

Field sampling testing of sprinklers

(Revised 2024-01-01, latest document can be found on www.ri.se searching for "Funktionskontroll sprinkler")

Requirements in SS-EN 12845:2015+A1:2020

Annex K, "Twenty-five year inspection" of SS-EN 12845:2015+A1:2020, "Fixed firefighting systems - Automatic sprinkler systems - Design, installation and maintenance" require that an inspection of pipe and sprinklers shall be conducted after 25 years.

A number of sprinklers should be removed and tested to ensure that they are fully functional. Table K.1 of the standard specifies the scope of sampling as a function of the total number of sprinklers installed.

Total number of sprinklers installed	Number of sprinklers to be inspected
$\leq 5\ 000$	20
$\leq 10\ 000$	40
$\leq 20\ 000$	60
$\leq 30\ 000$	80
$\leq 40\ 000$	100

The sprinklers should be evaluated for the following:

- Operation.
- Operation temperature.
- Variation of K-factor.
- Spray obstacles.
- Lodgement.
- Thermal sensitivity.

Sampling

Our recommendation is that at least 20 sprinklers of each make and model present in the system section should be inspected to obtain a statistically valid basis for the judgement of the results. The sample should be representative and be random. If certain sprinklers have been subjected to specific environmental conditions within a section or space or if the position of the sprinklers in the facility should be documented, such information should be specifically noted on the form attached with the sprinklers.

What is tested?

A visual inspection of the sprinklers is made prior and after the tests and the conditions of the sprinklers are documented. The operation temperature is typically measured using four to six sprinklers and the Response Time Index (RTI), that describes the thermal sensitivity is tested using the remaining sprinklers. The parameters "Operation", "Spray obstacles" and "Lodgement" are determined during the RTI measurements. If judged needed, the K-factor is measured after the tests.

In order to facilitate testing and reporting a form should be filled in and be attached to the sprinklers, see additional pages.

The test report is written in English.

Prices (from 2024-01-01)

Our recommendation is that at least 20 sprinklers of each make and model present in the system section should be tested to obtain a statistically valid basis for the results.

Project including up to 20 sprinklers of the same make and model: **SEK 28 500 kr.**

Additional sprinklers of other makes and models in the same project: **SEK 700 kr per additional sprinkler.**

Example 1: Up to 20 sprinklers of the same make and model, SEK 28 500 kr.

Example 2: A project containing three different makes and models of 20 sprinklers each, i.e., 60 sprinklers. The cost is calculated as SEK 28 500 kr plus 40 sprinklers \times SEK 700 kr = totally SEK 56 500 kr.

For current form and prices, see www.ri.se and search for "Funktionskontroll sprinkler".

Field sampling testing – form (Revised 2024-01-01)

(One form per sprinkler section should be filled in and be attached to the sprinklers that are sent.)

General information:

Facility:
Address:
Date of sampling:
Year of installation:
Building /section:
Type of occupancy (office, garage, warehouse, sawmill, etc.):
Type of system (wet, dry, etc.):
Type of sprinkler:
No. of sprinklers
K-factor:
Nominal temperature rating [°C or °F]:
Additional information:

Sprinklers sent by:

Company name:
Contact person:
Address:
Country
Telephone number:
E-mail:

Invoice address (if other than given above):

Company name:
VAT:
Contact person:
Address:
Country:
Telephone number:
E-mail:

- Pack the sprinklers well such that they are not damaged by the transport.
- If samples have been taken from several sprinkler sections, they must be packed and marked so that the sprinklers cannot be confused.
- The tests are destructive, and the sprinklers are discarded after the tests unless otherwise agreed.

Date: Signature:

RISE notes

Date of arrival: Registration number:

Contact persons

Project engineers

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Delivery address

Send the sprinkler and the form to RISE at the following address:

RISE
Fire Research
Attn: Christoffer Rapp
Brinellgatan 4, Building 3C
SE-504 62 Borås
Sweden

If sent by postal (PostNord) package:

RISE
Brandskydd
Att: Mourhaf Jandali, telephone +46(0)70 338 57 10
Box 857
SE-501 15 Borås
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