In accordance with Art. 2 paragraph (2) and (3) of the Regulation regarding the regulatory activity in constructions and the related categories of expenses, approved by the Government Decision no. 203/2003 for the approval of the Regulation regarding the regulatory activity in constructions and the related categories of expenses, as subsequently amended and supplemented,
pursuant to the provisions of art. 10 of Law no. 10/1995 regarding the quality in constructions, republished, as subsequently amended and supplemented,

having regard to the minutes of the approval no. 1 of 18.09.2018 of the specialized Technical Committee no. 10 - Installations and
functioning of the Ministry of Regional Development and Public Administration, as subsequently amended,

the deputy prime minister, the minister of regional development and public administration, issues this order.

Article I. -

Technical regulation "Normative regarding fire safety of constructions, Part II - Extinguishing installations", indicative P 118 / 2-2013, approved by the Order of the Deputy Prime Minister, the Minister of Regional Development and Public Administration, no. 2.463 / 2013, published in the Official Gazette of Romania, Part I, no. 595 and 595 bis of September 24, 2013, are amended and supplemented, as follows:

1. Point 4.1 is amended and shall have the following content:

"4.1.

(1) The technical equipment with internal fire hydrants is performed at:

a) closed buildings of categories of exceptional importance A or special B;

b) tall buildings;

c) very high buildings;

d) buildings with crowded rooms;

e) educational or cultural buildings, if one of the following conditions is met:

(i) have a maximum simultaneous capacity of more than 200 persons;

(ii) have a built area greater than $600 \text{ m}^2$ and more than 2 (two) above ground levels;

(iii) have a built area greater than $600 \text{ m}^2$ and more than 3 (three) above ground levels;

f) health buildings / for the supervision, care or accommodation / shelter of preschool children, the elderly, persons with disabilities or homelessness, if one of the following conditions is fulfilled:

(i) have a maximum simultaneous capacity of more than 50 persons;
(ii) have a volume greater than 2000 m$^3$;

h) buildings and spaces (one or more rooms, including their common movements) for trade with an area of more than 600 m$^2$;

i) administrative or religious buildings, if one of the following conditions is met:

(i) have a maximum simultaneous capacity of more than 200 persons;

(ii) have a built area greater than 600 m$^2$ and more than 3 (three) above ground levels;

j) sports buildings in which more than 200 people can be simultaneously;

k) buildings and spaces (one or more rooms, including their common movements) for production and / or storage with an area of more than 600 m$^2$ and a high or very high risk of fire;

l) buildings and spaces (one or more rooms, including their common movements) underground, except housing, having an area of more than 300 m$^2$;

m) civil buildings, except the dwellings and those mentioned in letter a) -l), having the built area greater than 600 m$^2$ and more than 3 (three) above ground levels;

n) closed underground parking lots, if one of the following conditions is met:

(i) have more than 10 cars;

(ii) have more than 2 (two) levels;

(ii) have more than 2 (two) levels;

p) underground parking lots according to the provisions of the specific technical regulation in force.

(2) In order to equip with internal fire hydrants, for buildings with mixed functions, the civil or production and / or storage function shall be established. "

2. **Point 4.14** is amended and will have the following content:
4.14. The fire hydrant valve, together with the service equipment made up of the hose, the drum with its support and the water discharge devices, is mounted in a box, located in a niche or in a wall in the masonry, at a height of 0.80 m-1, 50 m measured from the floor to the top of the box.

3. **Point 4.27** is amended and will have the following content:

4.27. Indoor networks that supply more than 8 fire hydrants per level are designed ring. In the distributor of the water supply network, a pipe with Dn100 mm is provided with a shut-off valve, two direction valves and two fixed connections having Storz coupling with a diameter of 65 mm for supply from mobile fire pumps.

4. **Points 4.29** and **4.30** are amended and shall have the following content:

4.29. The valves on the annular networks are sealed in the "normally open" position, unless remote actuators are provided.

4.30. The water supply of the internal hydrants is provided at the required pressures mentioned in SR EN 671-1 or SR EN 671-2, taking into account the minimum pressures indicated by the manufacturer, necessary to ensure the hydrant flow.

5. **Point 4.32** is amended and will have the following content:

4.32. Installations with internal fire hydrants shall be designed and executed so that they can be operated operatively at the outbreak of fire. Remote electric actuation is permitted for pump starting and valve operation.

