SLOVENSKI STANDARD
SIST EN 12845:2005/oprA2:2008

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Vgrajene naprave za gašenje - Avtomatski sprinklerski sistemi - Projektiranje, vgradnja in vzdrževanje

Fixed firefighting systems - Automatic sprinkler systems - Design, installation and maintenance

Ortsfeste Brandbekämpfungsanlagen - Automatische Sprinkleranlagen - Planung, Installation und Instandhaltung

Installations fixes de lutte contre l'incendie - Systèmes d'extinction automatiques du type sprinkleur - Calcul, installation et maintenance

Ta slovenski standard je istoveten z: **EN 12845:2004/prA2**

ICS:

13.220.20	Poģarna zaģļ ita	Fire protection

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English Version

Fixed firefighting systems - Automatic sprinkler systems - Design, installation and maintenance

Installations fixes de lutte contre l'incendie - Systèmes d'extinction automatiques du type sprinkleur - Calcul, installation et maintenance

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This draft amendment is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 191.

This draft amendment A2, if approved, will modify the European Standard EN 12845:2004. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN 12845:2004/prA2:2008) has been prepared by Technical Committee CEN/TC 191 “Fixed firefighting systems”, the secretariat of which is held by BSI.

This document is currently submitted to the Unique Acceptance Procedure.

1 Modification to Clause 3, Terms and definitions

Delete term and definition 3.39.

Replace term and definition 3.40 with the following:

"life safety system
term applied to sprinkler systems forming an integral part of measures required for the protection of life, especially where evacuating the building depends on the performance of the sprinkler system and sprinklers are required expressly for life safety purposes".

Replace term and definition 3.43 with the following:

"Maximum Flow Demand Q_{max}
flow at the point of intersection of the pressure-flow demand characteristic of the most favourable area of operation and the water supply pressure-flow characteristic with the suction source at its normal level".

Renumber terms 3.39 up to 3.48 due to deletion of term 3.39.

Add a new term and definition 3.49:

"3.49
pressure maintenance pump (jockey pump)
small automatic pumpset used to replenish minor water loss and maintain system pressure".

2 Modification to Clause 4, Contract planning and documentation

Replace the text of 4.3 d) with the following:

"a statement that the estimate is based on the provision of a sprinkler system to this European Standard, based on available information.".

Replace the text of 4.4.2 k) with the following:

"a statement that the installation has been designed and will be installed in accordance with this European Standard or giving details of any deviations from its requirements and the reasons why, based on available information;".

3 Modification to 6.2.2, Ordinary Hazard - OH

Replace the title of Table 1 with the following:

"Maximum storage heights for OH3 protection".

Delete NOTE 2 of Table 1 and replace "NOTE 1" *with* "NOTE".

4 Modification to 7.2.3, Intermediate level in-rack sprinklers

Replace Table 4 with the following:

"

Storage configuration	Maximum permitted storage height (see NOTE 1) m				Design density mm/min	Area of operation (wet or pre-action system (see NOTE 2) m²
	Category I	Category II	Category III	Category IV		
ST1 Free standing or block stacking	5,3 6,5 7,6	4,1 5,0 5,9 6,7 7,5	2,9 3,5 4,1 4,7 5,2	1,6 2,0 2,3 2,7 3,0	7,5 10,0 12,5 15,0 17,5	260
			5,7 6,3 6,7 7,2	3,3 3,6 3,8 4,1 4,4	20,0 22,5 25,0 27,5 30,0	300
ST2 Post pallets in single rows ST4 Palletized racks	4,7 5,7 6,8	3,4 4,2 5,0 5,6 6,0	2,2 2,6 3,2 3,7 4,1	1,6 2,0 2,3 2,7 3,0	7,5 10,0 12,5 15,0 17,5	260
			4,4 4,8 5,3 5,6 6,0	3,3 3,6 3,8 4,1 4,4	20,0 22,5 25,0 27,5 30,0	300
ST3 Post pallets in multiple rows ST5 and ST6 Solid or slatted shelves	4,7 5,7	3,4 4,2 5,0	2,2 2,6 3,2	1,6 2,0 2,3 2,7 3,0	7,5 10,0 12,5 15,0 17,5	260

NOTE 1 The vertical distance from the floor to the sprinkler deflectors, minus 1 m, or the highest value shown in the table, whichever is the lower.

