

The logo for VdS, consisting of the letters 'VdS' in white on a blue square background.

VdS

The tagline 'Vertrauen durch Sicherheit' in white text on a blue square background.

Vertrauen
durch
Sicherheit

A close-up photograph of a water mist spray, showing fine droplets of water being emitted from a nozzle. The background is dark, making the white mist stand out.

Fire Protection by Water Mist Systems

The view of VdS

VdS 3188 Guideline for Planning and Installation

Stefan Kratzmeir

Head of Product Management, VdS Schadenverhuetung (Germany)

Sprinkler Systems

Brand- gefahren- klasse	Mindestwasser- beaufschlagung mm/min	Wirkfläche m ²	
		Naß- oder vor- gesteuerte Anlage	Trocken- oder Naß- Trockenanlage
LH	2,25	84	Auslegung nach OH1
OH1	5,0	72	90
OH2	5,0	144	180
OH3	5,0	216	270
OH4	5,0	360	Auslegung nach HHP1
HHP1	7,5	260	325
HHP2	10,0	260	325
HHP3	12,5	260	325
HHP4		nicht zulässig	nicht zulässig

Brandgefahren- klasse	Maximale Schutzfläche je Sprinkler m ²	Maximale Abstände in Bild 11.01			
		Normal-Sprinkler- anordnung		Versetzte Sprinkler- anordnung	
		S	D	S	D
		m	m	m	m
LH	21,0	4,6	4,6	4,6	4,6
OH	12,0	4,0	4,0	4,6	4,0
HHP und HHS	9,0	3,7	3,7	3,7	3,7

Tabelle 11.01: Maximale Schutzfläche und Abstände für Sprinkler außer Seitenwandsprinklern

Water Mist Systems

Risk:

Application Rate
(Pressure / Flow):

Nozzle Spacing:

Special Restrictions:

Product Specific
Planning &
Installation Guideline

Hydraulic Area:


Other Requirements:

VdS CEA 4001
VdS 2109

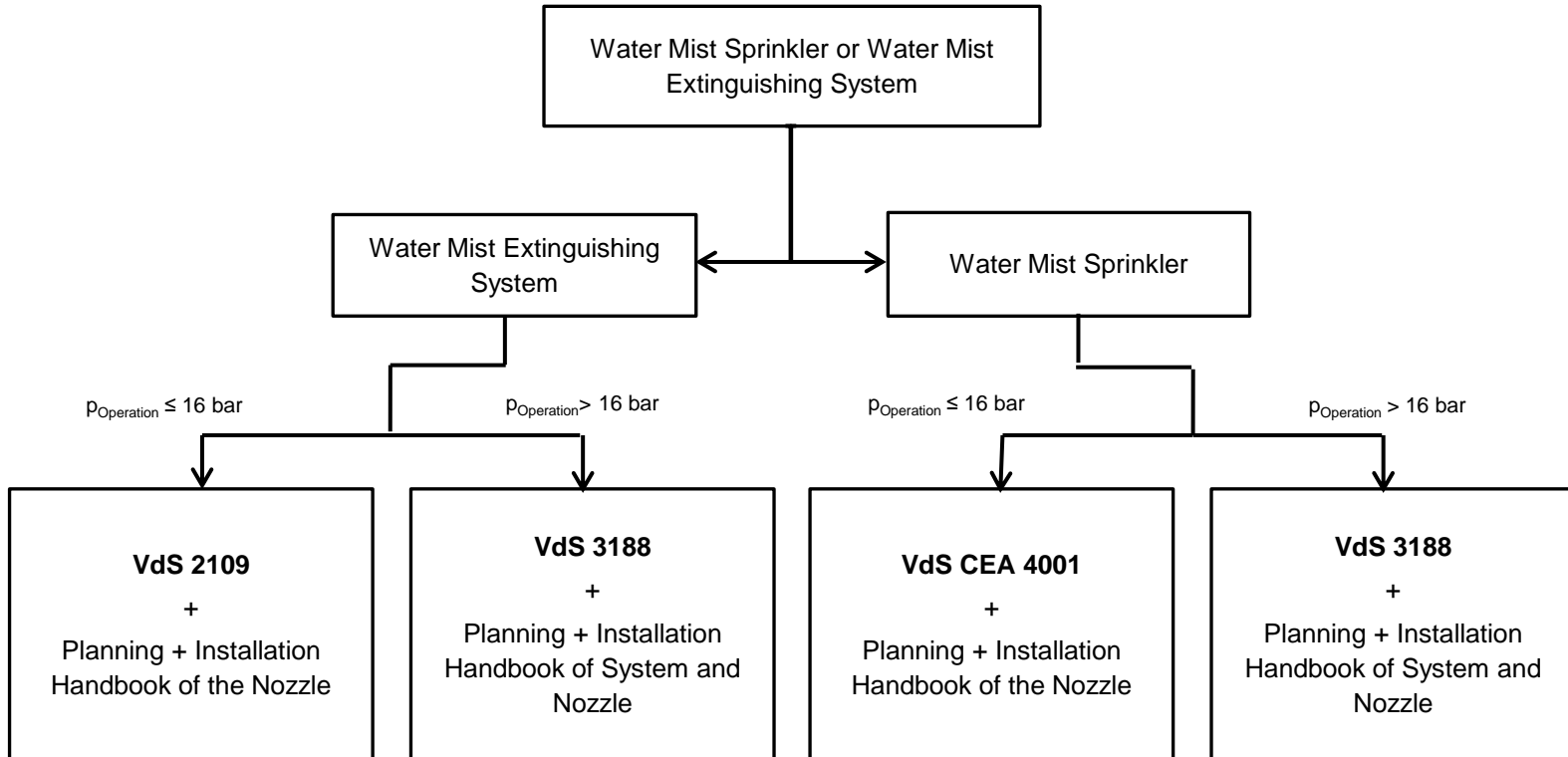
All approved systems and approved installers can be found at:

www.vds.de → Certifications

General requirements and restrictions can be seen in Annex 3 of the VdS certificate



The screenshot shows the VdS website interface. At the top, there is a navigation bar with the VdS logo and the text 'Vertrauen durch Sicherheit'. Below this, there is a main navigation menu with several categories: 'Inspection of Fire Protection Systems', 'Certification', 'VdS approved Products, Companies and Systems', 'Training Center and Publishing House', and 'About VdS'. A red arrow points to the 'VdS approved Products, Companies and Systems' category. Below the navigation menu, there is a section titled 'VdS approved Products for Water Extinguishing Systems'. This section includes a list of products, a date of approval (23.08.2013), and contact information for the manufacturer, MANNESMANN TECHNOLOGIE. The contact information includes the company name, address, phone number, and fax number. There are also two VdS logos at the bottom right of the page.



$p > 16$ bars: VdS 3188

$p < 16$ bars: VdS 4001 (Sprinkler) or VdS 2109 (Deluge)