- **a)** 120 minutes for very tall buildings;
- **b)** 60 minutes for closed buildings of exceptional and special importance, high buildings, buildings with crowded rooms, underground parking spaces with four levels or more;
- **c)** 30 minutes at underground parking lots in categories P1 and P2, defined according to the specific technical regulations, which are not equipped with sprinkler extinguishing systems, closed underground parking spaces with more than 10 cars or over 2 (two) levels, parking
lots open spaces with more than 2 (two) levels or more than 50 cars production and / or storage buildings that are not equipped with sprinkler extinguishing systems;

d) 10 minutes for the other categories of constructions equipped with indoor hydrants."

7. In paragraph 4.36, paragraph 1 is amended and shall have the following content:

" 4.36.

(1) The number of indoor fire hydrants shall be determined taking into account the number of simultaneous running jets, the length of the hydrant hose, the constructive configuration and the length of access lanes between machinery, furniture, aggregates or stored materials."

8. Point 4.37 is amended and will have the following content:

" 4.37.

(1) Each point inside the building must be protected by at least one jet.

(2) By exception from par. (1), it is ensured the protection of each point with at least two jets in simultaneous operation in the following situations:

a) rooms or groups of rooms with high and very high risk, as well as with high stacks (over 6 m high), which have a volume of more than 5,000 m³;

b) in high and very high (public) civil buildings;

c) the warehouses and the annexed workshops).

(3) For the buildings (rooms and spaces) mentioned in annex no. 3, equipped with automatic extinguishing systems, ensures the protection with a single jet, except for very high buildings where each point of the building is reached by at least two simultaneous jets. The sizing of the indoor hydrants installation is done after the destination and the characteristics of the protected building. Exceptions are the situations in the specific regulations where it is foreseen the
extinction with several jets, regardless of the equipment with automatic extinguishing systems."

9. **Point 4.38** is amended and will have the following content:

"4.38.

(1) The minimum flow rates of the compact and sprayed jet depending on the diameters of the discharge nozzles or equivalent diameters, at different available water pressures in the outlet sections of the hydrant tap, for the internal fire hydrants, equipped with semi-rigid hoses, are given in the annex no. 4, and for interior fire hydrants equipped with flat hoses, in annex no. 5.

(2) The pressure value in the hydrant valve section shall also be verified in the performance declaration, so as to ensure the minimum flow values."

10. In point 4.47, letter c) is amended and shall have the following content:

"c) from the public network, if the water company certifies in writing the operation of the network at the flow and pressure necessary for the functioning of the fire extinguishing system."

11. In point 5.2, letter d), a new letter, letter e) is inserted, with the following content:

"e) collective dwellings with more than 5 (five) levels above ground level."

12. **Point 5.8** is amended and will have the following content:

"5.8. An independent dry column is installed for each staircase of the building.

This pipeline must pass through accessible places from the basement or ground floor, without crossing electrical cable tunnels, sanitary facilities or the elevator gap."

13. In paragraph 6.1, paragraphs 1 and 4 are amended and shall have the following content:

"6.1.

(1) The water distribution networks in the populated centers (localities) must be equipped with external hydrants, which must
ensure the conditions of flow and pressure necessary to extinguish the fires, according to the provisions of the present normative and the other technical regulations regarding the water supply installations and sewerage of localities, as appropriate.

(4) The technical equipment with external hydrants is made at:

- **a)** closed buildings of categories of exceptional importance A or special B;
- **b)** tall buildings;
- **c)** very high buildings;
- **d)** buildings with crowded rooms;
- **e)** health buildings / for the supervision, care or accommodation / shelter of the preschool children, the elderly, the disabled or homeless, if one of the following conditions is fulfilled:
  - **i)** have a maximum simultaneous capacity of more than 100 persons;
  - **ii)** have more than 2 (two) levels and the built area greater than 600 m²;
- **f)** cultural or educational buildings, if one of the following conditions is met:
  - **i)** have a maximum simultaneous capacity of more than 200 persons;
  - **ii)** have more than 2 (two) levels above ground and the built area greater than 600 m²;
- **g)** sports buildings in which more than 300 people can be simultaneously;
- **h)** building trade, with an area greater than or equal carried 1,250 m²;
- **i)** administrative or religious buildings, if one of the following conditions is met:
  - **i)** have a maximum simultaneous capacity of more than 200 persons;
  - **ii)** have more than 3 (three) above ground levels and the built area over 600 m²;
- **j)** buildings for tourism, as well as those for the accommodation of students, students, athletes, if one of the following conditions is met:
(i) have more than 100 accommodation places;

