Watermist in fire fighting of small & medium fires

Ania Lada, TELESTO
17th IWMC, Rome, Italy, 25 Oct 2017
Warm up game
About 90% are small and 5% medium fires (Poland)
Fires

Low pressure water mist for fire fighting of small & medium fires
Ania Lada
17th IWMC, Rome, Italy, 25 Oct 2017
Water mist extinguishers
Extinguishing edible oil - water mist
Extinguishing rubber/tyres

Low pressure water mist for fire fighting of small & medium fires
Ania Lada
17th IWMC, Rome, Italy, 25 Oct 2017
Fire fighting of bushes and grass

- 41% are non-residential outdoor fires
- 915 brush, grass & forest fires a day
  - 41% brush
  - 37% grass
  - only 4% more than 1 acre

NFPA's "Brush, Grass and Forest Fires"
Grass fire

Water pressure: 6 bar
Water consumption: 28 l/min
Droplet size: 70-120 microns

State Fire Brigade test report
Grass fire „turned off”

Water pressure: 6 bar
Water consumption: 28 l/min
Droplet size: 70-120 microns

State Fire Brigade test report

Low pressure water mist for fire fighting of small & medium fires
Ania Lada
17th IWMC, Rome, Italy, 25 Oct 2017
Small solutions

- Comparison test (Poland) - tyres and wood
- Stored pressure EcoPack uses 10 times less water than the traditional service
Building fires without entering

Low pressure water mist for fire fighting of small & medium fires
Ania Lada
17th IWMC, Rome, Italy, 25 Oct 2017

State Fire Brigade test report
Tests of cooling capabilities of water mist lances

- 1MW fires in enclosed spaces
- Testing of various nozzles to establish effectiveness

<table>
<thead>
<tr>
<th>PSI</th>
<th>Nozzle</th>
<th>GPM</th>
<th>PSI</th>
<th>Nozzle</th>
<th>Start Temp</th>
<th>End Temp</th>
<th>Discharge Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>150</td>
<td>LancePro 1</td>
<td>16.00</td>
<td>150</td>
<td></td>
<td>700+</td>
<td>&lt;100'</td>
<td>:30</td>
</tr>
<tr>
<td>250</td>
<td>European manufacturer</td>
<td>26.00</td>
<td>220</td>
<td></td>
<td>444,00</td>
<td>254,00</td>
<td>02:00</td>
</tr>
<tr>
<td>1400</td>
<td>US manufacturer</td>
<td>17.00</td>
<td>1200</td>
<td></td>
<td>459</td>
<td>&lt; 200</td>
<td>01:10</td>
</tr>
</tbody>
</table>

Start temperature 700C+
Down to below 100C in 30 sec

Power of cooling!

Laramie Fire Brigade test results
Lances in firefighting
other applications

Antiterrorist training by Polish State Fire Brigade

Low pressure water mist for fire fighting of small & medium fires
Ania Lada
17th IWMC, Rome, Italy, 25 Oct 2017
Water mist curtain
Protection of machinery

- Budget limitation
- Solution:
  - Semi-fixed firefighting systems
Portable solutions for emergency cases, fire truck substitutes

Low pressure water mist for fire fighting of small & medium fires
Ania Lada
17th IWMC, Rome, Italy, 25 Oct 2017
Portable solutions for emergency cases, fire truck substitutes
Many thanks for your attention

Enjoy your evening!