and every guillotine machine, driven by power, with an efficient knife-guard.

2. Special rule for jute mills In Jute mills— (a) the feed table of every softner machine shall, as far as practicable, be not less than 1.5 metres in length ; (b) the feed table of such softner machine shall be provided with an automatic knocking off device which shall stop the machine in case the worker's hand is drawn in and prevent the hand from reaching the spiked rollers ; and (c) the automatic device mentioned in clause (b) shall be maintained in an efficient state and be kept in position whenever the machinery is working

3. Special rule for tea factories In tea factories, the roll table shall be fenced to the satisfaction of the Inspector and brushes shall be provided to the workers for the purposes of sweeping the roll table

4. Special rule for bricks and tiles works In brick and tile works, a finger-guard shall be fitted at the feed end to the full length of the mould of every revolving press

5. Special rule for decorticating factories In decorticating factories, the beater arms and the feed mouth of the decorticator shall, as far as practicable, be guarded as follows :—A grating of 19 millimetres diameter wrought iron rods spaced 64 millimetres apart and supported by iron stiffeners 5.1 centimetres by 6 millimetres thick shall be fixed at a height of 15.2 centimetres above the tip of the beater arms. A strong wooden plank 38 millimetres thick and iron plated on the underside shall be clamped with bolts and nuts over this grating leaving a space of 20.3 centimetres wide for the feeding of groundnuts. A grating of 2.5 centimetres diameter wrought iron rods spaced 38 millimetres apart shall be fixed at a height of 12.7 centimetres just above the feed mouth and another wooden plank 22.9 centimetres wide shall be fixed over the full length of the decorticator platform

6. Special rules for factories in which polishing and grinding machinery are in use. Safety devices.—

(a) All collars, set screws, shafts, couplings, clutches, keys, pulleys, keys and belts in polishing and grinding machines shall be effectively guarded. (b) (i) Defective wheels shall not be used. (ii) Grinding wheels shall fit freely on their spindles. They shall never be forced on, nor shall they be let loose on spindles. (iii) The soft metal bushings at the centre shall not extend beyond the sides of the wheels. Wheels shall be kept as true as practicable and work rests shall be kept adjusted close to wheels. (iv) Wherever possible, a compressible medium, such as blotting paper, rubber or similar material, at least as large in diameter as that of the flanges, shall be fitted between a wheel and each of its flanges. (v) Projecting arbor ends of grinding and polishing wheels shall be effectively guarded. (c) Except with the written permission of the Chief Inspector no emery or abrasive wheel shall be kept unprovided with a strong iron cover guard that shall enclose the wheel as far as practicable to retain fragments in the event of bursting. The guard shall be securely attached to the frame of the machine or other solid foundation. (d) Where workers are employed continuously on dry grinding or polishing wheels, such wheels shall be provided with an efficient exhaust system capable of drawing off dust particles. (e) Wheels shall not be operated at a speed in excess of that which is recommended by the manufacturer.

SCHEDULE VI All factories (a) Wherever practicable and considered necessary by the Inspector, service platforms and gangways shall be provided for overhead shafting and where required by him these shall be securely fenced with guards, rails and toe boards, TAMIL NADU FACTORIES RULES, 1950 R. 53] (b) Safe access shall be provided to all bearing clutches, belt shifting levers and all such other appliances which are required to be handled or operated while the machinery is at work. (c) All ladders used in replacing belts or in attending similar overhead machinery shall be specially made for that work and provided with books or an effective non-skid device. (d) No transmission machinery in motion shall be cleaned with cotton waste, rags or similar materials held in hand. (e) All belts shall be regularly examined to ensure that the joints are safe and the belts are kept in proper tension. (f) Each water gauge glass of a boiler shall be fitted with an efficient guard. (g) All condenser pipes of steam engines and exhaust pipes of oil engines shall be adequately guarded, I[SCHEDULE VII 2[Safety of Centrifugal Machines] 1. Centrifugal machine shall be provided with sufficient interlocking devices that will physically prevent the lids from being opened whilst the rotating drums or baskets are in motion under power or due to power derived earlier and by then switched off and also prevent the starting of the drums or baskets under power while the lids are open

2. The above requirements shall not apply while charging, polishing and discharging operations are carried out when the drums or the baskets are rotated at lower speed

3. Centrifugal machines shall not be operated at a speed in excess of the manufacturer's rating which shall be legibly stamped by the manufacturers both on the inside of the basket and on the outside of the machine casing at easily visible places

4. All centrifugal machines shall be provided with effective braking arrangements for bringing the cage, drum or basket to rest within a reasonable short period of time after the power to drive the motor is cut off. 5. The cages, drums or baskets shall be thoroughly examined by a competent person once in every twelve months to check their balance. Ins. by G.O. Ms. No. 35, Labour and Employment, dated the 19th January, 1978. - Heading subs. by G. O. Ms. No. 3286, Labour, dated the 24th December, 1983, 3 Subs. by G.O. Ms. No. 1172, Labour and Employment, dated the 8th November, 1979. [R. 58 TAMIL NADU RULES, 1950 balance and in case balance at high speed is not observed, effective steps shall be taken to restore their balance before recommissioning the machines.] I[SCHEDULE VIII Power Presses 1. Application The schedule shall apply to all types of power presses including press brakes, except when used for working hot metal

2. Definition.-- For the purpose of this Schedule, - (a) "approved" means approved by the Chief Inspector ; (b) "fixed fencing" means fencing provided for the tools of a power press being fencing which has no moving part associated with or dependent upon the mechanism of a power press and includes that part of a closed tool which acts as a guard ; (c) "power press" means a machine used in metal or other industries for moulding, pressing, blanking, raising drawing and similar purposes ; (d) "safety device" means the fencing and any other safeguard provided for the tools of a power press

3. Starting and stopping mechanism.-- The starting and stopping mechanism shall be provided with a safety stop so as to prevent over running of the press or descent of the ram during tool setting, etc

4. Protection of tool and disc.-- (1) Each press shall be provided with a fixed guard with a slip plate on the underside enclosing the front and all sides of the tool. (2) Each disc shall be provided with a fixed guard surrounding its front and sides and extending to the back in the form of a tunnel which the pressed article falls to the rear of the press. (3) The design, construction and mutual position of the guards referred to in sub-paragraphs (1) and (2) shall be such as to preclude the possibility of the worker's hand or fingers reaching the danger zone. I Added by G.O. Ms. No. 1527, Labour, dated the 20th July, 1988. TAMIL NADU RULES, 1950 R. 531 (4) The machine shall be fed through a small aperture at the bottom of the guard but a wider aperture may be permitted for a second or subsequent operations if feeding is done through a chute. (5) Notwithstanding anything contained in sub-paragraphs (1) and (2) an automatic or an inter-locked guard may be used in place of a fixed guard, but where such guards are used they shall be maintained in an efficient working condition and if any guard develops a defect, the power press shall not be operated unless the defect Of the guard is removed

5. Appointment of persons to prepare power presses for use.- (1) Except as provided in paragraph 6, no person shall set, re-set, adjust or try out the tools on a power press or install or adjust any safety device thereon, being installation or adjustment preparatory to production of die proving, or carry out an inspection and test of any safety device thereon required by paragraph 8 unless he (a) has attained the age eighteen ; (b) has been trained in accordance with the sub-paragraph (2) ; and (c) has been appointed by the Occupier of the Factory to carry out those duties in respect of the class or description of power press or the class or description of safety device to which the power press or the safety device (as the case may be) belongs ; and the name of every such person shall be entered in a in



Form 35. (2) The training shall include suitable and sufficient practical instruction in the matters in relation to each type of power press and safety device in respect of which it is proposed to appoint the person being trained

