

# Applications for water mist installations

Some general considerations about water mist installations in civil construction and stipulations put forward by every day demands and problems

# Agenda

1. Historical development of fire protection
2. Experience gained during disasters
3. Modern times and shift of requirements due to electronics
4. Problems encountered and stipulations derived
5. Solutions
6. Examples

# How fire fighting changed

historical development | experience gained | modern times | problems | solutions | examples

- Till **1800** No compartments – fire destroyed big cities nearly completely.
- Since **1840** installations of brick walls compulsory
- Since **1870** industrial revolution made passages through walls indispensable
- Two World Wars showed that measures were successful but not sufficient.



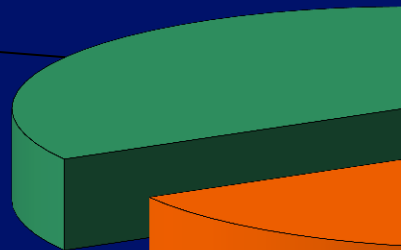
# Mist Systems

1. Clean agent – pure water
2. Powerful – directed to fire with screening effect
3. Has a cooling effect without thermal shock
4. No colateral damage
5. No danger for people and equipment

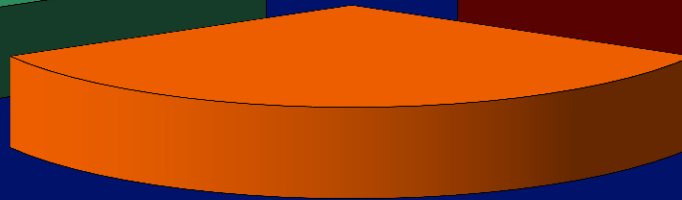
# Water mist basic principles

# 3 Mechanisms of extinguishing by mist

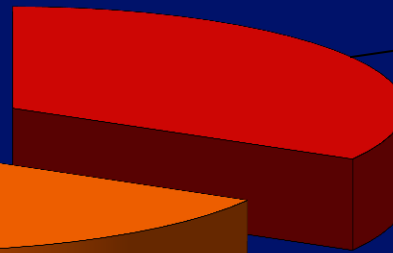
Displacing Oxygen as a result of evaporation water capacity increases 1200 times



Cooling as a result of water evaporation



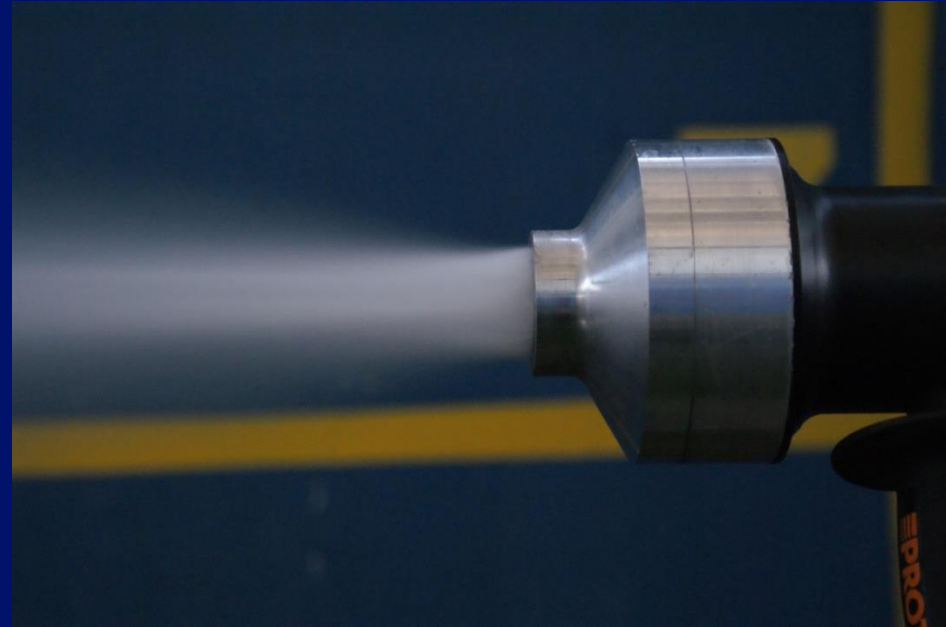
Elimination of Free Radicals as a result of extinguishing in contact with Mist particles



# Introducing concept of water mist

Diameter of droplet	# of droplets in 1 liter of water	Total cross section in 1m3 [m2]	Total surface area in 1m3 [2]
0,12 (12 cm)	1	0,0125	0,05
0,0006 (600 microns)	8 841 941	2,5	10
0,0001 (100 microns)	1 909 859 317	15	60
0,00005 (50 microns)	15 278 874 537	30	120
0,000025 (25 microns)	122 230 996 295	60	240
0,00001 (15 microns)	1 909 859 317 103	150	600