(ii) with the built area greater than 600 m² and more than 3 (three) above ground levels;

(k) mountain or Danube Delta buildings, with capacities greater than 150 accommodation places and more than 4 (four) above ground levels;

(l) production and/or storage buildings, with a high or very high risk of fire and the volume over 3,000 m³;

(m) storages materials or fuels with built area of more than 1,200 m²;

(n) underground parking lots, according to the specific regulations;

(o) closed underground parking lots, if one of the following conditions is met:

(i) have more than 10 cars;

(ii) have more than 2 (two) levels;

(p) open underground parking lots if one of the following conditions is met:

(i) have more than 50 cars;

(ii) have more than 2 (two) levels;

(q) underground civilian buildings, with the exception of dwellings, having an area of more than 800 m²;

(r) civil buildings, with the exception of dwellings, with a volume

or storage shall be established."

14. In paragraph 6.2, a new paragraph, paragraph 3, is inserted after paragraph 2, with the following content:

"(3) The water supply networks of the condominiums with more than 20 individual units, defined according to the law of the housing, which are not connected to the water supply networks of the localities, are provided with external fire hydrants."

15. Point 6.6 is amended and will have the following content:
"6.6. For networks whose pressure cannot ensure direct intervention, the equipment, accessories and intervention material are kept at the private / voluntary service for emergencies, where these services are set up, so that they can be used in case of fire."

16. In point 6.19, letter a) is amended and shall have the following content:

"a) 120 minutes for buildings of normal importance category and with level of fire stability III, IV or V: civil buildings, production and/or storage buildings and buildings with mixed functions;".

17. In paragraph 6.25, paragraph 2 is amended and shall have the following content:

"(2) The placement of external fire hydrants in localities shall be ensured according to the specific technical regulations."

18. **Point 6.36** is amended and will have the following content:

"6.36. The hydraulic calculation for sizing and determining the total water load losses, in the pipelines of branched networks, is performed first for the main (most unfavorable) route, determining the necessary hydrodynamic load of the cold water at the connection point of the external network at the service pipe of the local water supply system, \(H_{nc}\text{ [mH}_2\text{O]}\), and the branches are dimensioned within the limits of the available loads from the respective nodes of the main route. Excess loads can be taken up by adjusting valves or calibrated diaphragms, properly sized."

19. In paragraph 6.40, after paragraph 1, a new paragraph, paragraph 2 is inserted, with the following content:

"(2) The water flows for extinguishing fires from the outside in the agrozootechnical constructions are:

a) 5 l/s for constructions with level I and II of fire stability, as well as for constructions with level III-V of fire stability with a volume of less than 1,000 m\(^3\) each;

b) 10 l/s for buildings with level III-V of fire stability, with a volume of over 1,000 m\(^3\) each."

20. **Point 7.1** is amended and will have the following content:

"7.1.

(1) The technical equipment with automatic fire extinguishing systems, sprinkler type, is provided at:
a) civil buildings closed in the categories of exceptional importance A or especially B, having a thermal load density greater than or equal to 420 MJ / m$^2$;

b) tall buildings, except for dwellings;

c) very high buildings, except for dwellings;

d) closed filming platforms, television studios and scenes set up in closed constructions, with areas larger than 150 m$^2$, including their pockets, warehouses and annexed workshops;

e) closed buildings or underground rooms for trade, with an area of more than 500 m$^2$ and a density of thermal load greater than or equal to 420 MJ / m$^2$;

f) closed buildings or underground rooms for trade, with an area greater than or equal to 1,500 m$^2$ and a thermal load density greater than or equal to 840 MJ / m$^2$;

g) closed buildings or production rooms if the following conditions are met:

(i) have a high or very high risk of fire;

(ii) have a density of thermal load greater than or equal to 420 MJ / m$^2$;

(iii) have developed area of 2,000 m$^2$;

h) closed buildings or storage rooms, if the following conditions are fulfilled simultaneously:

(i) have a thermal load density greater than or equal to 840 MJ / m$^2$;

(ii) have an area of over 600 m$^2$;

i) underground parking lots according to the specific technical regulations;

j) closed underground parking lots, if one of the following conditions is met:

(i) have more than 50 cars;

(ii) have more than 3 (three) levels;

(iii) they are arranged in tall, very tall buildings or with crowded rooms, regardless of the number of cars;
k) other closed civil buildings, with the exception of dwellings, having a built area greater than 1,250 m² and a thermal load density greater than or equal to 840 MJ/m²;

l) spaces (one room or more rooms, including their common movements) with the destination of disco or club, with the area of more than 1,000 m².