6. Examination and testing of power-presses and safety devices.-- (1) No power press or safety device shall be taken into use in any Factory for the first time in that factory or in case of a safety device for the first time on any power press, unless it has been thoroughly examined and tested, in the case of a power press, after installation in the factory, or in the case of a safety device, when in position on the power press in connection with which it is to be used. (2) No power press shall be used unless it has been thoroughly examined and tested by a competent person, within the immediately preceding period of twelve months. [R. 53 TAMIL NADU RULE, 1950 (3) No power press shall be used unless every safety device (other than fixed fencing) thereon has within the immediately preceding six months when in position on that power press been thoroughly examined and tested by a competent person. (4) The competent person carrying out an examination and test under the foregoing provisions shall make a report of the examination and test containing the following particulars and every such report shall be kept readily available for inspection, namely : -- (a) name of the occupier of the Factory ; (b) address of the Factory ; (c) identification number or mark sufficient to identify the power press or the safety device ; (d) date on which the power press or the safe device was first taken into use in the Factory ; (e) the date of each periodical thorough examination carried out as per requirements of sub-paragraph (2) above ; (f) particulars of any defects affecting the safe working of the power press or the safety device found at any such thorough examination and steps taken to remedy such defects

7. Defects disclosed during a thorough examination and tests.- (1) Where any defect is disclosed in any power press or in any safety device by any examination and test under paragraph 6 and in the opinion of the competent person carrying out the examination and test, either -- (a) the said defect is a cause of danger to workers and in consequence the power press or safety device (as the case may be) ought not to be used until the said defect has been remedied ; or (b) the said defect may become a cause of danger to workers and in consequence the power press or the safety device (as the case may be) ought not to be used after the expiration of a specified period unless the said defect has been remedied ; such defect shall, as soon as possible after the completion of the examination and test, be notified in writing by the competent person to the Occupier of the Factory and, in the case of a defect falling within clause (b) of this paragraph such notification shall include the period within which, in the opinion of the competent person, the defect ought to be remedied. (2) In every case where notification has been given under this paragraph, a copy of the report made under sub-paragraph (4) of TAMIL NADU FACTORIES RULES, 1950 [R. 53 paragraph 6 shall be sent by the competent person to the Inspector for the area within fourteen days of the completion of the examination and test. (3) Where any such defect is notified to the Occupier in accordance with the foregoing provisions of this paragraph the power press or safety device (as the case may be) having the said defect shall not be used -- (a) In the case of a defect falling within clause (a) of sub- paragraph (1) until the said defect has been remedied ; and (b) In the case of defect falling within clause (b) of sub-paragraph (1), after the expiration of the said defect has been remedied. (4) As soon as is practicable after any defect of which notification has been given under sub-paragraph (1) has been remedied, a record shall be made by or on behalf of the Occupier stating the measures by which and the date on which the defect was remedied-

8. Inspection and test of safety devices.-- (1) No power press shall be used after the setting, resetting or adjustment of the tools thereon unless a person appointed or authorised for the purpose under paragraph 5 has inspected and tested every safety device thereon while it is in position on the said power press : Provided that an inspection, test and certificate as aforesaid shall not be required where any adjustment of the tools has not caused or resulted in any alteration to or disturbance of any safety device on the power press and if, after the adjustment of the tools, the safety devices remain, in the opinion of such a person as aforesaid, in efficient working order. (2) Every power press and every safety device thereon while it is in position on the said power press shall be inspected and tested by a trained person every day

9. Defects disclosed during an inspection and test.-- (1) Where it appears to any person as a result of any inspection and test carried out by him under paragraph 8 that any necessary safety device is not in position or is not properly in position on a power press or that any safety device which is in position on a power

press is not in his opinion suitable, he shall notify the manager forthwith. (2) Except as provided in sub-paragraph (3) of this paragraph where any defect is disclosed in a safety device by any inspection and test under paragraph 8, the person carrying out the inspection and test shall notify the manager forthwith. TAMIL NADU RULES, 1950 (3) Where any defect in a safety device is the subject of a notification in writing under paragraph 7 by virtue of which the use of the safety device may be continued during a specified period without the said defect having been remedied, the requirement in sub-paragraph (2) of this paragraph shall not apply to the said defect until the said period has expired

10. Identification of power presses and safety devices.-- For the purpose of identification every power press and every safety device provided for the same shall be distinctively and plainly marked

11. Training and instructions to operators.-- The operators shall be trained and instructed in the safe method of work before starting work on any power press

12. Exemptions, -- (1) If in respect of any factory, the Chief Inspector is satisfied that owing to the circumstances or infrequency of the processes or for any other reason, all or any of the provisions of this Schedule are not necessary for the protection of the workers employed on any power press or any class or description of power press in the factory, the Chief Inspector may by a certificate in writing (which he may in his discretion revoke at any time), exempt such factory from all or any of such provisions subject to such conditions, if any, as he may specify therein. (2) Where such exemption is granted a legible copy of the certificate, showing the conditions (if any) subject to which it has been granted, shall be kept posted in the factory in a position where it may be conveniently read by the persons employed. I[SCHEDULE IX Shears, Slitters and Guillotine Machines

1. Definitions.-- For the purpose of this Schedule, (a) "guillotine" means a machine ordinarily equipped with straight, beveled blade operating vertically against a stationary resisting edge and used for cutting metallic or non-metallic substances; (b) "shears" or "shearing machine" means a machine ordinarily equipped with straight, bevel-edged blades. operating vertically against 1 Added by G.O. Ms. No. 1527, L.abour, dated the 20th July, 1988. TAMIL NADU RULES, 1950 [R. 53 resisting edge, or with rotary, overlapping cutting wheels and used for shearing metals or non-metallic substances; (c) "slitter" or slitting machine" means a machine ordinarily equipped with circular disc-type knives and used for trimming or cutting into metal or non-metallic substances or for slitting them into narrow strips; for the purpose of this schedule, this term includes bread or other feed slicers equipped with rotary knives or cutting discs

2. Guillotine and Shears.-- (1) Where practicable, a barrier metal guard of adequate strength shall be provided at the front of the knife, fastened to the machine frame and shall be so fixed as would prevent any part of the operator's body to reach the descending blade from above, below or through the barrier guard or from the sides: Provided that in case of machines used in the paper printing and allied industries, where a fixed barrier metal guard is not suitable on account of the height and volume of the material being fed, there shall be provided suitable starting devices which require simultaneous action of both the hands of the operator or an automatic device which will remove both the hands of the operator from the danger zone at every descent of the blade. (2) At the back end of such machines an inclined guard shall be provided over which the slit pieces would slide and be collected at a safe distance in a manner as would prevent a person at the back from-reaching the descending blade. (3) Power-driven guillotine cutters, except continuous feed trim- mers, shall be equipped with :- (a) starting devices which require the simultaneous action of both hands to start the cutting motion and of at least one hand on a control during the complete stroke of the knife ; or (b) an automatic guard which will remove the hands of the operator from the danger zone at every descent of the blade, used in conjunction with one-hand starting devices which require two distinct movements of the device to start the cutting motion, and so designed as to return positively to the non-starting position after each complete cycle of the knife. (4) Where two or more workers are employed at the same time on the same power-driven guillotine cutter equipped with two-hand control, R. 5-3] TAMIL NADU FACTORIES RULES, 1950 •the device shall be so arranged that. each worker shall be required to use bQth hands simultaneously on the safety trip to start the cutting motion, and atleast one hand on a control to complete the cut. (5) Power-driven guillotine cutters, other than continuous trim- mer, shall be provided, in addition to the brake or other stopping mechanism, with an emergency device which will prevent the machine from operating in the event of failure of the brake when the starting mechanism IS in the non- starting position

3. Slitting machine.— (1) Circular disc-type knives on machines for cutting metal and leather, paper, rubber, textile or other non-metallic substances shall, if within reach of operators standing on the floor or working level, be provided with guards enclosing the knife edges at all times as near as practicable to the surface of the material and which may either, — (a) automatically adjust themselves to the thickness of the material ; or (b) be fixed or manually adjusted so that the space between the bottom of the guard and the material will not exceed 6 mm. (1/4 inch) at any time. (2) portion of blades underneath the tables or benches of slitting machines shall be covered by guard. 4, Index cutter and Vertical Paper slotters. — Index cutters, and other machines for cutting strips from the ends of hooks, and for similar operations, shall be provided with fixed guards, so arranged that the fingers of the operators cannot come between the blades and the tables. Corner cutters, used in the manufacture of 5. Corner cutters. paper boxes. shall be equipped with, (a) suitable guard, fastened to the machines in front of the knives and provided with slots or perforations to afford visibility of the operations ; or (b) other guards equally efficient for the protection of the fingers of the workers