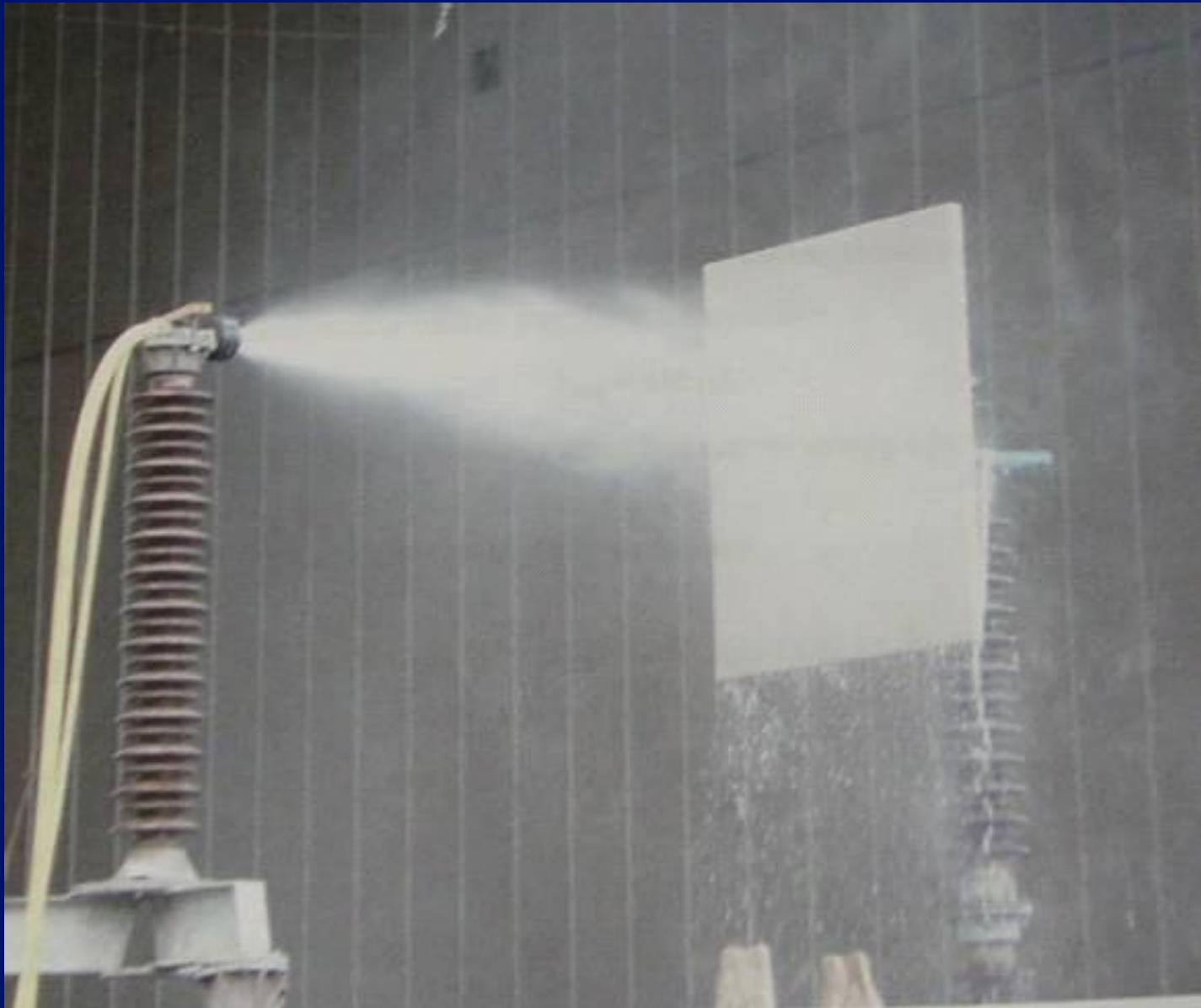
# Telesto FEN nozzles





# In Action



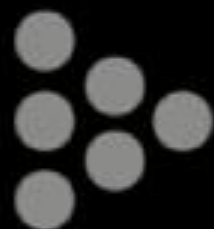


# Extinguishers around the world



WATER MIST EXTINGUISHER  
PLASTIC (bottles, containers)





Telesto Water Mist System  
Protecting Lives

# Melting Furnance Fire

Surveillance camera recording



# Hamburg Holstenwall





WMA

DIREKT  
INGENIEURBERATUNG FÜR BRAND- UND UMWELTSCHUTZ





# WMA

**DIREK.T**  
INGENIEURBERATUNG FÜR BRAND- UND UMWELTSCHUTZ



# WMA

... This is the end of my presentation  
and I do hope I haven't been any  
more boring than you expected me to  
be anyway.

**Thanks for your attention**

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