

MINISTRY OF INTERNAL AFFAIRS

2948

Pursuant to Article 53 (2) of the Fire Protection Act (Official Gazette 58/93, 33/05 and 107/07), the Minister of the Interior, in agreement with the Minister of Environment, Physical Planning and Construction, issues

REGULATIONS

ON FIRE PROTECTION IN WAREHOUSES

Article 1.

This Ordinance lays down the minimum requirements to be fulfilled in order to protect a warehouse from fire and explosion.

Warehouses, within the meaning of this Ordinance, are: buildings or spaces within the structure of other purposes for storing fuel goods or non-combustible goods in fuel containers, with the possibility of assembling goods without finishing.

The provisions of this Ordinance shall not apply to:

- explosive storage facilities,
- flammable liquids and gases storage facilities , - hazardous material storage facilities (radioactive, poisons and other),
- container storage,
- floor-to-roof or cross-storey structures of up to 300 m³.
- warehousing and sales premises in which customers enter (shopping centers, etc.).

The fire protection measures in the warehouses referred to in paragraph 3 of this Article shall be determined in accordance with Croatian regulations, and if they do not exist according to recognized rules of technical practice. Terms in the field of fire protection used in this Regulation are defined in the Croatian standard HRN EN ISO 13943 - Dictionary of fire protection.

Article 2

Warehouses to the surface divided into:

- small warehouses - surface fire sector up to 1000 m²,
- medium warehouses - surface fire sector over 1000-3000 m²
- large warehouses - surface fire sector over 3000-6000 m²
- warehouse area of the fire sector over 6000 m².

Article 3

Warehouses are divided according to the method of storage of goods into:

- classical warehouses (with stored goods up to a height of 9 m),
- high-bay warehouses (with stored goods above a height of 9 m),
- silos,
- cold stores.

Article 4

The warehouse must be a separate fire department and as a rule covers at most one floor.

By way of derogation from paragraph 1 of this Article, the fire storage sector may cover up to two floors (ground floor and floor below or above ground floor), provided that the total floor area of both floors does not exceed 6000 m².

The fire storage sector may belong to the storage room with a sanitary unit with a total area of up to 20 m².

In warehouses with an area of more than 300 m², the goods are stored (stacked) individually in an area of not more than 150 m² with a minimum spacing of at least 2.4 m.

Goods must not be stored above evacuation routes.

Article 5

The fire resistance of the structural elements of the warehouse shall be determined in accordance with the provisions of this Ordinance.

By way of derogation from paragraph 1 of this Article, the required degree of fire resistance may also be determined in accordance with the relevant Eurocod Croatian standards.

The storage space located in another purpose facility must be separated from that purpose (or that part of the facility) by a firewall with a minimum fire resistance of at least 90 minutes. The design of the firewall must comply with recognized rules of technical practice.

The fire resistance of building elements at the border of fire sectors and load-bearing building elements of different purpose warehouses, which are considered to be part of one technological unit, or are fire sectors of smaller warehouses, should be at least 30 minutes when separating spaces with low fire load, 60 minutes at separation of space with medium fire load or 90 minutes when separating space with high fire load.

The load-bearing structure of a freestanding storage facility shall meet a minimum fire resistance of 30 minutes, while at the boundaries of the fire compartments, the minimum fire resistance prescribed by the provisions of paragraphs 1 and 3 of this Article.

If the storage space referred to in paragraph 3 of this Article is protected by an automatic sprinkler fire extinguishing system or other appropriate automatic fire extinguishing system, there is no requirement for fire resistance of the load-bearing structure for all warehouses up to 6000 m².

If the warehouse is within the structure of another building for which a higher degree of fire resistance is prescribed, the fire resistance of the structural elements of that warehouse must be at least the same as that of the building itself.

If the load-bearing structure of the warehouse is steel and is not protected by fire, it must be demonstrated that at a temperature of 500oC no deformation of the structure will occur which would cause damage affecting the fire resistance and stability of the structure at the boundary of the fire sectors through which the steel structure passes. Above evacuation routes must not be materials which, by burning, dripping or otherwise compromising safe evacuation.

Article 6

Doors, like all other openings in structures at the boundary of the storage fire department, must have the same fire resistance as the structure in which the doors or openings are located.

Article 7

The warehouses prescribed by the provisions of this Ordinance shall be protected by internal and external hydrant networks (silos and cold stores only by external) and fire extinguishers.

Warehouses must also meet the requirements laid down in Table 1.

TABLE 1

O - smoke and heat extraction system

V - fire alarm system

S - sprinkler or other suitable automatic fire extinguishing system

Fire load up to 1 GJ / m²

	A small warehouse	Medium warehouse	Large warehouse
Classic warehouse		O or V, or S	O and V, or S
new high	WITH	WITH	O and S
Fire load above 1 GJ / m² to 2 GJ / m²			
	A small warehouse	Medium warehouse	Large warehouse
Classic warehouse	O and V, or S	O and V, or S	O and S
new high	WITH	O and S	O and S
Fire load above 2 GJ / m²			
	A small warehouse	Medium warehouse	Large warehouse
Classic warehouse	O and V, or S	O and S	O and S
new high	O and S	O and S	O and S

A stable sprinkler system or other suitable automatic fire extinguishing system must transmit the firing signal to the on-call location.

If smoke and heat exhaust systems and a stable fire extinguisher are installed, their activation must be carried out in accordance with the special regulations for stable fire extinguishing systems.

Storage with a fire area greater than 6000 m² (exceptionally permitted as a stand-alone building) must be protected by internal and external hydrant network, fire extinguishers, stable fire alarm system and stable sprinkler extinguishing system or other appropriate automatic extinguishing system. fire and the minimum fire resistance of all load-bearing structural members shall be 30 minutes.