6. Band Knives. Band wheels on band knives and all portions of the blades except the working side between the sliding guide and the table on vertical machines. or between the wheel guards on horizontal machines, shall be completely enclosed with hinged guards of sheet metal not less than 1 mm. (0.04 inch) in thickness or of other material of equal strength.] TAMIL NADU FACTORIES RULES, 1950 I[SCHEDULE X [R. 53 Paper, Paper Board and Corresponding Machines for Pulp Production

1. Application.— The requirements of the Schedule shall apply to machinery in manufacture of paper, paper board and also to the corresponding machines for pulp production

2. Definitions.— 2 For the purpose of this schedule (a) " approach safety stop " means a safety device which automatically removes a hazardous function when part of a body comes within dangerous proximity of the danger zone , (b) broke " means paper or paper board wasted out during processing broke Guillotine " means a machine with a straight knife for (c) cutting up broke or paper reels , (d) " Calender" means a machine for glazing paper or paper board (e) " Calender work platform " means a lifting platform at a Calender ; (f) " Constant Pressure Switch " means a start and stop switch automatically returning to the stop position when not actuated (g) " Cross cutting knife " means a knife mounted on a cylinder roll cross cutting the web (h) " drum reel up " means a machine (pope reel) for reeling up the web on an empty spool, friction-driven nip point " means roll nip or any other place where faces converge or run so close together that part of the body is in danger of being caught and injured (j) " pulper " means a machine for making fibre suspension by mechanical treatment of pulp or paper broke ; reeling Drum or Spool 'means a roll for reeling up the web in (k) full machine width at the drum reel-up threading " means a narrower pointed web (tail end) through a machine , On) web means pulp, paper or paper-board in the shape of a continuous carpet during manufacturing or processing. Added by G Ms. No. 1.54, Labour and Employment (M2), dated the 1st June R, 53] TAMIL NADU FACTORIES RULES, 1950 (1) General 3. Safety Measures against Nip Hazards. points shall, when possible be inaccessible from floor level or from any other surface that can easily be stepped on. If this requirement cannot be satisfied the risk must be avoided in some other way, like air jet/chute, carrier ropes, carrier belt or felt. The platforms should have the board of at least 100 millimetres high and two handrails at a height of 400 millimetres and at 900 millimeters. The vertical members of the platform should be spaced at 1 metre for cross platform and 2 metres for longitudinal platform. (2) Threading. — Threading shall be done without manual interference when feasible. If threading must be done manually, measures must be taken to achieve adequate safety as in paragraph (1) above

4. Reeling Drum Exchange.— Feeding during spool exchange at the drum reel up shall be effected only by using air jet or air hose, if the speed of the paper machine exceeds 100 metres per minute. If the speed of the machine is less than 100 metres per minute the feeding may be done manually, but measures must be taken to safety during the operation

5. Safety measures against risks of being squeezed or knocked down.— The movement of machine part or other technical device must not expose anybody to the risk of being squeezed, knocked down or injured. If it cannot be ensured that the danger-zone is inaccessible when a risk is present, the moving device must be equipped with an approach safety stop. Its movement controlled by a hand-operated constant pressure switch or the risk avoided

6. Web Reeling.— (1) Web reeling shall be arranged so that the reel cannot cause injury by moving without control from its intended position by providing a cradle or a protection barrier. (2) When a reel is carried by a through shaft, a device must, if necessary, be arranged to keep the shaft ends in their intended position. (3) When a reel is carried and substantially governed by resting on two rolls, an ejection shield must be arranged to stop any reel, ejection when the web speed exceeds 15 metres per minute. If the shield is movable, a web speed exceeding 15 metres per minute must not be attainable unless the shield is in its protective position. The shield must not be removable from that position if the web speed exceeds the above value

7. Handling of reels.(1) A reel must not be automatically put free motion on a floor level or surface can easily be stepped on unless this can be done with adequate safety. TAMIL NADU FACTORIES RULES,, 1950 {R. 53 (2) A reel discharger shall be arranged and handled so that no- body can be injured by its function or by the discharge reel. (3) The discharger must not come into operation unless mea- sures are taken to receive the discharger reel safety, if necessary, the dis- charger shall be controlled by a hand-operated constant pressure switch from a place where the operator can supervise both the zone of movement Of the discharger and the course of the discharged reel. (4) A reel lifted by the ends of a through shaft must not rotate unless the shaft ends and the lifting equipment can stand the stress caused by the rotation. (1) A power-driven sharpedged tool for 8. Cutting of paper. cutting paper shall be shielded against inadvertant contact and, as far as possible, inaccessible while in operation. (2) A cross-cutting knife shall be shielded so that the tool is inaccessible when in operation. It must not be possible to start the tool unless the shield is in its protective position and it must not be possible to open the shield unless the tool IS inoperative and its energv supply has been cut off by a safety switch which can be locked in its off-position. (1) The opening of a pulper, a pulp 9. Pulpers, pulp chests, etc. chest another reservoir of a feeding service shall be arranged so that nobody is in danger of falling or stepping down through the opening, (2). A pulper and its feeding device shall have a joint en•ergency stop and if possible a joint energy cut-off device, lockable in the off position. (3) Broke holes should not be allowed to become covered by paper or broke which Inay hide them from operating personnel

10. Certain devices moving vertically.(1) Calender work platforms, pallet table, rider rolls, ejection shields, reel lowering devices, lids of driving section covers broke guillotine knives or other stationery devices, which for functional reasons are regularly Inanoeuvered to considerably different heights, shall be constructed, handled and maintained in such a way that they do not cause any risk of injury by i'alling down or in any other way and Inusl not be liable to fall down as a result of' interruption or variation in the energy supply. (2) An operating Inovement that can cause risk of injury shall be controlled by a constant pressure switch from a place where the operator can supervise the zone of naovelment. R. 531 TAMIL NADU FACTORIES RULES, 1950 (3) A device as referred to in paragraph (1) above carried by a wire rope or chain shall have the requisite derailment protection and a breaker to stop the movement if the wire rope or chain should slacken or burst. (4) If operationally stopped in a position where it could cause a risk of injury by falling down, the device shall be automatically secured. (5) The hoisting equipment of a device as referred to in para- graph above shall be readily available for full inspection, 11. Calender Work Platform. — (1) Calender work platform shall be longer than the width of the calender roll and provided with a gate or opening bar. The gate may only be openable inward or the bar may only be openable upwards and it must not be capable of staying open. The bar shall contain atleast two rails. (2) A calender super work platform shall be controlled by a con- stant pressure switch, located on the platform. (3) Along the work side of the platform there shall be an emer- gency stop controlling the movement of the platform as well as the calender bowl rotation. (4) The hoisting and lowering speed must not exceed 0.15 metre per second. (5) A hydraulic cylinder being part of the hoisting gear of a calender work platform shall have a valve which, in the event of a hose or pipe fracture or considerable leakage, prevents the platform from moving downwards or retards its descent. Such a valve shall be mounted in or directly on the cylinder. (6) A calender super work platform carried by wire rope or chain shall have a reliable Catch. (7) An elevating screw of a calender work platform shall be self broking bearing nuts and safety nuts shall serve as load-carrying devices

12. Examination and Inspection.— (1) A device as referred to in paragraph IO (1) above, shall when needed and atleast twice a year, and in case of a calender work platform once a month. is subjected to thorough examination by a competent person as long as it is being used. Ifa calender work platform has

been out of use for more than three months, thorough examination shall be carried out before it is used again. TAMIL NADU FACTORIES RULES, 1950 (1) In the course of examination, a check shall be made to ensure (2) that safety devices are in working order and also that the hoisting and lowering speed of the calendar work platform does not exceed the permitted value. (3) An examination log book shall be maintained and made readily available. (1) A hose pipe used for cleaning near a rotating 13. Hose Pipes. pair of rolls shall have a rounded nozzle or otherwise be arranged so that the nozzle cannot be caught in the nip. (2) A hose used for flushing liquid at a pressure exceeding 25 Kilogram/Centimetre shall have a constant pressure actuated valve for flow control. If needed for safety during handling the nozzle shall be mounted on a stand or the hose designed for two operators