(2) In the case of buildings with several fire compartments, the mode of equipping with automatic fire extinguishing systems, sprinkler type, shall be established for each fire compartment separately, except for tall and very tall buildings."

21. **Point 7.3** is amended and will have the following content:

"7.3. There is no provision for automatic sprinkler extinguishing systems in cases where fire extinguishing is provided with automatic extinguishing systems with other substances provided in the present technical regulation: gases, powders, foam, aerosols, steam, sprayed water, water mist, etc., as well as when the water is not indicated as extinguishing agent, situation in which automatic extinguishing systems with other substances provided in the norm are provided."

22. In **paragraph 7.26**, a new paragraph, paragraph 3, is inserted after **paragraph 2**, with the following content:

"(3) the maximum area controlled by a control valve and water-water signal must not exceed 3,720 m² in the case of using ESFR sprinklers with quick response."

23. **Points 7.60 - 7.62** are amended and shall have the following content:

"7.60. Wall sprinklers should not be located in areas of HH high fire hazard classes and storage areas in OH medium fire hazard classes or above suspended ceilings. They can only be installed under flat ceilings.

b) in the areas of OH3 fire hazard classes with storage risks;

c) for the protection of corridors, cable channels and pillars in areas of fire hazard classes HH."
7.62. Flat discharge sprinklers should only be used in enclosed spaces, above false suspended ceilings that are not full, such as perforated, lamellar, honeycomb or barbecue type and in shelves.

24. In tables 7.10-7.12, the phrase "Minimum values for calculating the density (intensity) of spraying" is replaced by the phrase "Minimum values for calculating the density (intensity) of extinguishing".

25. **Point 7.117** is amended and will have the following content:

"**7.117.** The pumping stations must be designed according to the recommendations of chapter 10 of SR EN 12845 or an equivalent regulation."

26. **Point 7.120** is amended and will have the following content:

"**7.120.** The pump powered by the diesel engine must be fully operational within 15 s of the start of each start-up procedure."

27. **Item 7.123** is amended and will have the following content:

"**7.123.**

(1) The control and signaling devices must comply with SR EN 12259-2 or SR EN 12259-3 or an equivalent regulation.

(2) The control and signaling devices (ACS), with the attached devices, shall be mounted in a room of its own, separated from the rest of the construction with fire-resistant elements, corresponding to the density of the thermal load in the adjacent rooms, but at least EI 180 for the walls and REI. 90 for floors or in another room with another destination, with a thermal load density of less than 420 MJ / m² times in the room of the fire pumping water station.

(3) The room must provide the necessary space for the operation and repair of the control and signaling devices, be heated and with direct access from the common circulation spaces, through a fire-resistant intended for firefighting, the control and signaling devices shall be mounted in a closed metal cabinet, with a door and a window, provided with a lock and security lighting for the interventions, not being obligatory. the conditions of separation and protection of the access gap provided in par. (2) and (3)."

28. **Item 7.168** is amended and will have the following content:

"**7.168.** The design of fast response sprinkler installations shall be carried out in accordance with the provisions of table 7.14a, 7.14b
and SR EN 12845.

29. **Item 7.170** is amended and will have the following content:

```
7.170. Quick-response sprinklers are not used in the following situations:

a) storage exhibited without performance of fire behavior, such as, for example, cloth rolls;

b) open fuel containers at the top;

c) usual products or storage for which the efficiency of this system has not been demonstrated by testing or other methods;

d) warehouses in which for the products or materials stored there is not known how to behave in case of fire or in contact with water;

e) storage of substances which present special risks: aerosols, flammable liquids, alcohols, as well as products in polypropylene or polystyrene packaging.
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30. In paragraph 7.172, **paragraph 2** is amended and shall have the following content:

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(2) If the construction of openings or openings cannot be avoided, the closing elements shall be provided with manually operated devices. The curtains for the openings or openings in the roof must be limited in height and so placed that the distance between the sprinkler heads respects the distances provided in table no. 7.17.
```

