



Kingdom of Saudi Arabia
Ministry of Interior
General Directorate of Civil Defense

Regulation of Fire Safety and Protection Conditions in Timber Warehouses

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Chapter 1

Definitions

Article (1) Definitions: The terminologies in this regulation means:

1. Timber warehouses are designated and licensed places for storing timber.
2. The Law: Civil Defense Law issued by the Royal Decree No. M/10 and dated 10/5/1406 H and all other relevant regulations.
3. Civil Defense Representative: The authorized person or persons by the General Directorate of Civil Defense, or one of its centers to carry out inspection, forfeiture, and investigation of violations as per the rules and procedures specified in the relevant Regulation, to ensure the safety of the building, and safety of firefighting equipment, and tools.
4. The Relevant authority: the Ministry of Interior, the General Directorate of Civil Defense and other public authorities involved in the process of licensing the business.
5. Safety Officer: the safety officer is the person (of the establishment staff or other) appointed or assigned to be responsible for all safety and security matters. The property owner (private property) or the licensee is responsible for safety in all cases following the regulation issued in this regard. The duties and tasks of such are determined as per the regulation of authorized person in safety works and Industrial security issued in this regard.
6. Approved Standards:
 - a) Saudi Standards: issued by the Saudi Standards, Metrology, and Quality Organization, SASO.
 - b) International Standards: international specifications approved by SASO, official documents to be submitted to prove all safety rules and requirements are available in the machine or material mentioned in the specification and approved by SASO.

Chapter 2

"General terms and conditions"

Article (2): According to article (20) of the Civil Defense Law, the licensee shall not be permitted to practice the business mentioned in this Regulation, renew, renovate or expand the existent until he submits a technical study prepared by one of the technical offices specialized in safety and alarm and firefighting works and approved by the General Directorate of Civil Defense. This study explains the extent of compliance with the rules and specifications mentioned in this regulation.

Article (3): The office that prepared the study mentioned in Article (2) has to answer to the Civil Defense and other relevant authorities about the accuracy of the study and monitoring its implementation. The office will undertake to provide a final certificate confirming that the facility is complied with the terms and conditions included in this Regulation. The office shall be considered responsible in solidarity with the business owner or the contractor for any default or neglect in this regard.

Article (4): The safety officer is responsible for conducting monthly inspections and periodic tests (every three months) for all firefighting, alarm, monitoring and safety methods and equipment, and must repair any defects or malfunctions immediately. Failure to do this shall be considered severe negligence.

Article (5): The safety officer undertakes to constantly inspect the buildings and electrical installations to ensure their safety and compliance with the conditions, and to repair any defects and make the necessary repairs immediately. He must close the facility and prevent its use and notify the Civil Defense if required.



Article (6): The safety officer shall assign a register called (safety and firefighting record) according to the application form prepared by Civil Defense. All pages are stamped with the seal of the Civil Defense. All the monthly inspections and periodic tests of fire, monitoring, alarm methods, the dates, results, repair works and other data are recorded in this register. Part of this record is dedicated to the building inspection and maintenance works and the building's electrical installations.

Article (7): The safety officer may notify the relevant Civil Defense Center about the dates of the periodic tests and the entity performing these tests, to agree on a date for civil defense representative to attend such tests and Civil Defense representative will sign the safety record as a proof of attending.

Article (8): All workers at timber warehouses must be trained on fire & rescue, evacuation and ambulance in schools and national training institutes approved by the General Directorate of Civil Defense, or coordinate with Civil Defense to conduct these courses. The training requesting party bears the costs of such, or its share of the course costs based on the cost of one trainee. A proof must be submitted stating all workers numbers and nationalities and that they have received the proper training.

Article (9): instruction signs must be placed according to the design adopted by the Civil Defense, to prohibit smoking, ban any source of fire ignition, inside the warehouse. It is prohibited to store any flammable materials in the warehouse.

Article (10): The safety officer must provide first aid kits and supplies and train the workers on how to use them when needed.



Article (11): The safety officer undertakes to coordinate directly with the relevant Civil Defense to prepare a complete and detailed plan for intervention during emergencies and normal times on fires, rescue, evacuation and ambulance works.