14. Space inside a machine.— Any opening leading to a walkable passage into or through a machine must be blocked. This does not apply if the passage must be accessible for operational or maintenance purpose on condition that entering does not involve any risk

15. Inching. If it is necessary, to operate a machine temporarily without the protective devices otherwise provided, the speed of the web shall be as low as possible and shall not exceed 15 metres per minute. The machine shall be governed by a hand operated constant pressure switch from a place where the operator can supervise those places where protective devices have been rendered inoperative

16. Emergency stop.— An emergency stop must not break the energy supply to any device needed in an emergency or provoke any movement that might aggravate the situation. Braking provoked by the emergency stop must not be so violent as to cause any risk of injury

17. Auxiliary measures. In place where large quantities of pulp or broke are frequently handled, measures shall be taken to facilitate the work. Special attention shall be paid to the need for such measures in places where there are high temperatures. (1) Instructions shall be provided for the 18. Work Instructions. work routines necessary to promote safety during normal operation as well as during maintenance cleaning supervision and similar kinds of periodically recurrent tasks. R

54. AI TAMIL NADU FACTORIES RULES, 1950 (2) Work permit system should be adopted for maintenance and cleaning operations. (1) Wherever risk of injury 19. Other Safety Precautions. prevails, necessary caution boards or symbols should be displayed like moving equipments, Nip points, slippery area, men at work, etc. (2) Adequate training in safe operations should be imparted to workers at the time of induction into the factory and at periodical intervals not exceeding a year and whenever there is a job rotation or operational changes. (3) For paper machine speeds exceeding 200 metres per minute start up alarm should be provided before crawl and before being put to run. (4) All rotating elements should indicate direction of rotation. (5) Wherever nip is there, indication in bold letter to be provided.] THE TAMIL NADU FACTORIES RULES, 1950 I[SCHEDULE — X1 Conveyors PART-A — General 1. Definition. — For the purposes of this Schedule, — [R.53 ' Conveyor " means a horizontal, inclined, or vertical device for moving or transporting material of any kind, in a path determined by the design of the device, and having points of loading or discharge and the device shall include skip hoists, but shall not include devices like cranes, hoists, monorails, bucket drag lines, platform elevators, plant railways, cableways and tramways. (1) Conveyor 2. Design, construction and maintenance, etc. shall be of good design, proper construction, sound material, adequate strength and free from defects and shall be properly maintained. In running nips ' shall be securely fenced by safeguard (2) of substantial construction or by any other suitable device. (3) Conveyor shall be installed in such a way that a clearance of at least 45 centimeters shall be provided between the conveyors side of the passage way and the conveyor. Hand rails or railings shall be provided on open sides of the walkway all along the belt. (4) When workers have to cross over conveyor, regular crossing facilities affording safe passage shall be provided. (5) Suitable device like gongs, whistles or signal lights shall be provided to the operator to warn the workers before starting the conveyor. (6) (a) The starting button or switch for the conveyor shall be so located that the operator can see as much of the conveyor as possible. The starting and stopping devices shall be marked distinctly and so located that they can be clearly seen and safely approached. (b) All personnel working on or around the conveyor shall be made to have knowledge about the location and operation of all stopping devices. 1 Ins. by G.O. Ms. No. 40, Labour and Employment (M-2), dated the 29th March 2006. R. 55-AI TAMIL NADU FACTORIES RULES, 1950 229 safe working load or loads and signed by the person making the test and the examination, has been obtained and is kept available for inspection. (2) Every jib

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18. Clock-room.— There shall be provided and maintained for the use of all persons employed in a lead process (a) A clock-room for clothing put off during working hours qith adequate arrangements for drying

the clothing if wet. Such accommodation shall be separate from any mess-room. (b) Separate and suitable arrangements for the storage of protective clothing provided under paragraph 16

19. Washing facilities.— 'Niere shall be provided and maintained in a cleanly state and in good repair for the use of all persons employed in a lead process (a) A wash place under cover, With either —(i) a trough with a smooth impervious surface fitted with a waste pipe without plug, and of sufficient length to allow of at least 61 centimetres for every five such persons employed at any one time, and having a constant supply of water from taps or jets above the trough at intervals of not more than 61 centimetres ; or (ii) at least one wash basin for every five such persons employed at any one time, fitted with a waste pipe and plug and having a constant supply of water laid on ; (iii) a sufficient supply of clean towels made of suitable materials renewed daily, Which supply, in the case of pasters and persons employed in the manipulation of raw oxide of lead, shall include a separate marked towel for each such worker ; and (iv) a sufficient supply of soap or other suitable cleansing material and of nail brushes. (b) There shall in addition be provided means of washing in close proximity to the rooms in which manipulation of raw oxide of lead Or 438 TAMIL NADU FACTORIES RULES, (c) A fully equipped first-aid box (2) For factories employing 51 to 200 workers (b) The occupational health centre shall have a room having a minimum area of 15 sq. m. with floors and walls made of smooth, hard and impervious surface and shall be adequately illuminated, ventilated and equipped. (b) A part-time Factory Medical Officer will be in overall charge of the Centre who shall visit the factory minimum twice in a week and whose services shall be readily available during emergencies. (c) There shall be one qualified and trained dresser-cum-compounder on duty throughout the working period. (d) A fully equipped first aid box. (3) For factories employing above 200 workers (a) There shall be one full-time factory Medical Officer for factories employing up to 500 workers and one more Medical Officer for every 1,000 workers or part thereof. (b) The occupational health centre in this case shall have minimum of 2 rooms each having a minimum floor area of 15 square metre with floors and walls made of smooth, hard and impervious surface and shall be adequately illuminated, ventilated and equipped. (c) There shall be one trained nurse, one dresser-cum-compounder and one sweeper-cum-ward boy throughout the working period. (d) The occupational Health Centre in this case shall be suitably equipped to manage medical emergencies

3. Ambulance Van.(1) In every factory carrying out processes covered in Appendix 'A', there shall be provided and maintained in good condition, a suitably constructed and fully equipped ambulance van as per Appendix 'C' manned by a fulltime driver-cum-mechanic and a helper trained in first-aid for the purposes of transportation of serious cases accidents or sickness unless arrangements for procuring such facility at short notice have been made with the nearby hospital or other ambulance van shall not be used for any purpose other than the purpose stipulated herein and will always be available near the occupational health centre. (2) The relaxation to procure Ambulance Van from nearby places provided for in sub-paragraph (1) above shall not be applicable to factories employing more than 500 workers

4. Medical examination.(1) Workers employed in processes covered in Appendix 'A' shall be medically examined by a Factory Medical Officer in following manner : R. 95] TAMIL NADU FACTORIES RULES, 1950 461 (2) Every worker employed in the said processes shall be re-examined by a Certifying Surgeon at least once in every twelve calendar months. Such examinations shall, wherever the Certifying Surgeon considers appropriate, include all the tests specified in sub-paragraph (1) except chest X-ray which will be done once in five years. (3) The Certifying Surgeon on examining a worker, shall issue of fitness in Form No. 27]. The record of examination and re-examinations carried out shall be entered in the Certificate and the Certificate shall be kept in the custody of the Manager of the Factory. The record of each examination carried out under sub-paragraphs (1) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a Health Register in



