Rotor Technology for local application

Zygmunt Lada

14th IWMC

Istanbul, Turkey, 22-23 Oct 2014

Do we want to flood?

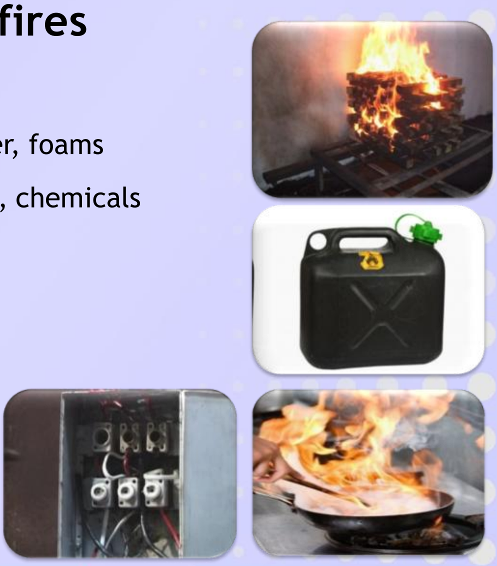
Total flooding standard mist system

Mist is better than water spray – sprinkler but ….

Introducing Concept of Water Mist

Droplet diameter [m]	Droplet diameter	No of droplets per 1 liter of water	Total cross-section of droplets in 1 cubic meter [sqm]	Total surface area of droplets generated from 1 litre of water [sqm]
0,12	12 cm	1	0,0125	0,05
0,0006	600 microns	8 846 426	2,5	10
0,0001	100 microns	1 910 828 025	15	60
0,00005	50 microns	15 286 624 204	30	120
0,000025	25 microns	122 292 993 631	60	240
0,00001	10 microns	1 910 828 025 478	150	600

Mist is capable of extinguishing all classes of fires



A – wood, paper, plastic, rubber, foams

B – diesel fuel, all kinds of oils, chemicals

C – gases

D – certain metals

F – cooking oil

Electric boards

Mist Systems

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

Often asked questions

- How to minimize **collateral damage**?
- Do we need **to flood** the whole protected plant?
- Why is mist system so **expensive**?
- Will the sprinkler system **protect the equipment?**

Telesto MIST SYSTEMS

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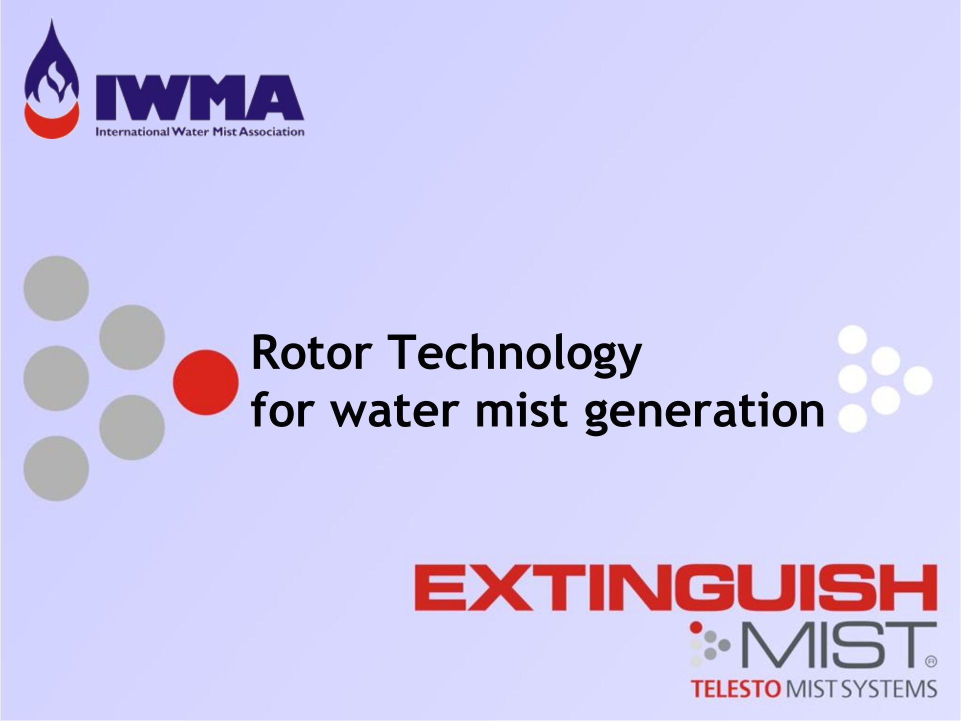
IWMA International Water Mist Association