Article (12): the provision of a maintenance contract for safety and fire protection equipment with an establishment or a company authorized by the Civil Defense, and it shall be responsible to Civil Defense about the work and maintenance of these equipment.

Article (13): Violations of this regulation shall be controlled, investigated and imposed as per Civil Defense Law and the regulations or instructions issued by the Civil Defense governing these matters.

Article (14): This regulation is related to Civil Defense safety conditions and requirements only without considering other conditions and requirements that fall within the jurisdiction of other relevant authorities.

Article (15): The safety officer undertakes to consider the conditions and instructions included in this regulation with accuracy in all times. This shall not be relieved from liability for any error or negligence regardless of the reasons and circumstances.

Chapter 3

"Fire safety and protection requirements"

Article (16): Conditions to be met in the building:

1. The construction of timber warehouses must be approved in advance by the relevant authorities.
2. The warehouse must be located in a designated area for warehouses.



3. Must not be near hazardous materials warehouses (liquid_solid_gas).
4. The warehouse is set up as per blueprints approved by the relevant authority and must not include any residential unit and not include any industrial business.
5. The warehouse must be constructed from non-flammable materials including roofs, barriers and walls, and the floor must be tiled or cemented. Storing in the open is prohibited.
6. In case of two joint warehouses, a fire separation wall must be constructed between them with the following specifications:
 - a) Made of stones/bricks, with a thickness of not less than (20) cm.
 - b) Or of reinforced concrete, with a thickness not less than (18) cm.
 - c) Concrete blocks, with a thickness not less than (20) cm.
 - d) The wall must not contain any opening or entrance except for electricity and plumbing installations within the wall.
 - e) The height of the protective wall between the roofs of the joint buildings must not be less than (2 meters).
 - f) The wall should exceed the building facade/front by (50) cm to prevent fire from spreading sideways.
7. Any modification/amending on the warehouses must be made by a permit attached to a blueprint and approved by the relevant authorities.
8. Each warehouse must have at least a main entrance and a main exit, for vehicles to enter and exit the warehouse for loading and unloading works. If the warehouse area is more than (2,000) meters, an emergency entrance and exit must be provided, with consideration to the design of entrances and exits so that they are sufficiently wide to allow the entry and exit of transportation vehicles, and the doors should be in opposite directions if possible. The numbers of entrance and exit doors can be increase according to the warehouse area and must lead to wide passages to allow for fire vehicles passage.



9. There must not be any obstacles on the passageways or the fence that may hinder the movement of fire vehicles in case needed.
10. It is prohibited to store any flammable materials such as petroleum materials, oil-contaminated fabrics, tools and materials made of palm leaves, fiber, burlap, etc. near timber warehouse.
11. The warehouses floors need to be sloped/inclined to allow drainage of fire water into the regular drain.
12. The edges of the warehouses floors must be in the form of drainage to drain water.
13. The general conditions for hazardous and disturbing businesses that are harmful to health are applied according to the condition or status of the warehouse.

Article (17): Storage conditions:

Storage must be done in the form of stacks with an appropriate size and with spaces between them to ensure easy handling, loading, unloading and transportation while reduce the effort and time required to complete these tasks. The width of these corridors must be suitable to facilitate vehicles passage.

Article (18): Fire prevention measures:

1. Leave a space of not less than (1.5 meters) between the top of the stacks and the ceiling.
2. Leave partitions between the stored wood stacks from four sides, so that the distance between one stack and another is not less than two meters (2 m) no matter how low the height of the stack. Any increase of stack height over (three meters), the increase number in height is added to the width of the near passages of the stack.
3. The stack itself should have internal spaces for ventilation, wood relief and distribute/dispense heat caused by weather or unusual conditions that may cause self-ignition.