Form 17. 21 The said register containing the health record of every worker shall be maintained by the occupier of the factory for a minimum period of forty years from the date of beginning of the employment or fifteen years after retirement or cessation of employment, whichever is later.] (4) The certificate of fitness and the health register shall be kept readily available for inspection by the Inspector. • (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the said processes on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the Health Register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit to work in the said processes. The person so suspended from the process shall be provided with alternate placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon, in which case the person shall be suitably rehabilitated. (6) No person who has been found unfit to work as said in sub-paragraph (5) above shall be re-employed or permitted to work in the said processes unless Certifying Surgeon, after further examination, again certifies him fit for employment in those processes.] 20. Exemptions — If in respect of any factory, the Chief Inspector is satisfied that owing to the exceptional circumstances or infrequency of the processes or for any other reason, all or any of the provisions of this schedule is not necessary for protection of the workers in the factory the Chief Inspector may by a certificate in writing, which he may at his discretion revoke at any time, exempt such factory from all or any of such provisions subject to the condition that if any, as he may specify therein—

1. Sub. for the expression "Form 27-A by GO. Ms. No. 121, Labour & Employment (M-2), dated the 31st July, 2012. 2. Added by GO. Ms. No. 46, L & E (M-2), dated the 28th April 2006. TAMIL NADU FACTORIES RULES, 1950 SCHEDULE XXI Handling and manipulation of corrosive substances [R. 95 1. Definitions. For the purpose of this Schedule (a) "Corrosive operation" means any manufacturing process, storing, handling, processing, packing or using any corrosive substance in a factory. (b) "Corrosive substance" includes sulphuric acid, nitric acid, hydrochloric acid, hydrofluoric acid, carboric acid, phosphoric acid, liquid chlorine, liquid bromine, ammonia, sodium hydroxide and potassium hydroxide and a mixture thereof, and any other substance which the State Government by notification in the Official Gazette specifies to be corrosive substance

2. Flooring. The floor of every workroom of a factory in which corrosive operation is carried on shall be made of impervious, corrosion and fire resistance material and shall be so constructed as to prevent collection of any corrosive substance. The surface of such flooring shall be smooth and cleaned as often as necessary and maintained in a sound condition

3. Protective equipment.— (a) The occupier shall provide for the use of all persons employed in any corrosive operation suitable protective wear for hands and feet, suitable aprons, face shields, chemical safety goggles and respirators. The equipments shall be maintained in good order and shall be kept in clean and hygienic condition by suitably treating to get rid of the ill-effects of any absorbed chemicals and by disinfecting. The occupier shall also provide suitable protective creams and other preparations wherever necessary. (b) The protective equipment and preparations provided shall be used by the persons employed in any corrosive operations

4. Water facilities.— Where any corrosive operation is carried on, there shall be provided as close to the place of such operation as possible, a source of clean water at a height of 210 cm. (7 feet) from a pipe 1.25 cm. (1/2 inch) diameter and fitted with a quick acting valve so that in case of injury to the worker by any corrosive substance the injured part can be thoroughly flooded with water. Whenever necessary, in order to ensure R. 951 TAMIL NADU FACTORIES RULES, 1950 463 continuous water supply, a storage tank having minimum length, breadth and height of 210 cm., 120 cm., and 60 cm. respectively or such dimensions as are approved by the Chief Inspector shall be provided as the source of clean water

5. Cautionary notice.— A cautionary notice in the following form and printed in the language which is understood by majority of the workers employed, shall be displayed prominently and close to the place where any corrosive operation is carried out and where it can be easily and conveniently read by the worker. If any worker is illiterate, effective steps shall be taken to explain carefully to him the contents of the notice so displayed. • CAUTIONARY NOTICE Corrosive substances cause severe burns and the vapours thereof, may be extremely hazardous. In case of contact, immediately flood the part affected with plenty of water for at least 15 minutes., Get medical attention quickly. 6. Transport. (a) Corrosive substances shall not be filled, moved or carried except in containers or through pipes and when they are

to be transported in containers,] they shall be included in crates of kound construction and of sufficient strength. (b) a container with a capacity of 11,5 litres (2- 1/2 gallons) or more of a corrosive substance shall be placed in receptacle or crate and then carried by more than one person at a height below the waist line unless a suitable rubber wheeled truck is used for the purpose. (c) Containers for corrosive substance shall be plainly Labelled

7. Devices for handling corrosives.(a) [Lifting, lifting or pumping arrangements] shall be used for emptying jars, carboys and other containers of corrosives. (b) Corrosive substances shall not be handled by bare hands but shall be handled by means of a suitable scoop or other device—a- g. Opening of valves. Valves fitted to containers holding a corrosive substance shall be opened with great care. If they do not work Subs. by G.O. Ms. No. 1717, Labour, dated the 2nd September, 1986. 464 TAMIL NADU FACTORIES RULES 1950 [R. 95 freely, they shall not be forced open. They shall be opened by a worker suitably trained for that purpose

9. Cleaning tanks, stills, etc.— (a) In cleaning out or removing residues from stills or other large chambers used for holding any corrosive substance, suitable implements made of wood or other material shall be used to prevent production of arseniuretted hydrogen (Arsine). (b) Whenever it is necessary for the purpose of cleaning or other maintenance work for any worker to enter chamber, tank, vat, pit or other confined space where a corrosive substance had been stored, all possible precautions required under section 36 of the Factories Act, 1948 shall be taken to ensure the worker's safety. (c) Wherever possible, before repairs are undertaken to any part of equipment in which a corrosive substance was handled, such equipment or part thereof shall be freed of any adhering corrosive substance by adopting suitable methods

10. Storage.(a) Corrosive substances shall be stored in the same room with other chemicals, such as turpentine, carbides, metallic powders and combustible materials, the accidental mixing with which may cause a reaction which is either violent or gives rise to toxic fumes and gas. (b) Pumping or filling overhead tanks, receptacles, vats or other containers for storing corrosive substances shall be so arranged that there is no possibility of any corrosive substance overflowing and causing injury to any person. (c) Every container having a capacity of twenty litres or more on every pipe line, valves, and fitting used for storing or carrying corrosive substances shall be thoroughly examined every year for finding out any defects and defects shall be removed forthwith. A register shall be maintained of every such examination made and shall be produced before the Inspector whenever required

11. Fire extinguishers and fire-fighting equipment.An adequate number of suitable type of fire extinguishers or other fire fighting equipment, depending on the nature of chemicals stored shall be provided. Such extinguishers or other equipment shall be regularly tested and refilled. Clear instructions as to how the extinguishers or other equipment R. 95] TAMIL NADU FACTORIES RULES, 1950 473 (3) Maintain scrupulous cleanliness at all times. Before meal, wash hands and feet. A bath before leaving the factory is essential, taking care to wash the head well, (4) If any chemical falls on your body, wash it off immediately with soap and water, change clothing at once, if soaked with a cyanotic nitro or amino compound. Contact the appointed doctor immediately. (5) Do not handle any nitro or amino compound with bare hands. Use a long handled scoop. (6) Avoid alcoholic drinks as these increase risk of poisoning. (7) In case of illness contact the Factory Manager and the appointed doctor. (8) Do not chew, eat, drink or smoke in the workroom or with soiled hands. Keep food and drink away from the workplace. (9) If you work with Betanaphthylamine or benzidine or its salts, alphanaphthylamine or dianisidine — (a) remember the serious effects will follow after a number of years if great care is not taken to observe absolute cleanliness of body, clothes, machinery and tools ; (b) at mealtime, wash face and hands twice with soap and water to remove all chemicals ; wear a long-sleeved clean apron while eating ; (c) before leaving the factory take a bath using soap and water twice ; after this put on your home clothes. I[SCHEDULE 2[Process of Extracting Oils and Fats in Solvent Extraction Plants] I. Definitions. — (a) " Competent Person " for the purpose of this Schedule shall be at least a member or an Associate Member of the Institution of Engineers (India) with ten years experience in a responsible position as may be approved by the Chief Inspector • 1 Added by GO. Ms. No. 680, Labour and Employment, dated the 20th July, 1976. 2 The heading " Process of Extracting Oils and Fats from Vegetable and Animal Sources in Solvent Extraction Plants " substituted by GO. Ms. No. 127, Labour and Employment (M-2), dated the 3 1st

August, 2005. [R.95 THE TAMIL NADU FACTORIES RULES, 1950 483-1 (v) The drying platform meant for Rockets and Fire Works of flying nature shall be provided with a temporary roof of a strong aluminium mesh cover resting on the walls, for protection from direct sunlight (w) There shall be provided atleast two burning pits in every factory and each burning pit shall be at a minimum distance Of 62 metres away from the working sheds. (x) The collected waste shall be disposed in the burning pit after the working hours of the factory on the same day in the presence of the Foreman by a trained worker. (y) Wind direction indicator shall be provided in each factory. (z) No electronic appliances such as mobile phones, transistors etc., shall be allowed in the premises, where fireworks are manufactured, handled, stored or used. (aa) The mixed chemicals shall be used on the same day. No mixed chemical (fireworks) composition, dry or wet shall be kept in the factory at the close of any working day. Such residual composition shall be safely destroyed at the close of the day. (ab) Fireworks factory ordinarily employing 250 workers or more shall appoint a qualified Safety Officer as per the Tamil Nadu Safety Officer (Duties, Responsibilities and Conditions of Service) Rules, 2005 at the rate of one Safety Officer for 250 workers. (ac) No manufacturing activity shall be carried on in Fireworks factory between 6.00 pm. and 6.00 am.]