If the material is to be stored where the fire cannot be extinguished with water, other suitable extinguishing systems should be used instead of a stable sprinkler system and a hydrant network.

For silos that store material prone to self-ignition, it is necessary to provide temperature monitoring and alarm, regardless of capacity.

Article 8

Warehouses of a fire sector up to 300 m² or a fire load up to 1000 MJ / m² must have at least one outlet to an outside or other safe space.

Warehouses of a fire sector area greater than 300 m² or a fire load greater than 1000 MJ / m² must have at least two exits spaced at least half diagonal of the fire sector into an external or other safe space.

The provisions of paragraphs 1 and 2 of this Article for double storey warehouses shall apply to each storey floor. Exits and escape routes must be arranged in such a way that the distance to the exit from any point of the storage area does not exceed 40 m (with protection by a stable sprinkler system or other suitable automatic fire extinguishing system 60 m).

The doors on the escape route must be at least 0.8 m wide, they must be swiveled so that they open outwards and must not have a threshold.

If the door on an evacuation route is more than 1.25 m wide, a swing door must be made to meet the

requirements of paragraph 5 of this Article.

Door locks located on escape routes must allow the door to be opened from the inside without the use of a key or tool.

Doors on escape routes leading directly to the outside (free) space must be of non-combustible material.

The evacuation route must be at least 80 cm wide, always free and uncluttered.

Evacuation routes must be marked with signs on the floor of the warehouse and followed by appropriate signs in conspicuous places that clearly point towards the exit of the building. The color and size of the characters must be in accordance with Croatian standards.

Storage in basements must have at least one of the exits directly to the exterior.

Article 9

Access to fire fighting equipment must be provided to the storage areas on the side where the openings are, or at least:

- for small warehouses on one side,
- for medium and large on two sides,
- for high-bay, silos and warehouses over 6000 m² on three sides.

Article 10

At points of passage through structural elements at the boundary of the fire compartments, openings for the passage of installations must be sealed with a material of the same fire resistance as the boundary structural element.

Article 11

With each input / output from the warehouse, a switch must be installed on the outside to switch off the electricity in the warehouse.

Article 12

Warehouses must be provided with anti-theft lighting, and the lighting fixtures must be arranged and positioned so that they can be safely evacuated from the storage area.

The lighting referred to in paragraph 1 of this Article shall be switched on automatically in the event of a power failure and shall provide illumination for at least 1 hour.

Article 13

The distance of stored goods from all luminaires must be at least 0.5 m.

All luminaires must be fitted with a protective armature, which will protect the luminaire from mechanical damage.

The distance of stored goods from electrical cabinets, wall cabinets and manifolds must be at least 1 m.

Article 14

If the warehouse is protected by a fire alarm system or an automatic fire extinguishing system, those systems must control the shutdown and shutdown of the automatic means of transport so that no evacuation or firefighting intervention is prevented.

Article 15

In premises where there is a danger of creating an explosive atmosphere, special regulations governing the area of explosion protection shall apply.

Article 16

Storage buildings or structures comprising warehouses must be protected by a lightning protection system on buildings, with appropriate levels of protection in accordance with a special regulation.

Article 17

The distance of the stored goods from the elements of the fire alarm and extinguishing system must be such that the function of the system is not compromised.

Article 18

Warehouses can only be heated by electrical appliances without open filaments, hot water heating systems or hot air blowing, provided that hot water or air preparation is carried out outside the storage fire department.

The medium must not reach a temperature of 10 ° C lower than the self-ignition temperature of the stored goods having the lowest self-ignition temperature.

Article 19

Charging of forklifts and / or other means of transport with propellant (except for dry batteries) is not allowed in the storage area of the fire department.

Article 20

Smoking and the use of open flames are prohibited in warehouses, which must be appropriately labeled.

Article 21

Vacuum cleaners and appliances must be equipped with temperature control and time delay and must be located outside the storage and transport space.

After packing the goods with vacuum film, infrared control must be carried out so that any existing grilled areas may not be brought into the storage area.

Article 22

Prior to changing storage conditions due to increased storage and shelf heights, changing fire load in the storage area and changing the combustibility of stored goods, packaging materials and storage aids, as well as prior to construction and technical changes to buildings or appliances, appropriate procedures must be carried out by the competent authority. zoning and construction bodies.

TRANSITIONAL AND FINAL PROVISIONS

Article 23

Warehouses constructed in accordance with the regulations on physical planning and construction, unless the changes referred to in Article 22 of this Ordinance have occurred, or the construction process has commenced before the entry into force of this Ordinance, except the provisions of Article 4, paragraphs 4 and 5, Article 7, paragraphs 3 and 7, Article 8, paragraphs 7 and 10, Articles 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 and 21 of this Ordinance.

The warehouses referred to in paragraph 1 of this Article shall comply with the provisions of Article 4, paragraphs 4 and 5, Article 7, paragraphs 3 and 7, Article 8, paragraphs 7 and 10, Article 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 and 21 of this Ordinance within one year from the date of entry into force of this Ordinance.

Warehouses referred to in paragraph 1 of this Article, pending their alignment with the provisions referred to in paragraph 2 of this Ordinance, shall be subject to the provisions of the Ordinance on technical standards for the protection of warehouses against fire and explosion.

Article 24

With the entry into force of this Ordinance, the Ordinance on the Technical Standards for the Protection of Storage Against Fire and Explosion (Official Gazette No. 24/87) shall cease to apply, except in the case referred to in Article 23 of this Ordinance.

Article 25

This Ordinance shall enter into force on the eighth day after its publication in the Official Gazette.

Zagreb, 29 July 2008

Minister
Berislav Roncevic, mp