4. The locations of the stacks are marked with clear markings on the floors and must be followed to ensure an organized storage process.
5. Smoking, igniting any fire, or using heating appliances are strictly prohibited. Warning signs are placed throughout the warehouse in Arabic and English to highlight this.
6. The use of mechanical equipment to lift and move wood must be very limited, must be of the types that do not release sparks or high temperature.
7. Large warehouses must be divided into fire sectors, (1,000 m²) for each sector if the warehouse area exceeds (2,000 m²) by establishing sectors made of fire-resistant materials with the following specifications:
 - a) The partition should be of concrete bricks with a width of not less than (20 cm).
 - b) The partition should cover the entire sector from wall to wall and from the floor to the ceiling tile.
 - c) Allow the presence of openings in fireproof barriers with the following conditions:
 - If the openings are covered with fire-proof doors and windows with the required degree (the same fire resistance of the other walls).
 - The openings for extensions should be limited to same space, so any space or gaps around the pipes must be filled/sealed with fire-proof materials.
8. Umbrellas/ tarpaulins must be made of non-flammable materials, with a height more than the height of the stack itself by at least one and a half meters to prevent the effect of weather conditions on the wood either to protect against direct sunlight or rainwater, in addition to protect the wood from external hazards. The difference in height between the Umbrella and the stack helps maintaining a proper ventilation of the wood.



9. Wastes such as leaves, tree leaves or contaminated fabrics with oils must be removed since they might grow in the area as they are considered as a source to transfer fire from one place to another and are considered as a cause of the fire because of its low degree of ignition to the extent that it can result in self-ignition if they are present.

Article (19): Lighting and electrical extensions:

1. The lighting must be electric using incandescent light bulbs and never use flame-type lamps, lamps suspended at the end of a wire are not allowed too. Lights must be glass enclosed and the electrical installations should be within insulating tubes. The installations should contain a general breaker used after the end of work shift in addition to the sub-breakers for different sections. All electrical installations must be of the safe types, comply with technical specifications issued by SASO, and the installations works and periodic maintenance must be carried out by a specialized technical body.
2. A special breaker must be dedicated for the fire pump and fire detectors to ensure the continuation of power of the mentioned equipment during power outage of the warehouse in case of fire or after the end of the working shift of the warehouse.

Article (20): Firefighting equipment:

1. Fire water sources: The necessary water source must be provided for firefighting works, with the installation of one or more water tanks equipped with pressure machines to supply the fire network with sufficient water with a pressure of (5) bar in order to supply the fire hydrants and hose reels connections and the automatic fire system.



2. Movable hose reels: metal reels with a rubber hose around each of them, hose length between (20–30) meters and a diameter of (1–1.5) inches. The hose end is connected to a pressurized water source and the other end is equipped with a metal nozzle that discharges/throw water so that the workers on site can easily use it. One hose reel must be dedicated for each (300M²) of the site.
3. Fire Hydrants:
 - a) Fire hydrants outlets, of the type and diameter used by the Civil Defense Centers, must be installed on the fire water pipes network and must be supplied with a suitable pressure meter. The numbers and locations of hydrants are determined according to the area and location of the warehouse after reviewing Civil Defense opinion. Fire hydrants with two outlets must be installed near each entry or exit door, with a cabinet near each hydrant, the cabinet is equipped with a fire hose with a length of (30) meters per hose and a water ejector of the type mentioned so that fire brigades can use them. Hose connections that are exposed frosting must be protected by covering/wrapping them with an insulating material.
 - b) A suitable water source must be provided to supply the fire hydrates network described in the previous item.
 - c) Fire extensions are painted in a distinctive color, red color is preferable.
 - d) The fire network is tested periodically every month to check its readiness and efficiency and the convenient of water pressure.
4. The warehouse is equipped with the sufficient number of fire extinguishers, half of which are water-produce type, and the other half of the dry chemical powder (ABC) type with the rate of two fire extinguishers per (150 M²) , with weight of 6 kg each.



5. Automatic fire alarm and automatic fire suppression systems:
- a) The warehouse must be equipped with an automated fire detection system to detect fire as soon as it occurs by means of sensitive detectors that make up the system where the fire is automatically announced by means of audio and visual means connected to this system so that emergency measures and fire control can be taken. The presence of a control room is required for continuous monitoring, and in if it is not available the system must be linked to the nearest Civil Defense Center. The warehouse should be equipped with automatic fire suppression systems using water sprinkles. This is subject to Civil Defense safety officer assessment according to warehouse area, location and its exposure to dangers.
 - b) This system is implemented by a company accredited by the Civil Defense and under the supervision of the office that prepared the technical study.
 - c) The warehouse is equipped with communication mean (phone service) to speed the arrival of the fire brigades and emergency services, and making signs with Civil Defense number (998) to report any fire incident.