NOTE 2 Dry and alternate systems should be avoided on High Hazard storage especially with the more combustible products (the higher categories) and the higher storage. Should it nonetheless be necessary to install a dry or alternate system, the area of operation should be increased by 25 %.

".

5 Modification to Clause 8, Water supplies

Replace the first line of 8.5.1 with the following:

"A flow measuring facility shall be installed at each control valve set except in the following cases:".

Add the following paragraph after 8.5.1 b):

"If the flow measuring device is not permanently fitted, it shall be available on site at all times.".

Replace the first line of 8.5.2 with the following:

"At least one suitable flow and pressure measuring facility shall be permanently installed and shall be capable of checking each water supply.".

Add the following paragraph to the end of 8.5.2:

"If the testing apparatus is not permanently fitted, it shall be available on site at all times.".

Replace the third and fourth sentences of 8.6.2 with the following:

"The flow shall be verified in accordance with Clause 7. The supply pressure measured on the 'C' gauge shall be verified as being at least the appropriate value specified in Clause 7.".

6 Modification to Clause 9, Type of water supply

Add the following text to the end of 9.3.4 a):

". The failure of a single float valve shall not impair the required infill rate".

Replace the first sentence of 9.5.1 with the following:

"The pressure tank shall be reserved for the sprinkler system and/or the water spray system.".

Replace the first and last list items of 9.6.2 a) with the following: "

— each end shall be capable of satisfying the flow demands of the system;"

and "

— if only one end gives the required pressure, a single booster pump shall be installed. If both ends cannot give the required pressure, two or more booster pumps shall be installed.".

Replace the third list item of 9.6.2 b) with the following: "

— suitable clean (see 8.1.2) water shall be used;".

7 Modification to Clause 10, Pumps

Replace the first paragraph of 10.5 with the following:

"A stop valve shall be fitted in the pump suction pipe unless the maximum water level is lower than the pump. A non-return valve and a stop valve shall be fitted in the delivery pipe of each pump.".

Add the following paragraph after the first paragraph in 10.5:

"In the case of booster pumps a by-pass shall be installed around the pumps with a non-return valve and two stop valves all of the same diameter as the trunk main.".

Replace the second paragraph (now the third paragraph) in 10.5 to read:

"Any taper pipe fitted to the pump outlet shall expand in the direction of flow at an angle not exceeding 20°. Valves on the delivery side shall be fitted after any taper pipe.".

Replace the first paragraph of Clause 10.6.2.1 with the following:

"The pump suction shall be connected to a straight or taper pipe at least two diameters long. The taper pipe shall have a horizontal top side and a maximum included angle not exceeding 20°.".

Replace the second paragraph of 10.6.2.1 with the following:

"The suction piping, including all valves and fittings, shall be designed in such a way as to ensure that the available NPSH (calculated at the maximum anticipated water temperature) at the pump inlet exceeds the required NPSH by at least 1 m at the pump flow as shown in Table 14.".

Replace Table 14 with the following:

"

Pipework	Hazard Class	Rated pump flow	Pump inlet condition
Pre-calculated	LH/OH	Pressure and flow requirements from Table 6	For tanks, with water supply at low water level (see *X* in Figure 4). For booster pumps, with minimum town main pressure.
	HH	Pressure and 1,4 × flow required from Table 7	
Fully calculated	All	Maximum pressure and flow required for the most favourable area	

".

Add a new sub-clause 10.6.2.5: "

10.6.2.5 Pressure maintenance pump

A pressure maintenance pump may be installed to avoid starting one of the main pumps unnecessarily or to maintain the system pressure above control valve sets in the case of water supplies such as town mains with fluctuating pressure.

NOTE Some water authorities may not allow pressure maintenance pumps on systems with town main connections.