VdS 2100-X + VdS 2562 +
Individual Laboratory Test Plan

Technical Inspection Service

Approved
Components
and Systems

VdS

Approved
Installers

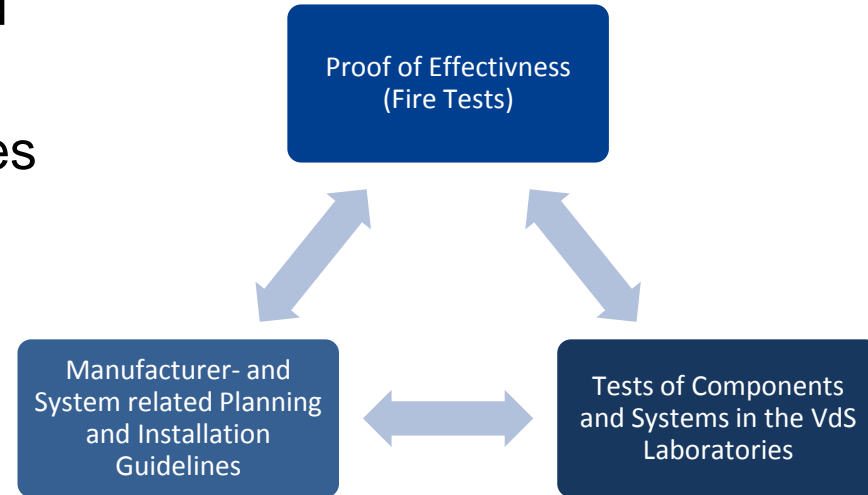
First and
Periodic
Inspections

VdS 2132

Planning
and
Installation
Guidelines

„New“ Fire Fighting Systems (Water Mist Systems)

- Evaluation of new technologies according effectiveness, safety and reliability
- Proven VdS procedures and test methods are adapted to new technologies

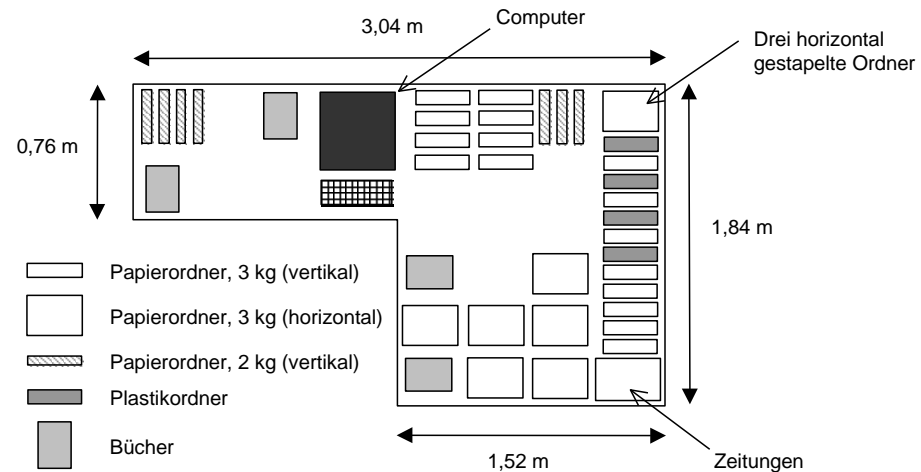


- Cable Tunnels
- Machinery Spaces / Engine Test Rooms
- Paint Cabins / Paint Storage / Storage of burnable Liquids
- Office and Accommodation Areas / Selected Storage Areas
- Parking Garages
- Local Protection
- Special Case approvals.....



For latest version of fire test Procedures just contact VdS (contact details on last page)

- Comparison with Sprinkler System
- Fixed to maximum ceiling height
- Standardized fire load
- Applicable for:
 - Office Areas
 - Etc..
 - ...