11. Display of notices.— The following notices in the local language understood by the majority Of workers shall be displayed at a conspicuous place in the factory. (a) Smoking is strictly prohibited. (b) No one shall carry matches or other igniting materials into the factory. (c) No worker shall be in a workroom or area where no work has been assigned to him. (d) If anything untoward happens in any shed all workers shall dash to the gates which serve as outgates of the factory and in no circumstances be curious to see what has happened in the affected shed. (e) Any spillage of materials should be cleaned without any delay. 490 TAMIL NADU FACTORIES RULES, 1950 (b) Any Other design for gas offtake pipe which does not allow charcoal pieces into the condensers and piping may be adopted

6. Rupture Discs and Safety At least two rupture discs of adequate size which shall blow off at a pressure twice the maximum operating pressure shall be provided on each furnace and shall either be mounted directly on the top Of the furnace or each through an independent pipe as close as possible to the furnace. (b) A safety water seal shall be provided at the best possible location to ensure the maximum and effective operation of the rupture discs mentioned in (a) above

7. Pyrometer and Each electric furnace shall be fitted with' adequate number of pyrometers Itto give an indication of the temperature as correctly as reasonably practicable at various points in the furnace. The dials for reading the temperature shall be located in the control room. (b) [Manometers or any other suitable devices) shall be provided for indicating pressure— (i) in the offtake pipe before and after the sulphur separator ; and (ii) in primary and secondary condensers

8. Check Valves or Water Seals.—All piping carrying carbon disulphide shall be fitted with check valves or water seals at suitable positions so as to prevent gas from flowing back into any electric furnace in the event of its shut down, 9. Inspection and maintenance of Electric Every electric furnace shall be inspected internally by a competent person— (i) before being placed in service after installation ; (ii) before being placed in service after reconstruction or repairs ; and (iii) periodically every time the furnace is opened for cleaning or for replaced electrodes. [In respect of item (iii) if it is felt by operators that during de-ashing It is not necessary to inspect internally so as to conserve the heat in the furnace, internal inspection can be done away with. (b) When an electric furnace is shut down for cleaning,— (i) if removal of any part of the lining is resorted to, the condition of the shell shall be closely inspected, and Subs. by G.O. Ms. No. 288, Labour and Employment, dated the 12th April, 1978. 498 TAMIL NADU FACTORIES RULES, 1950 [R.95 infrequency of the process or for any other reason) all or any of the, provisions of the Schedule are not necessary for the protection of persons employed in the factory, he may by certificate in writing. exempt such factory from all or any of such provisions subject to such conditions as he may specify therein. Such certificates may at any time be revoked by the Chief Inspector. I. 2

3. APPENDIX A [See Clause 3 (b).] Production of Benzene. Process where Benzene is used for chemical synthesis. Motor spirits (used as fuel). APPENDIX B (See Clause LI) (a) The hazards (i) Benzene and substances containing Benzene are harmful ; (ii) Prolonged or repeated breathing of Benzene vapours may result in acute or chronic poisoning ; (iii) Benzene can also be absorbed through skin which may cause skin and other diseases. (b) The preventive measures to be taken - (i) Avoid breathing of benzene vapours ; 514 2. 3. 4

5. TAMIL NADU FACTORIES RULES, 1950 THE TABLE IR95 Process Dumping Spinning Process involving or likely to involve contact with viscose solution. Handling of Sulphur Any other process involving contact with hazardous chemicals. Protective equipment (2) Overalls, face-shields, gloves and foot-wear - all made of suitable material. Suitable aprons, gloves and footwear. Suitable gloves and footwear. Suitable Chemical goggles. Protective equipment as may be directed by the Chief Inspector by an order in writing. (2) A suitable room, rooms or lockers shall be provided exclusively for the storage of all the protective equipment, supplied to workers and no such equipment shall be stored at any place other than the room, rooms or lockers so provided

9. Breathing apparatus. (1) There shall be provided in every factory where fume process is carried on, sufficient supply of, (d) breathing apparatus ; (b) oxygen and suitable appliances for its administration ; and (c) life belts. (2) (i) The breathing apparatus and other appliances referred to in sub-paragraph (I) shall be maintained in good condition and kept in appropriate locations so as to be readily available, (ii) The breathing apparatus and Other appliances referred to in clauses (a) and (b) of sub-paragraph (I) shall be cleaned and disinfected at suitable intervals and thoroughly inspected once every month by responsible person. (iii) A record of the maintenance and of the condition of the breathing apparatus and other appliances referred to in sub-paragraph (I) shall be entered in a register provided for that purpose which shall be readily available for inspection by Inspector. (3) Sufficient number of workers shall be trained and periodically retrained the use of breathing apparatus and administering artificial respiration so that at least two such trained persons would be available during all the working hours in each room in which fume process is carried on. (4) Breathing apparatus shall be kept properly labelled in clean, dry, light proof cabinets and, if liable to be affected by fumes, shall be protected by placing them in suitable containers. (5) No person shall be employed to perform any work specified in sub-paragraph (I) for which breathing apparatus is necessary to be provided under that sub-paragraph unless he has been fully instructed in the proper use of that equipment. (6) No breathing apparatus provided in pursuance of sub-paragraph (1) which has been worn by a person shall be worn by another person unless it has been thoroughly cleaned and disinfected since last being worn and the person has been fully instructed in the proper use of that equipment. 10. Electric fittings. -- All electric fittings in any room in which carbon-di-sulphide is produced, used or given off or is likely to be given off into the work environment, other than a spinning room, shall be of flame-proof construction and all electric conductors shall either be enclosed in metal conduits or be lead sheathed

11. Prohibition relating to smoking, etc. No person shall smoke or carry matches, fire or naked light or other means of producing a naked light or spark in a room in which fume process is carried on. A notice in the language understood by the majority of the workers shall be posted in prominent locations in the plant prohibiting smoking and carrying of matches, fire or naked light or other means of producing naked light or spark into such rooms : Provided that fire, naked light or other means of producing a naked light or spark may be carried on in such room only when required for the purpose of the process itself under the direction of a responsible person

12. Washing and bathing facilities. (1) There shall be provided and maintained in a clean state and in good repair for the use of all workers employed in the processes covered by the schedule, adequate washing and bathing places having a constant supply of water under cover at the rate of one such place for every 25 persons employed. (2) The washing places shall have stand pipes placed at intervals of not less than one metre. (3) Not less than one half of the total number of washing places shall be provided with bathrooms. (4) Sufficient supply of clean towels made of suitable material shall be provided : Provided that such towels shall be supplied individually for each worker if so ordered by the Inspector. (5) Sufficient supply of soap and nail brushes shall be provided

13. Rest room.— (1) A rest room shall be provided for the workers engaged in doffing operations of filament yarn spinning process. (2) Such rest room shall be provided with fresh air supply and adequate seating arrangement

14. Cautionary notice and instructions.— (1) The following cautionary notice shall be prominently displayed in each fume process room : CAUTIONARY NOTICE I. Carbon disulphide (CS) and Hydrogen Sulphide (H₂S) Which may be present in this room are hazardous to health