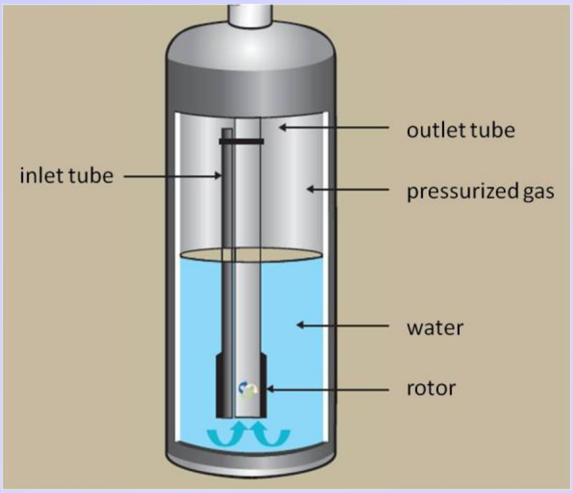


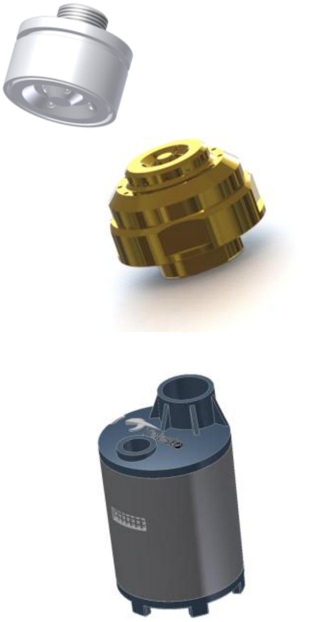
IWMA
International Water Mist Association

Rotor Technology for water mist generation

EXTINGUISH MIST®
TELESTO MIST SYSTEMS

How does the rotor work?


outlet tube
inlet tube
pressurized gas
water
rotor



65 micron mist stream

Rotor in the smallest application

CEASE FIRE
CEASE FIRE
ogniochron
Telesto

Extinguishers around the world

Extinguishing edible oil – water-mist

Bookshelf

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TELESTO WATER MIST EXTINGUISHER

Electric fires

Plastic

WATER MIST EXTINGUISHER
PLASTIC

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Tyres in diesel

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TELESTO WATER MIST EXTINGUISHER

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Mist extinguishers

Applications

All places, where there are the people, valuable items, food

- All kinds of manufacturing areas
- Kitchens
- Restaurants / Live Cooking areas
- Hotel Lobbies / Common Areas / Laundry etc.
- Shopping malls
- Guest Rooms
- Business Centers
- Computer Rooms / Server Rooms.

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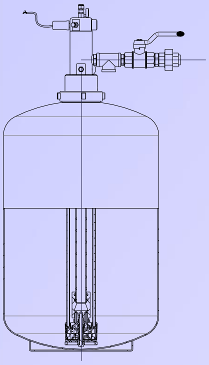
International Water Mist Association

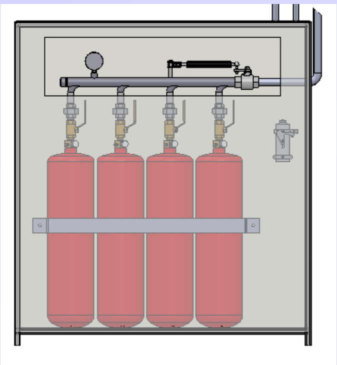
Systems based on RotorMist technology

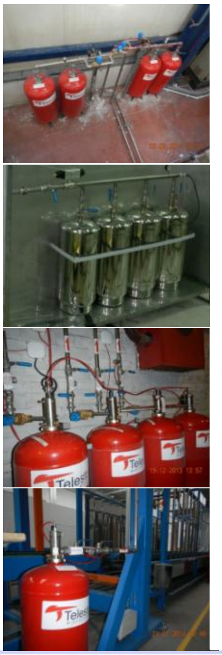
Stationary and mobile systems
for local protection