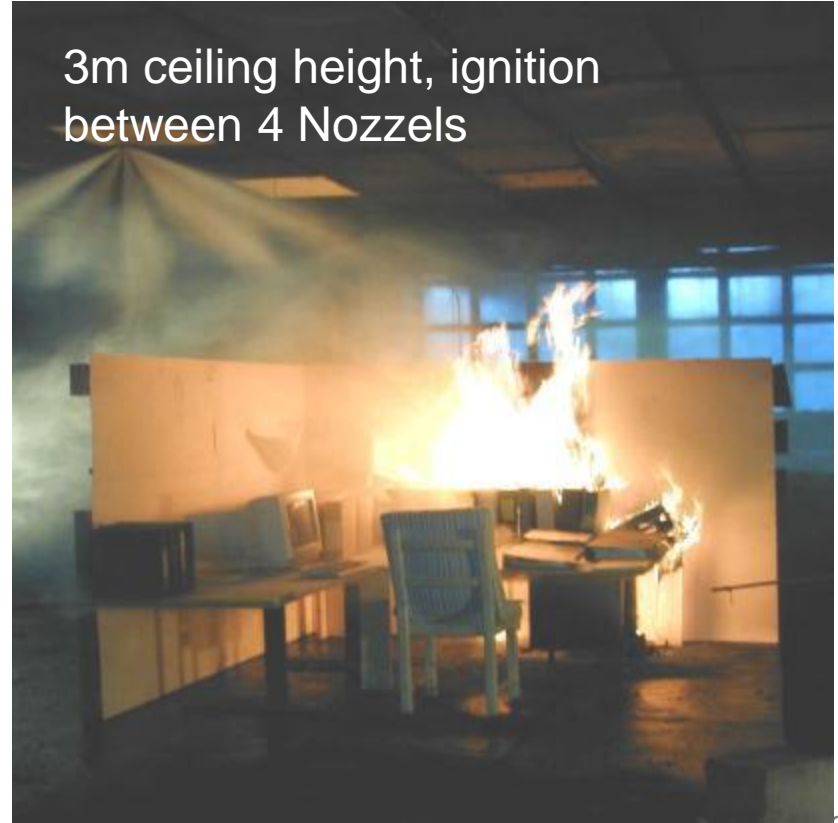


Approval for Office Areas: Comparison (1)

Pendent spray sprinkler, 3m ceiling height, ignition under 1 sprinkler



3m ceiling height, ignition between 4 Nozzels



Approval for Office Areas: Comparison (2)



Sprinkler

Activation: 6:27min,
max. Gastemp.: 159 °C



Water Mist

Activation: 4:52 min
max. Gastemp.: 79 °C

Example for Layout for Office Areas

	Sprinkler (VdS 4001)	Water Mist System
Water Application Rate	5 mm/min	2 mm/min
Protection Area	72 m ²	72 m ²
Water Flow	5 l/min * 72 m ²	2 l/min * 72 m ²
Operation Time	40 min	40 min
Total Water Amount	= 5 l/min x 72 m ² x 40 min x 1,4 = 20169l für 40 min	= 2 l/min x 72 m ² x 40 min x 1,4 = 8064l für 40 min

„Extension Accomodation“ can be used for:

- Hotel and Accomodation Areas
- Hospitals,
- Conference Areas
- ...

Extension Suspended Ceiling /
Floor



Selected Storage Areas (Racks and Block Storage):



Machinery / Generator Spaces (no storage)

- Engine and Machinery Spaces
- Transformers (housed)
- Engine Test Cells
- Turbines



Cable Tunnels



- Painting Booths
- Paint Mixing Areas
- Paint Storage Areas



VdS 3188 – VdS Guidelines for Planning and Installation:

Water Mist-Sprinkler and Water Mist Fire Extinguishing Systems

- Same systematic as VdS CEA 4001
- For specific applications: Water Mist is regarded equal to Sprinkler, Deluge or Gas Extinguishing Systems
- VdS 3188 will include CEN TS 14972

VdS Planning & Installation will be published in End of 2014!

VdS 3188: Planning &
Installation for Water Mist
Systems

- Principle system layout (minimum requirements)
- Principle design & installation for certain applications
- Principles and minimum requirements for approvals and proof of effectiveness

Product related Planning &
Installation (System + Nozzle)

- Detail nozzle layout
- System pressure
- Detail design

System approvals
are based on
applications



System approvals are based on type of
pressuring method

Change of standard approval description:

OH 1



Office, Public Space and Accomodation Areas

OH 2



Parking Garages

OH 3



Selected Storage and Shopping Areas

Hydraulic demanding area will be same systematic as in VdS CEA 4001

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Vertrauen
durch
Sicherheit

A background image of a construction worker wearing a white hard hat and a light blue shirt, holding a tablet and a rolled-up document, standing on a metal scaffolding structure.

**Thank you very much for your
attention!**

Questions, Comments, Further assistance:

Stefan Kratzmeir: skratzmeir@vds.de

Christian Kopp: ckopp@vds.de