2. Follow safety instructions

3. Use protective equipment and breathing apparatus as and When required.R.95] THE TAMIL NADU FACTORIES RULES, 1950 4. Smoking is strictly prohibited in this area. 517 This notice shall be in a language understood by the majority of the workers and displayed where it can be easily and conveniently read. If any worker is illiterate, effective steps shall be taken to explain carefully to him the contents of the notice so displayed. (2) Arrangements shall be made to instruct each worker employed in any room in which a fume process is carried on regarding the health hazards connected with their work and the preventive measures and methods to protect themselves. Such instructions shall be given on his first employment and repeated periodically. (3) Simple and special instructions shall be framed to ensure that effective measures will be carried out in case of emergency involving escape of carbon disulphide and hydrogen sulphide. Those instructions shall be displayed in the concerned areas and workers shall be instructed and trained in the actions to be taken in such emergencies

15. Medical facilities and records of examinations and tests.— (1) The occupier of each factory to which the schedule applies, shall — (a) employ a qualified medical officer for medical surveillance of the workers employed in the fume process whose employment shall be subject to the approval Of the Chief Inspector of Factories ; and (b) provide to the said medical officer all the necessary facilities for the purpose referred to in clause (a). (2) The record of medical examination and appropriate tests carried out by the said medical officer shall be maintained in a separate register approved by the Chief Inspector of Factories, which shall be kept readily available for inspection by the Inspector



16. Medical examination by the Certifying Surgeon.— (1) Every worker employed in the fume process shall be examined by a Certifying Surgeon within 15 days of his first employment. Such examination shall include tests for estimation of exposure co-efficient (iodine azide test in urine) and cholesterol, as well as Electro-cardiogram (ECG) and Central Nervous System (CNS) tests. NO worker shall be allowed to work after 15 days Of his first employment in the fact0D' unless certified fit for such employment by the CertiÜing Surgeon. (2) Every worker employed in the fume process shall be re- examined by a CertiWing Surgeon at least once in every twelve calendar 518 8.95 THE TAMIL NADU FACTORIES RULES, 1950 months. Such examination Shall wherever the Certifring Surgeon consi- ders appropriate, include all the tests as specified in sub-paragraph (3) The Certifying Surgeon after examining worker, shall issue a certificate of fitness in



Form 27. The record of re-examinations carried out shall be entered in the certificate and the certificate shall be kept in the custody of the Manager of the factory. The record Of each examination carried out shall be entered in the certificate and the certificate shall be kept in the custody of the Manager of the factory. The records of each examination carried out under sub-paragraphs (A) and (2), including the nature and the results of the tests, shall also be entered by the Certifying Surgeon in a health register in Form 17A. (4) Certificate Of Fitness and the health register shall be kept readily available for inspection by the Inspector. (5) If at any time the Certifying Surgeon is of the opinion that a worker is no longer fit for employment in the fume process on the ground that continuance therein would involve special danger to the health of the worker, he shall make a record of his findings in the said certificate and the health register. The entry of his findings in those documents should also include the period for which he considers that the said person is unfit for work in the fume process. 21 The persons so suspended from the process shall be provided with alternative placement facilities unless he is fully incapacitated in the opinion of the Certifying Surgeon in which case the person affected shall be suitably rehabilitated.] (6) No person who has been found unfit to work as said in sub- paragraph (5) above shall be re-employed or permitted to work in the fume process unless the Certifying Surgeon, after further examination again certifies him fit for employment in such process

17. Exemptions.— If in respect of any factory, the Chief Inspector is satisfied that owing to the exceptional circumstances or infrequency of the processes or for any other reason, all or any of the provisions of this schedule is not necessary for protection of the workers in the factory, the Chief Inspector may, by a certificate in writing, which he may at his discretion revoke at any time, exempt such factory from all or any of such provisions subject to such conditions, if any, as he may specify therein. R.95] THE TAMIL NADU FACTORIES RULES, 1950 I[SCHEDULE XXXI 519 Flammable Liquefied or compressed gases and highly flammable liquids. I. Application. — Provisions of this Schedule shall apply to all factories where flammable liquefied or compressed gases or highly flammable liquids are manufactured, stored, handled used (sic.)

2. Definitions.— For the purposes of this Schedule, — (a) " bulk storage " means bullet or horton sphere or mounded vessel used for storage of flammable liquefied or compressed gases or highly flammable liquids, which are having capacity exceeding one thousand litres of water capacity ; (b) " bullet " means a horizontal cylindrical pressure vessel with hemispherical or dished ends used for storage of flammable liquefied or compressed gas (c) explosive mixture " means a mixture of combustion agent (oxidising substance in gaseous, liquid or solid state) and a fuel (oxidisable substance in gaseous, liquid or solid state) in such proportions that it could give rise to a very rapid and violent oxidation reaction, liberating more kinetic energy than is dissipated through conduction and convection, ultimately causing practical effect of explosion , (d) fire proof " means a passive means of protection of a structure or equipment or vessel from exposure to direct fire or flame impingement or prolonged exposure to high intensity radiant thermal flux, by the application of a coating of certain heat-resistant substance or mixture of a specified rating ; (e) " fire safe means a provision of dual seating to control leakage to acceptable level, even after damage, due to fire, as applied to valves ; (D flammable compressed gas 's means flammable compressed gas as defined in rule 2 of the Static and Mobile Pressure Vessels (Unfired) Rules, 1981 framed under the Explosives Act, 1884 (Central Act IV of 1884) ; Subs. by GO. Ms. No. 110, Labour and Employment (M-2), dated the 16ül September, 2008. 520 [R.95 THE TAMIL NADU FACTORIES RULES, 1950 (g) " flammable liquefied gas means a flammable gas kept in liquefied state by the application of pressure at normal ambient temperature, 13% (thirteen percentage) or less of which by volume with air forms a flammable mixture or which has a flammable range with air of atleast 12% (twelve percentage) points regardless of the lower flammable limits ; (h) gas free " means a condition when the concentration of a flammable gas in an equipment or a vessel is well below the threshold limits (lower explosive limit), so, that it is safe for a man to enter into the equipment or vessel or to conduct " hot work " there, as the case may be ; (i) c' highly flammable liquid " means any liquid including its solution, emulsion or suspension which when tested in a manner specified by sections 14 and 15 of the Petroleum Act, 1934 (Central Act XXX of 1934) gives off flammable vapours at a temperature less than 32 degrees Centigrade , G) " Horton sphere " means a spherical Pressure Vessel, supported vertically and is used for the storage of flammable liquefied or compressed gas • (k) " hot work " means an activity which may produce enough heat or spark to ignite a flammable or explosive mixture ; (l) " Mounded vessel " means a pressure vessel for the storage of

