Hydraulic Calculation of Fire Sprinkler Systems Inside of Revit MEP

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Class summary

This class shows the extension IDAT Sprinkler Tools for Revit to calculate a fire sprinkler system inside of Revit MEP.

We will see what additional parameters, such as minimum pressure and water density, must be set at the sprinkler to enable the performance of calculations.

The structure of the network has no limits (gridded and looped). The calculation is done with the Hazen-Williams formula according to the rules of the National Fire Protection Association, FM Global, VdS, and others.

The result can be displayed graphically inside of Revit and also printed in a table form.

Key learning objectives

At the end of this class, you will be able to:

- Design a sprinkler network in Revit software
- Define necessary parameters for the hydraulic calculation
- Perform the hydraulic calculation of sprinkler networks
- Optimize the sprinkler network

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- Managing Director of the company IDAT/Germany
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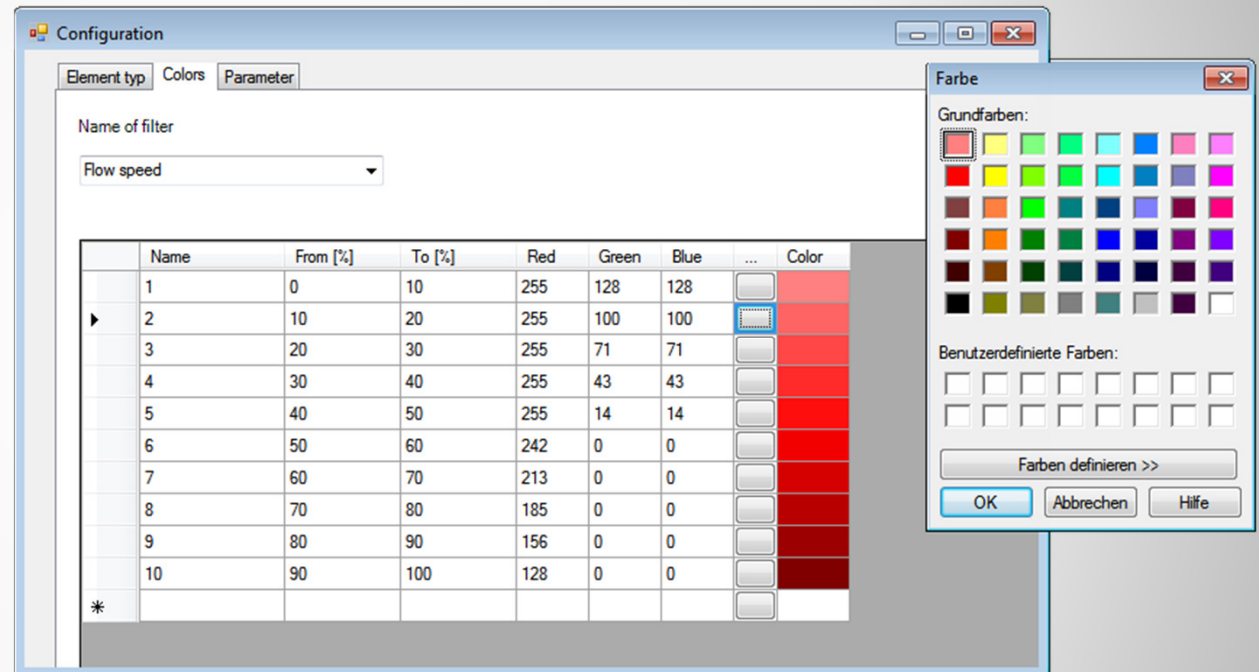
Define Sprinkler System in Revit

Demo

Configuration

- Mapping of the Families to the sprinklers, tees, elbows, valves etc.
- Name can be compared by Category or Family

Configuration

- Color code for graphical presentation:
  - Friction lost
  - Flow speed
  - Discharge

Configuration

- Mapping of the pipe and sprinkler parameter

Necessary parameter for the calculation

- Pipe:
  - C-Value
  - DN-Value

- Sprinkler:
  - K-Factor
  - Protection area [m2]
  - Water admision [mm/min]
  - Minimum pressure [Bar]

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Necessary parameter for the calculation

Demo

Calculation options

- Option can be set in project data:
  - Equivalent length table
  - Mode of operation
  - Active area
  - Calculation according Darcy-Weisbach formular

Calculation

Demo

Summary

The IDAT Sprinkler Tools can perform the calculation of a fire sprinkler system inside of Revit MEP.

Some additional parameters must be set at the sprinklers and pipes.

The structure of the network has no limits (gridded and looped).

The calculation can be done with the Hazen-Williams formula.

The result can be displayed graphically inside of Revit and also printed in a table form.

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Thank you!

At the begin of next month you can download a trial version of the IDAT Sprinkler Tools for Revit MEP:

www.idat.de

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