EXTINGUISH MIST®
TELESTO MIST SYSTEMS

Supply units - multiple rotors







Proper nozzles are required to design a system

Dynamic blanketing of the object

Proper nozzles are required to design a system

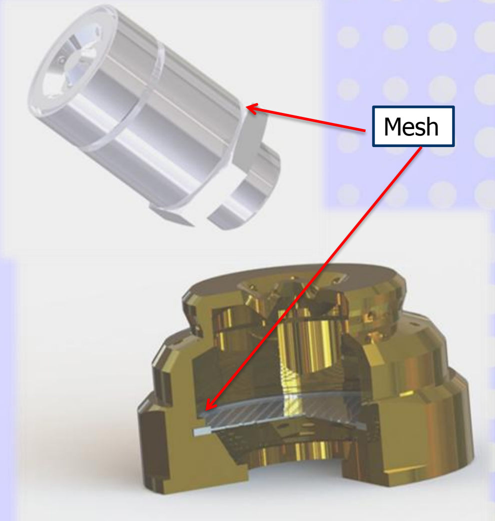
Dynamic directed

Proper nozzles are required to design a system

Oval/flat

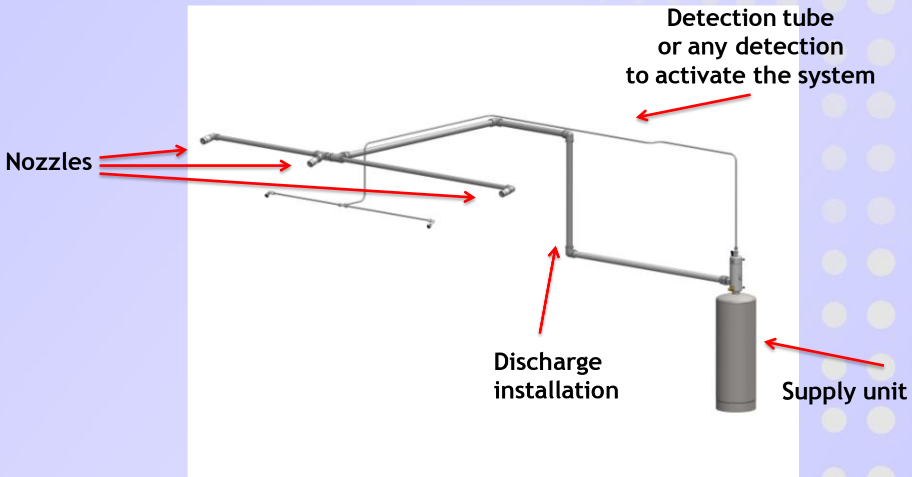
Nozzles for systems

Caps



Mesh

General concept of any local system



Detection tube
or any detection
to activate the system

Nozzles

Discharge
installation

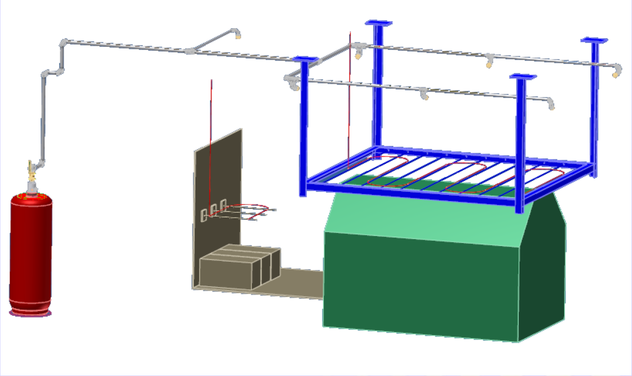
Supply unit

Systems based on RotorMist

Boat engine

SYSTEM ELEMENTS:

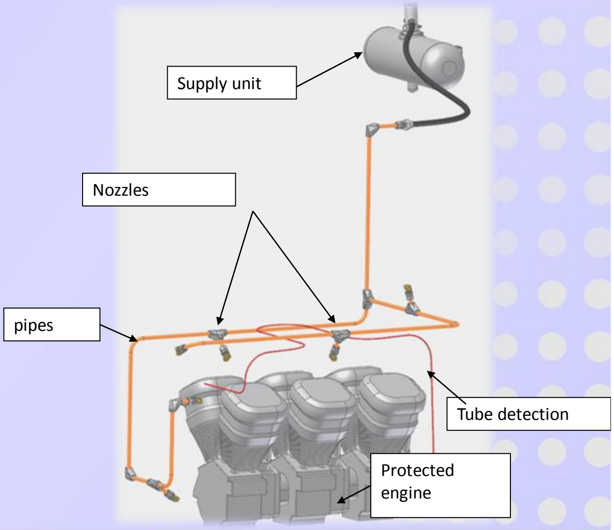
- 7 nozzles
- 50l cylinder
- tube detection with manual acuation



Engine protection by RotorMist

SYSTEM ELEMENTS:

-Nozzles CSFH and FSFH
-Cylinder
-Tube detection.