The pressure maintenance pump shall be sized and arranged in such a way that it is not capable of providing enough flow and pressure for a single open sprinkler and thus of preventing the main pump(s) from starting.

In the case of pressure maintenance pumps installed with negative suction, the suction piping and fittings shall be independent of those of the main pump(s).".

Replace the last sentence of 10.7.2 with the follwoing:

"In addition the pump shall be capable of supplying 140 % of this flow at a pressure of no less than 70 % of the pressure at the design pump flow (see Figure 7).".

Delete "(see Figure 7)" *from the end of the last sentence of the paragraph of 10.7.3.*

Delete the second sentence of 10.7.5.1.

Add the following sentence to the end of Clause 10.7.5.1:

"They shall be connected in such a way that either switch will start the pump.".

Replace "*P*" *with* "*p*" *in 10.7.5.2 (three times).*

Replace "AC-4" *with* "AC-3" *in 10.8.5.3 to read:*

"Contacts shall comply with utilisation category AC-3 of EN 60947-1 and EN 60947-4.".

Replace the text in 10.8.6.2 with the following:

"All monitored conditions shall be visually indicated individually in the pump room. Pump running and a fault alarm shall also be audibly and visually indicated at location permanently attended by responsible personnel.".

8 Modification to 11.4.1.1, Type A pre-action installation

Add the following text before the NOTE in 11.4.1.1:

"In the event of a fault in the fire detection system, the installation shall operate as an ordinary dry pipe system.".

9 Modification to 12.2, Maximum area of coverage per sprinkler

Add the following text in a row above Figure 8:

"Standard layout" *(above the Figure on the left of the page) and*

"Staggered layout" *(above the Figure on the right of the page).*

10 Modification to 13.2.3, Velocity

Replace the first list item of 13.2.3 with the following: "

— 6 m/s through any valve, flow monitoring device or/and strainer.".

11 Modification to 14.9, Corrosion protection of sprinklers

Replace the first paragraph of 14.9 with the following:

"Sprinklers installed in premises where corrosive vapours are prevalent shall be protected with a suitable corrosion resistant coating applied by the supplier in conformity with EN 12259-1 unless the sprinkler are manufactured from suitably corrosion resistant materials.".

12 Modification to Clause 15, Valves

Replace "brass plug" *in the last sentence of the second paragraph of 15.4 (before Table 39) with* "suitable plug" *to read:*

"The outlet shall be no more than 3 m above the floor and shall be fitted with a suitable plug.".

Replace the second paragraph of 15.6 with the following:

"Flushing connections shall be of the same size as the distribution pipe. For pipes bigger than DN 40 flushing connections of DN 40 may be used, if connected to the lower side of the distribution pipe. Flushing connections shall be fitted with a suitable plug.".

13 Modification to Clause 17, Pipework

Replace the first paragraph of 17.1.2 with the following:

"Piping downstream of control valves shall be steel, copper (see 17.1.10) or other material in accordance with appropriate specifications valid in the place of use of the system. When steel pipes with a nominal diameter equal to or less than 150 mm are threaded, cut-grooved or otherwise machined, they shall have a minimum wall thickness in accordance with ISO 65M. When steel pipe ends are formed without significantly reducing the wall thickness, e.g. by roll-grooving or pipe end preparation for welding, they shall have a minimum wall thickness in accordance with ISO 4200 range D.

When mechanical pipe joints are used, the minimum wall thickness shall also be in accordance with the manufacturer's recommendations.".

Add the following NOTE after the second paragraph of 17.1.8:

"NOTE In cold climates where severe freezing conditions are possible, it can be necessary to incorporate a slope on wet systems and to increase the slope for dry systems.".

Replace the first part of the paragraph (excluding the hyphens) of 17.2.2 with the following:

"Supports shall be spaced no more than 4 m apart on steel pipe and 2 m apart on copper pipe except in the case of pipes of over 50 mm diameter, in which case these distances may be increased by 50 % provided that one of the following conditions is met:".

14 Modification to Clause 19, Commissioning and acceptance tests and periodic inspection

Replace the title of Clause 19 with the following:

"Commisioning".