flammable liquefied or compressed gas, which is sited above ground and is completely covered by a mound of earth or similar inert material except for nozzles, manhole covers, inspection covers fitted on the top of the vessel ; (m) " purging " means an act of replacing the atmosphere inside a vessel or a container by an inert gas in such a manner as to prevent the formation of an explosive mixture. (n) " purging into service " means the replacement of air in a closed system by an inert gas and then replacement of the inert gas by the flammable gas, vapour or liquid , (o) " purging out of service " means the replacement of normal flammable content of a closed system by an inert gas and then replacement of the inert gas by air to such an extent that it is gas free and safe for any person to work ; 526 THE TAMIL NADU FACTORIES RULES, 1950 [R.95 not less than 1 times the design pressure, easily visible and designed to show the correct internal pressure at all times. It shall be provided in the vapour space at the top. A suitable stop valve shall be provided in between the vessel and the pressure gauge. (9) Gas sensors. — In every storage vessel for flammable liquefied or compressed gas, gas sensors with alarm shall be provided at vulnerable areas and in the event of gas leakage, such sensor shall trip the compressor or pump if in operation. (IO) Bonding. — Electrical continuity shall be maintained between the flanges by means of bonding in every storage vessel and its pipe lines. (I l) Pop off valveS: — Pop off" valves shall be provided in between isolation valves on the pipelines carrying flammable liquefied or compressed gases. (12) Capacity Of vapouriser. — The vapourizer, connected to the flammable liquefied gas storage vessels shall have adequate capacity to meet the required flow rate Of flammable liquefied gas in the process, 6. Prevention of ignition. — In every location where highly flammable liquid or flammable liquefied or compressed gas is stored, conveyed, handled or used or where there is danger of fire or explosion from accumulation of highly flammable liquid or liquefied compressed gas in air, all practicable measures shall be taken to exclude the sources Of ignition. Such precautions shall include the following : — (a) all electrical apparatus shall either be excluded from the area of risk or they shall be of such construction and so installed and maintained as to prevent the danger of their being a source of ignition ' (b) effective measures shall be adopted for prevention of accumulation of static charges to a dangerous extent ; (c) no person shall wear or be allowed to wear any footwear having iron or steel nails or any other exposed ferrous materials which is likely to cause sparks by friction ; (d) smoking, lighting or carrying of matches, lighters or smoking materials shall be prohibited ; 528 THE TAMIL NADU FACTORIES RULES, 1950 [R.95 (c) medium velocity water sprinkler system shall be based on heat and other detection. (d) Quartzoid Bulb protection designed to blow at 79 (seventy nine) degree centigrade (maximum) shall be provided in open areas in the sheds ; @ medium velocity water sprinkler system shall function in such a way that the actuation Of fire detectors shall initiate the following : — (i) opening of deluge valve ; (ii) audio-visual alarm at the fire pump house or control panel ; (iii) fire siren ; and (iv) the diesel pump will get started based on the Set pressure " to supplement or to maintain the fire water pressure in the ring main ; and (f) the medium velocity water sprinkler system shall have a minimum spray density of ten litres per minute per square metre in the case of flammable liquefied or compressed gas and in the case of highly flammable liquid it shall have minimum spray density of 3 (three) litres per minute per square metre for the single largest risk area. For the purpose of calculation of a single risk area, the following shall be taken into account : — (i) in case of bulk storage, adjoining vessels within the distance of $R + 30$ (thirty) metre, where R is the radius of the vessel and 30 (thirty) metre shall be measured from the periphery of the vessel. (ii) in case of tank lorry gantry, of 8 (eight) bays shall be taken as a single risk area ; and (iii) in case of tank wagon gantry, a minimum of one gantry (600 (six hundred) Metric Tonnes) shall be taken as a single risk area. (3) (a) a fire water ring main shall be provided all around the locations of storage and handling of flammable liquefied or compressed gases with hydrants or monitors spaced at 30 (thirty) metre centre to centre. Fire hydrants and monitors shall be installed outside the licensed premises ; R.951 THE TAMIL NADU FACTORIES RULES, 1950 537 S. Construction, Installation and Operation. — (1) The precinct in which induction furnace is installed shall be of adequate strength and shall be segregated from the other parts of the factory in such a way so that minimum number of workers is exposed to the risk of any fire or explosion at any time ; (2) Furnace shed shall be well ventilated ; (3) All the fittings and attachment of Induction furnace shall be of good construction, sound material and adequate strength • (4) Adequate arrangements shall be made to avoid tilting of the ladles while transportation , (5) Ladle shall not be filled with molten metal more than $\frac{1}{4}$ th of its volume to avoid spillage of molten metal while being carried by the crane , (6) The refractory material of the induction furnace shall be strong at high temperatures

resistant to thermal shock, chemically inert, low thermal conductivity and coefficient of expansion and of adequate uniform thickness ; (7) the lining of the induction furnace shall be checked by qualified supervisor every week for any wear and tear and damage as per relevant Bureau of Indian Standards (8) Adequate precautions shall be taken during repair of induction furnace as per relevant Bureau of Indian Standards

6. Construction of floors —(1) Floors of indoor workplaces in which the processes are carried on, other than parts which are of sand shall have been surface of hard material • (2) No part of the floor of any such indoor workplace shall be of sand except where this is necessary by reason of the work done ; (3) All parts of the surface of the floor of any such indoor Workplace Which are of sand shall, so far as practicable, be maintained in an even and firm condition

7. Means of escape. There shall be at least two ways of escape with adequate width at opposite ends of the furnace platforms; 8. Display of Notice. — Notice regarding non-use of water, etc. near induction furnace shall be displayed 544 THE TAMILNADU FACTORIES RULES, 1950 [R.95 of clean water, the tap or stand pipe being spaced not less than 1.2 metres apart ; and (b) not less than one half of the total number of washing places provided under clause (a) shall be in the form of bathrooms (c) a sufficient supply of clean towels made of suitable material changed daily, with sufficient supply of nail brushes and soap. (2) The facilities provided for the purposes of sub-paragraph (1) shall be placed in charge of a responsible person or persons and maintained in a clean and orderly 19. Disposal of dross and skimming. — Dross and skimming removed from molten metal or taken from a furnace shall be placed forthwith in suitable receptacles: 20. Disposal of Waste. — Appropriate measures shall be taken for the disposal of all waste products from shell moulding (including waste burnt sand) as soon as reasonably practicable after the castings have been knocked-out

21. Material and Equipment left out of doors.— All material and equipment left out of doors (including material and equipment so left only temporarily or occasionally) shall be so arranged and placed as to avoid unnecessary risk. There shall be safe means of access to all such material and equipment and so far as reasonably practicable, such access shall be by roadways or pathways which shall be properly maintained. Such roadways or pathways shall have a firm and even surface and shall so far as reasonably practicable be kept free from obstruction

22. Medical facilities and records of examinations and tests.— (1) The Occupier of every factory to which this Schedule applies, shall — (a) employ a qualified medical practitioner for medical surveillance of the workers employed therein whose employment shall be subject to the approval of the Chief Inspector of Factories ; and (b) Provide to the medical practitioner all the necessary facilities for the purpose referred to in clause (a). (2) The record of such examinations carried out by the medical practitioner shall be maintained in a separate register approved by the Chief Dry wet Dry Wet bulb. bulb. bulb. bulb. 'IFORM

No. 91



FORM No. 10 [Prescribed under Rule 781 Overtime muster roll for exempted workers Month ending 19
Form No. 9. omitted by GO. Ms. No

121. Labour and Employment (M-2). dated the 31st July, 2012. (11) (1) (2) Adult/Child Name rather's Name Date of discharge Date and amount of payment made in lieu or arrear due 1 (18) FORM No. 16 (Omitted) No. (Prescribed under Rule 14) Health Register occupations declared to (in respect of persons of Certifying Surgeon : Serial number (1) Works number (2) Name of worker (3) (a) Mr. (b) Mr. (c) Mr. Date of Age (last) employment birthday on present Sex (4) Date of leaving or transfer to other work (5) work (6) Reason for leaving. transfer or discharge (8) Nature of job. or occupa- tion (9) Raw material or by-product banded (10) Medical Examination by Certifying Surgeon If suspended from work, state period of suspension with detailed reasons (12) Recertified fit to resume duty on (with signa- ture of Certi- fying Surgeon) (13) If certificate of enftiness or suspension issued to worker (14) Signature with date of Certifying Surgeon summary of reasons for transfer or discharge should be stated. (t be expreued as fit/unfit/oususpended. '[FORM No. 25 [Prescribed under rule 77 (4) and rule 1031 MUSTER ROLL AND REGISTER OF COMPENSATORY HOLIDAYS Name and Address of the Factory Date of birth to be supported by extract from the birth register For the Month of; Registration Number Weekly rest days lost due to the exempting order in Date of Compensatory order given in (3) (4) (17) Form No. 25, substituted by GO. Ms. No. 121, Labour and Employment (M-2), dated the 31st July, 2012. i Subs. by GO Ms. No. 130, Labour and Employment (M-2), dated the 1st September, 2012. Form No. 25-A, added by notification. FORM No. 29 (Prescribed under Rules 105 andd 106) Particulars of rooms in the factory Dimensions of room in metres Signature of Occupier or Manager. i' Fmn No. 30.31, '[FORM No. 311 md 33, omitted by notification. '[FORM No. 321 tlFORM No. 331