Supply unit
Nozzles
pipes
Tube detection
Protected engine

Engine protection test

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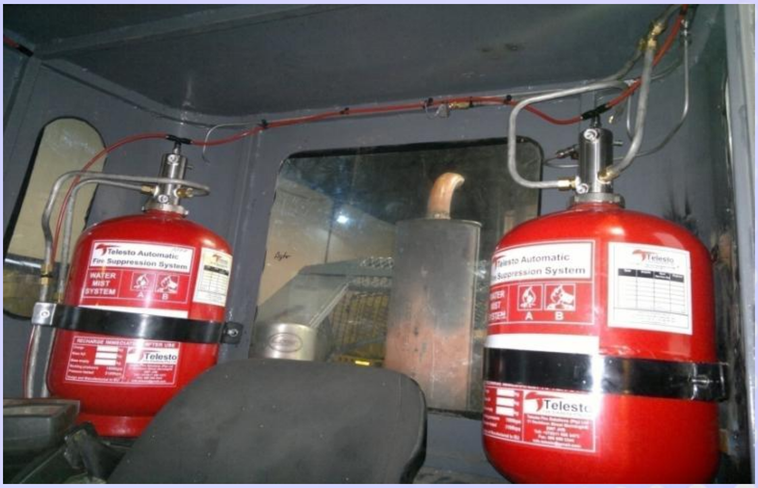
TELESTO WATER MIST EXTINGUISHING SYSTEM

The tunnel for film wrapping test

Mining EM equipment protection


Telesto Automatic Fire Suppression System
WATER MIST SYSTEM
A
B
Telesto

Protection of vehicles in practice

Telesto Water Mist System
Protecting Lives

Melting Furnance Fire

Surveillance camera recording

Telesto MIST SYSTEMS
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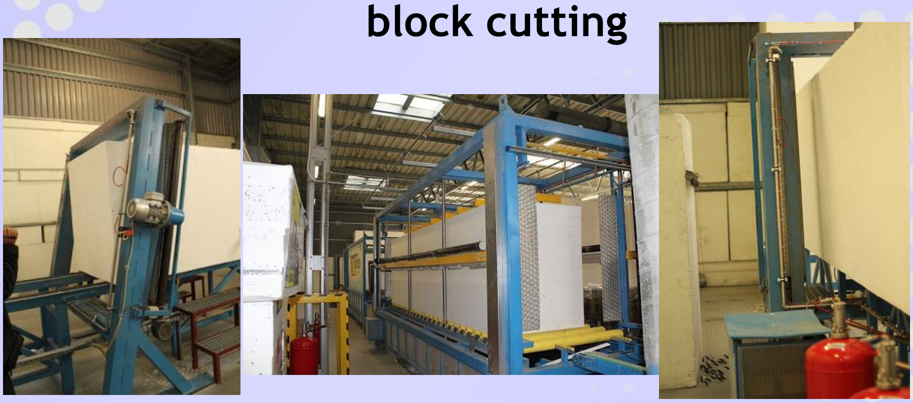
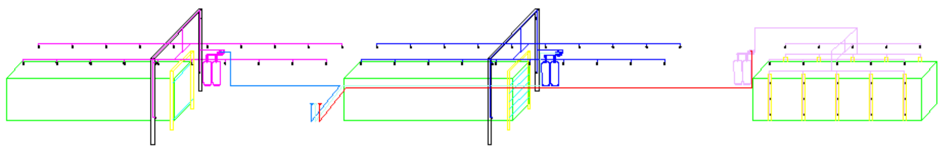
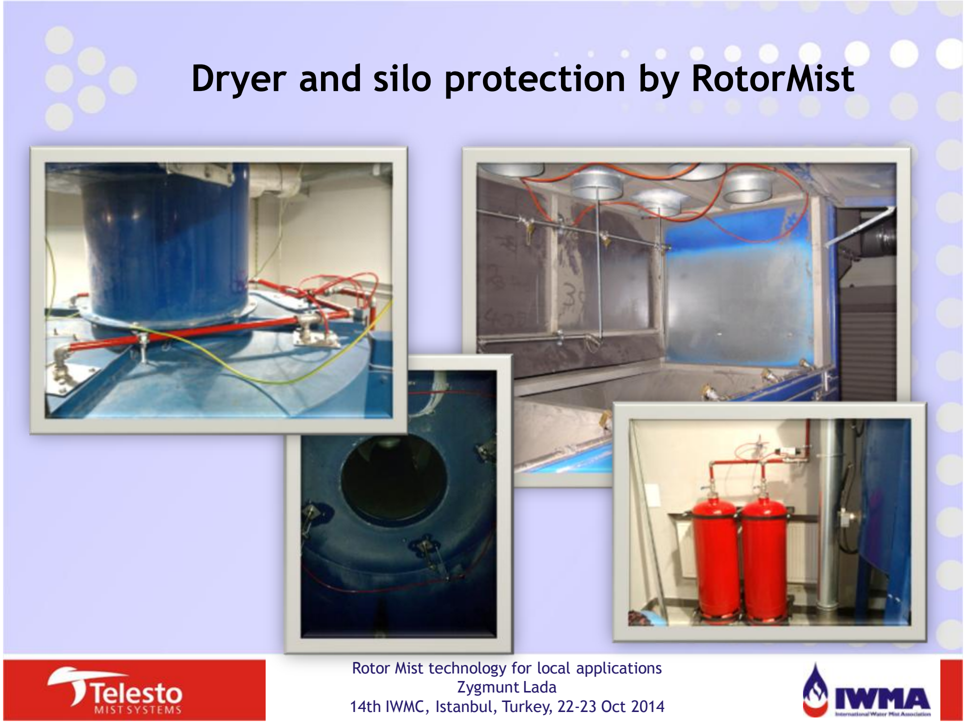
RotorMist - foamed polystyrene (EPS) block cutting