31. **Item 7.183** is amended and will have the following content:

```
7.183. Continuous obstacles located under the sprinkler head, such as sprinkler system pipes, utility pipes, or springs up to 0.3 m wide, located at a distance measured at least 0.6 m from the vertical of the head sprinkler, does not require additional protection, underneath, with other sprinklers. Additional sprinkler heads shall be provided under obstacles with widths greater than or greater than those mentioned above.
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32. In **point 8.31**, table 8.1 is amended and will have the following content:

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Table 8. 1 Design criteria for fire extinguishing systems with sprayed water, based on solid fuels

<table>
<thead>
<tr>
<th>Density of spray water designed</th>
<th>Operating time (min.)</th>
<th>Protected sl. (m² / flood)</th>
</tr>
</thead>
<tbody>
<tr>
<td>mm / min.</td>
<td>1 / sm²</td>
<td></td>
</tr>
</tbody>
</table>

Waste bunker:
- waste height ≤ 2 m;  
- height of waste > 2 m ≤ 3 m;  
- height of waste > 3 m ≤ 5 m;  
- height of waste > 5 m.

<table>
<thead>
<tr>
<th>Density</th>
<th>Operating time</th>
<th>Protected sl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.0</td>
<td>0.083</td>
<td>60 400</td>
</tr>
<tr>
<td>7.5</td>
<td>0.125</td>
<td></td>
</tr>
<tr>
<td>12.5</td>
<td>0.208</td>
<td></td>
</tr>
<tr>
<td>20.0</td>
<td>0.333</td>
<td></td>
</tr>
</tbody>
</table>

Expanded plastic:
- storage height ≤ 2 m;  
- storage height > 2 m ≤ 3 m;  
- storage height > 3 m ≤ 4 m;  
- storage height > 4 m.

<table>
<thead>
<tr>
<th>Density</th>
<th>Operating time</th>
<th>Protected sl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.0</td>
<td>0.166</td>
<td>60 150</td>
</tr>
<tr>
<td>15.0</td>
<td>0.250</td>
<td></td>
</tr>
<tr>
<td>22.5</td>
<td>0.375</td>
<td></td>
</tr>
<tr>
<td>30.0</td>
<td>0.500</td>
<td></td>
</tr>
</tbody>
</table>

33. **Point 9.21** is repealed.

34. In point 12.3, paragraph 2 is amended and shall have the following content:

"(2) The water supply solutions presented in point 12.2 paragraph may be adopted. (1) lit. a), b), c) and e) with the following conditions:

- **a)** the fire installation is connected directly to the water supply pipe if the water company certifies in writing the operation of the network water company does not provide the flow and pressure necessary for the operation of the fire extinguisher;

- **c)** storage tanks with reduced capacity and pumping station, if the water company certifies in writing the operation of the network at constant flow, but insufficient for the functioning of the fire extinguishing system;

- **d)** closed buffer tank and pumping station, if the water company certifies in writing the operation of the network, at constant flow and
pressure, but insufficient for the functioning of the fire extinguishing system and the solution is adopted according to chap. 9.5 of SR EN 12845."

35. **Point 12.4** is amended and will have the following content:

"**12.4.** The water supply required for firefighting can be kept in independent or shared storage tanks, which serve other consumers."

36. **Points 12.11 and 12.12** are amended and shall have the following content:

"**12.11.** For all tanks and basins located less than 1,000 m from construction, including the interior ones, it is possible to supply water directly from these mobile fire intervention pumps through Storz DN 100 connections. Except the tanks independent and the inner tanks, with a maximum capacity of 10 m³, and the tanks where the maximum suction height is not guaranteed.

**12.12.** The supply points of mobile fire pumps from tanks or external tanks, as well as the stationing points of the pumps are recommended to be located at least 10 m from buildings with a level of stability on fire I-II and 20 m from those located in the levels. III-V stability or open storage of combustible materials and liquids."

37. In paragraph 12.15, a new paragraph, paragraph 3, is inserted after paragraph 2, with the following content:

"**(3)** The fireplaces for direct water supply of mobile pumps in the event of fire constitute an alternative to the water supply of mobile pumps directly from tanks and basins through Storz DN 100 connections."

38. **Point 13.2** is amended and will have the following content:

"**13.2.** Electricity supply of pumps and fire valves is in accordance with Regulation I7."

39. In paragraph 13.3, paragraph 3 is repealed.

40. **Point 13.11** is amended and will have the following content:

"**13.11.** Automatic fire extinguishing systems (standard sprinklers or open sprinklers, sprayed water) have ensured the flow rates and pressures of extinguishing throughout the theoretical intervention time through pressure lifting stations."
41. In paragraph 13.14, paragraph 1 is amended and shall have the following content:


(1) The fire pumps are mounted so that the level of the water supply for the fire is higher than the upper part of the pump body (drowned pump). The connection pipes between the pump and the tank are not mounted above the water supply level for the fire. Except for the pumps provided with self-priming systems technically approved, which are mounted according to the manufacturer's instructions."

42. Point 13.19 is amended and will have the following content:

"13.19.

(1) When more than two pumps are mounted, for one or more networks, the provision of a suction pipe - type collector - provided with at least two sockets, calculated each for the whole theoretical flow rate in case of fire, is admitted. so that, in the event of a failure of the component elements, the operation of the installation at the designed parameters is ensured.

(2) For the pumps related to the automatic sprinkler extinguishing system, the installation schemes provided in SR EN 12845 shall be observed."

43. Points 13.21 - 13.23 shall be amended and shall have the following content:

"13.21. The water supply of the extinguishing installations from the intervention vehicles is performed according to the provisions of the regulations.

13.22. Fire water pumping stations may be installed in independent buildings or may be included in civil or production and / or storage buildings which are at risk of large, medium, small or attached fire.

(2) The pumping stations for the fire extinguisher arranged in constructions, which ensure an extinction rate greater than 4.2 l / s, are separated from the rest of the construction with elements of fire reaction class A1 or A2-s1d0, resistant to fire corresponding to the density of the thermal load (q) in the adjacent rooms, but minimum EI / REI 180 for walls and minimum REI 90 for floors.
(3) The water pumping station for extinguishing fires which ensures a flow rate greater than 4.2 l/s may communicate with the rest of the construction through a functional void protected by fire-resistant door EI 2 90-C3 or by room-buffer fitted with fire resistant doors EI 2 45-C3.

(4) Only the installations, devices and devices specific to this function can be fitted in the room of the fire extinguishing station which provides a flow rate greater than 4.2 l/s and shall have an external access path (door), directly from the outside or from a common circulation ladder.

(5) Water pumping stations for extinguishing fires which provide a flow rate equal to or less than 4.2 l/s shall be separated from the rest of the construction with elements of fire reaction class A1 or A2-s1d0, fire resistant according to the load density. thermal (q) from adjacent rooms, but minimum EI / REI 60 for walls and minimum REI 45 for floors. The station can communicate with the rest of the construction through a functional gap protected by fire resistant door EI 2 30-C3 without having to access the outside (direct door from the outside or from a common traffic ladder). The station may have access from a hallway / corridor directly connected to an escape staircase."

44. **Point 13.25** is amended and will have the following content:

"**13.25.** The rooms where the fire pumps are located are provided with direct telephone connection with the private / voluntary service for emergencies, set up according to the specific regulations, when the water flow for the fire extinguishing inside and outside is greater

the following content:

"a) if the installation has internal hydrants and external fire hydrants, it is considered - in civil constructions, as well as in the production and / or storage buildings that are equipped with automatic sprinkler fire extinguishing systems, of normal importance category - the operation indoor fire hydrants for 10 minutes and outdoor fire hydrants for the next 180 minutes;

.......

for underground parking lots in category P1 and P2, defined according to the specific technical regulations, which are not equipped with automatic sprinkler fire extinguishing systems, closed underground parking lots with more than 10 cars or over 2 (two) levels, parking lots open spaces with more than 2 (two) levels or more than 50 cars, production and / or storage buildings that are not equipped with automatic sprinkler fire extinguishing systems, in the first 30 minutes the operation of indoor fire hydrants is ensured, and in the next 180 minutes only the operation of the external fire hydrants is ensured."

47. **Paragraph 23.50** is amended and will have the following content:

"23.50.

(1) The connection to the electricity supply network of the aerosol generators with electric drive is compulsory in the following order:

- **a)** the wires are connected to the aerosol generator terminals;
- **b)** the wires are connected to the components of the fire extinguishing system;
- **c)** the wires are connected to the power source.

(2) Aerosol generators with thermal wires or fuses may have these devices assembled to the active unit."

48. **Point 23.51** is repealed.

49. **Point 24.32** is renumbered as point 24.31, is amended and shall have the following content:

"Vapor seals must be provided to prevent leakage of gases or vapors from the fixed-cap tanks into the air.