RotorMist - foamed polystyrene (EPS) block cutting protection - pentane fire



Dryer and silo protection by RotorMist

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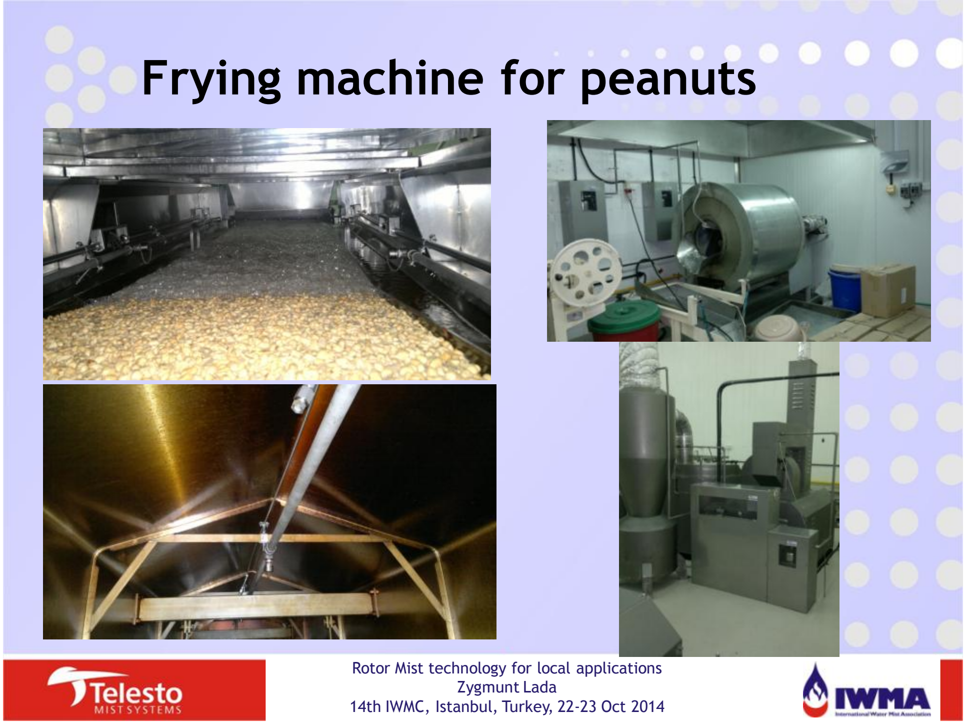

Frying machine for peanuts

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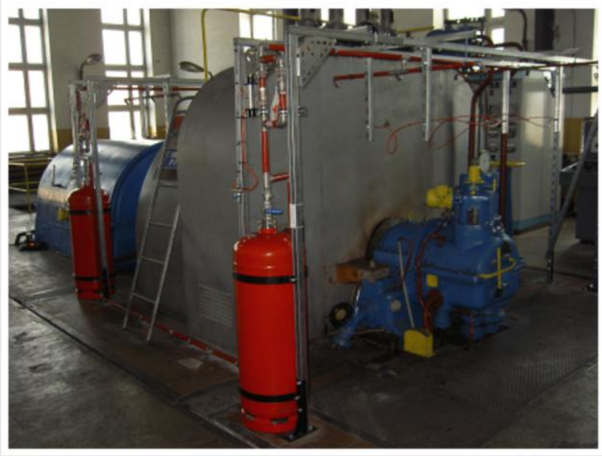
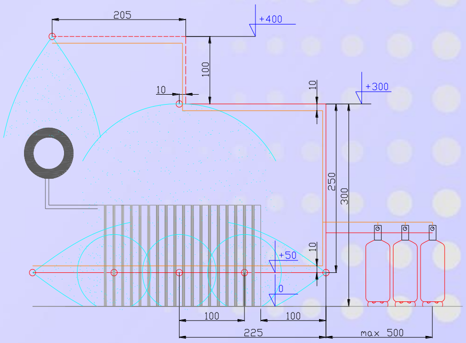
Gen set and turbine engine protection by RotorMist



Protected by nozzles, cylinder 100L with multirotor and pneumatic detection 80˚C.

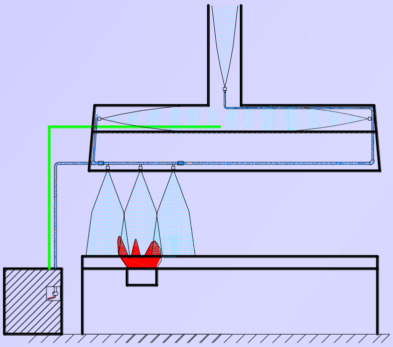
Transformer protection by RotorMist


205
+400
100
10
10
+300
250
300
10
+50
0
100
100
225
max 500

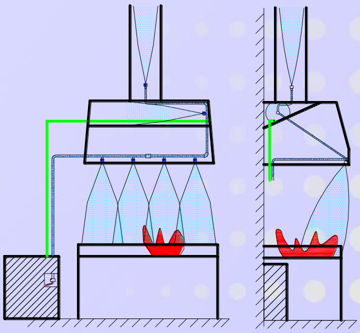
Transformer + mist

Two types of kitchen hood protection:

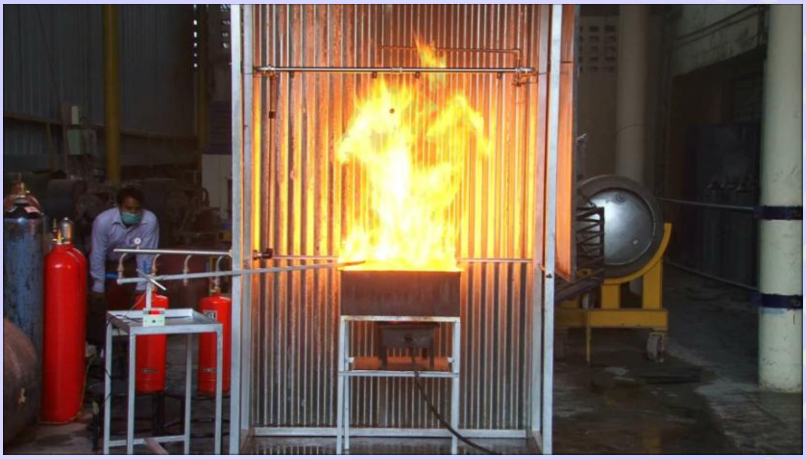
Local



Total



Active kitchen protection test



Standard hood up to 8 meters long

Basis for local fire protection installation

- Current status – almost no certification
  - Exception – UL 300 and LPS 1223
- Customers’ decision based on live tests
- Insurerers’ decision based on live tests

IWMA
International Water Mist Association

Many thanks
for your attention

www.telesto.pl

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Bonus slide ☺ In action