(2) These devices must be resistant to the action of vapors of stored product. When the foam system is actuated, these devices must be destroyed or easy to open.

(3) Vapor seals must comply with the requirements of EN 13565-1."

50. **Item 24.100** is amended and will have the following content:

"24,100. Pipes located in buildings and outside must be marked according to the fluid environment transported according to the
specific technical regulations."

51. **Point 26.1** is amended and will have the following content:

"**26.1.** The properties of steam as a fire extinguisher, the fire extinguishing mechanism of the fire and the recommended areas for steam extinguishing systems are presented in annex no. 27."

52. In point 28.3, **paragraph 1** is amended and shall have the following content:

"**28.3.**

(1) The **beneficiary** must realize, according to the art. 27.8, with an authorized natural or legal person, based on a program of checks and maintenance, at least semi-annually, checking the operation of the pressure facility, with the hose fully rolled, to ascertain whether:

a) there are no leaks, deformations, damage and cracks along the entire length of the hose; in the case of a defect, the hose is replaced immediately with another hose tested at maximum working pressure;

b) the fasteners are solid and undamaged;

c) the water flow is continuous and sufficient (it is recommended to use a flow meter and a manometer);

d) the scrolling system works easily;

e) the **pipe** is working properly."

53. **Point 28.12** is amended and will have the following content:

"**28.12.** The works included in the verification chart, current repairs and maintenance are performed by the beneficiary, under the conditions of point 27.8, by authorized natural or legal persons."

54. **Point 31.5** is amended and will have the following content:

"**31.5.** The works included in the verification chart, current repairs and maintenance are performed by the beneficiary, under the conditions of point 27.8, by authorized natural or legal persons."

55. **Point 31.38** is amended and will have the following content:

"**31.38.** The quality of the concentrated sparkling wine. The following must be kept to a minimum:

a) sediment;

b) viscosity;"
c) \( pH \);

d) surface tension;

e) display coefficient;

f) landfill and drainage."

56. **Point 31.40** is amended and will have the following content:

"**31.40.** Every three years from the date of acquisition of the sparkling wine, an extinction test is performed according to SR EN 1568 on a sample taken from the tank.""

57. **Point 32.5** is amended and will have the following content:

"**32.5.** The works included in the verification chart, current repairs and maintenance are performed by the beneficiary, under the conditions of point 27.8, by authorized natural or legal persons according to the provisions of Law no. 307/2006 regarding the defense against fires, as subsequently amended and supplemented.""

58. **Point 32.31** is amended and will have the following content:

"**32.31.** Check the condition of the powder stored in tanks: apparent density, particle size analysis, resistance to agglutination and agglomeration, hydrophobicity and water content.""

59. **Point 32.32** is amended and will have the following content:

"**32.32.** The parameters described in section 32.31 are determined according to the provisions of the standard SR EN 615, at an accredited laboratory.""

60. **Annex no. 3** is amended and will have the following content:

<table>
<thead>
<tr>
<th>Nr. crt.</th>
<th>The destination and characteristics of the protected building</th>
<th>Number of jets in simultaneous operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>- Administrative buildings, for tourism, worship, education, financial-banking and sports</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Train stations, buses and airports</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Spaces accessible to the public from the metro stations</td>
<td></td>
</tr>
</tbody>
</table>
### 1. Buildings with crowded rooms, except the crowded room
- Civil buildings with $A_c > 600 \text{ m}^2$ and more than 3 (three) above ground levels, with the exception of dwellings:
  a) with a volume of less than $25,000 \text{ m}^3$
  b) with a volume of $25,000 \text{ m}^3$ or greater

### 2. Buildings for commerce, culture, health and educational buildings that house preschool children

### 3. Garages, depots for trams and wagons for circulation on railways, underground or underground parking lots, underground buildings and spaces:
  a) with a volume of less than $5,000 \text{ m}^3$
  b) with a volume of $5,000 \text{ m}^3$ or greater

### 4. Agglomerated halls

### 5. Sports halls with a capacity of over 600 places:
  a) located in buildings with fire stability level I and II
  b) located in buildings with fire stability level III and IV

### 6. Tall buildings

### 7. Theaters, clubs and cultural houses, with scenery arranged:
  a) with less than 1,000 seats
  b) with 1,000 seats or more

### 8. Very high buildings:
  a) with a volume up to $50,000 \text{ m}^3$
  b) with a volume over $50,000 \text{ m}^3$

### NOTE 1:
The effective stroke of a jet must ensure, for the pressure of 2 bars,

- **c)** 3 meters for the conical spray jet.

### NOTE 2:
The flows mentioned in column 4 represent the cumulative value of the jets in simultaneous operation.

### NOTE 3:
When determining the number of jets in simultaneous operation, account will also be taken of the provisions of the technical
NOTE 4:

The cases when two jets in simultaneous operation must reach both points inside the rooms are expressly provided in the regulations and in the specific regulations."

61. Annex no. 6 is amended and will have the following content:

"ANNEX No. 6

Exit fire rate $q_{ie}$ [l/s] and the number of simultaneous fires for populated centers

<table>
<thead>
<tr>
<th>Number of inhabitants in the populated center (N)</th>
<th>Number of simultaneous fires (n)</th>
<th>$q_{ie}$ [l/s] buildings with 1...4 levels</th>
<th>$q_{ie}$ [l/s] buildings with more than 4 levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\leq 5,000$</td>
<td>1</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td>5,001...10,000</td>
<td>1</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>10,001...25,000</td>
<td>2</td>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>25,001...50,000</td>
<td>2</td>
<td>20</td>
<td>25</td>
</tr>
<tr>
<td>50,001...100,000</td>
<td>2</td>
<td>25</td>
<td>35</td>
</tr>
<tr>
<td>100,001...200,000</td>
<td>2</td>
<td>30</td>
<td>40</td>
</tr>
<tr>
<td>200,001...300,000</td>
<td>3</td>
<td>40</td>
<td>55</td>
</tr>
<tr>
<td>300,001...400,000</td>
<td>3</td>
<td>-</td>
<td>70</td>
</tr>
<tr>
<td>400,001...500,000</td>
<td>3</td>
<td>-</td>
<td>80</td>
</tr>
<tr>
<td>500,001...600,000</td>
<td>3</td>
<td>-</td>
<td>85</td>
</tr>
<tr>
<td>600,001...700,000</td>
<td>3</td>
<td>-</td>
<td>90</td>
</tr>
<tr>
<td>700,001...800,000</td>
<td>3</td>
<td>-</td>
<td>95</td>
</tr>
</tbody>
</table>

1. The values in annex no. 6 also applies to isolated neighborhoods, separated from the center populated by an unbuild area, wider than 300 m.

2. The flow rate for a fire ($q_{ie}$) and the number of simultaneous fires (n) for centers populated with over 1,000,000 inhabitants are determined on the basis of special studies."
“3. In order to determine the flows in buildings with several fire compartments, the flow shall be chosen for the compartment with the highest volume.”

63. Annex no. 8 is amended and will have the following content:

**ANNEX No. 8**

The water flow from the outside to extinguish a fire q ie the construction of storage

<table>
<thead>
<tr>
<th>The level of fire stability of the building</th>
<th>Fire risk</th>
<th>Water flow rate for extinguishing a volume of the fire compartment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>until 2000</td>
</tr>
<tr>
<td>I, II</td>
<td>Medium (medium) / category D fire hazard, small / category E fire hazard</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Very high / category A or B fire danger, high / category C danger of fire</td>
<td>5</td>
</tr>
<tr>
<td>III</td>
<td>Medium (medium) / category D fire hazard, small / category E fire hazard</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Large / category C fire hazard</td>
<td>5</td>
</tr>
<tr>
<td>IV, V</td>
<td>Medium (medium) / category D fire hazard, small / category E fire hazard</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Large / category C fire hazard</td>
<td>5</td>
</tr>
</tbody>
</table>

**REMARKS**

2. The values in brackets apply for constructions equipped with sprinkler extinguishing systems.”

64. Annex no. 9 is amended and will have the following content:

“ANNEX No. 9
**The water flow from the outside to extinguish a fire in buildings monobloc**

<table>
<thead>
<tr>
<th>Fire risk</th>
<th>Water flow for extinguishing a fire, ( l/s ) relative to fire compartment in ( m^3 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to 100,000</td>
<td>100001.</td>
</tr>
<tr>
<td>200000</td>
<td>300000</td>
</tr>
<tr>
<td>Very high / category A or B fire danger, high / C category fire danger</td>
<td>30 (20)</td>
</tr>
<tr>
<td>medium (medium) / category D fire danger</td>
<td>15 (10)</td>
</tr>
<tr>
<td>Small / Category E fire hazard</td>
<td>15 (10)</td>
</tr>
</tbody>
</table>

**REMARKS**

1. In order to determine the flow rates at the building divided into fire compartments, the water flow is calculated for the compartment with the highest volume.

2. The values in brackets apply for constructions equipped with sprinkler extinguishing systems.

**Article II.**

The contracts for the design services concluded until the date of entry into force of this order shall be concluded with the respect of the technical regulations in force at the date of their signature.

**Article III.**

This order is published in the Official Gazette of Romania, Part I.

Deputy Prime Minister, Minister of Regional Development and Public Administration,

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