



WHEN TRUST MATTERS

PFP Awareness Demonstrations (2025 onwards)

24/01/2024

Natural Gas Jet Fire



- Demonstrations of natural gas jet fires of various release sizes at pressures up to 70 bar.
- Delegates view from a safe distance whilst being able to feel the heat and appreciate the noise generated from a jet release.

Misaligned Flange Fire

- A flange has part of the ring joint removed leading to a release of natural gas which is ignited immediately.
- The manual isolation valve is closed on demand to illustrate how long a line can take to unpack.



Valve Spindle Fire



- Natural gas release through a valve spindle packing area. The released gas is ignited immediately and the pressure is gradually increased to 15 bar.

Scaffold Pole Dropped Object

- A scaffold pole drops hitting a threaded fitting which breaks resulting in a release of natural gas. This demonstrates the effect of dropped objects on small bore pipework.
- The gas release is collected in a polythene sheeted cube which represents a temporary habitat and is ignited after a short delay using a firework.



Natural Gas to Hydrogen Flame Comparison

- Demonstration of a Hydrogen and Methane Flame side-by-side to compare flame properties.

Methanol Pool Fire

- A bund filled with approximately 2 litres of methanol is ignited to demonstrate the almost invisible and smokeless flame generated by this fuel. The attendees will be able to see the haze and feel the heat generated by this fire



Diesel Pool Fire



- A bund containing 50 litres of diesel is ignited and when the fire fills the entire surface of the bund, a water deluge system is activated to cool the diesel vapour and therefore extinguish the flames.
- Before flames are extinguished, the deluge system is turned off and the diesel fumes rapidly reignite across the bund.

Vapour Cloud Deflagration



- A polythene tunnel is filled with a propane/air mixture. The vapour cloud is ignited at a safe distance allowing the delegates to appreciate the heat and the flame speed generated.
- In combination with the vented gas explosion these demonstrations highlight the impact of congestion and confinement on gas explosions.
- Vapour cloud demonstrations can also be carried out with proportional amounts of congestion to demonstrate flame acceleration.

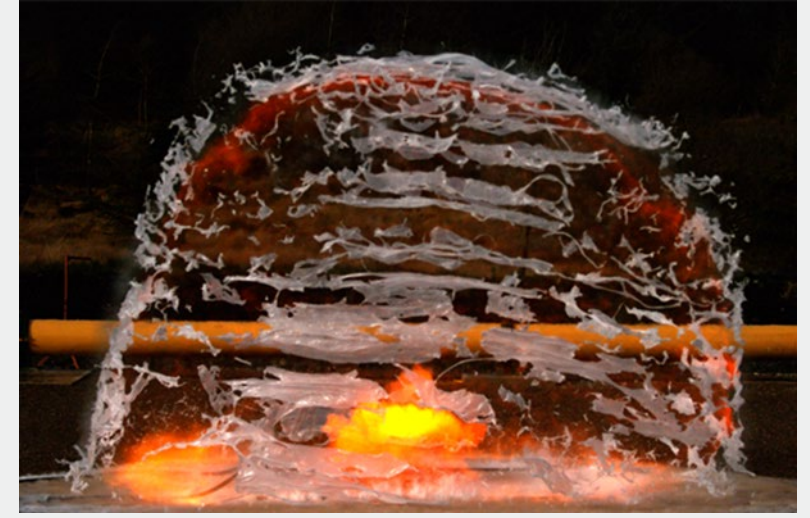
Explosion Chamber



- An 80 m³ chamber is filled with stoichiometric propane/air mixture. The gas mixture is ignited resulting in an explosion allowing the delegates to experience a 25 mbar pressure wave.

Hydrogen Detonation

- A polyethene cube is filled with a 40% hydrogen in air mixture. A detonator in the centre of the cube is used to initiate a detonation which then propagates through the hydrogen cloud.
- Attendees experience an overpressure of 35 mbar at 50 m



Liquid Nitrogen Release

- Liquid nitrogen is released through a hose at 4bar pressure. It is allowed to disperse around a fixed installation showing how quickly the vapour release can obscure both equipment and safe walkways.



Contact Information for Enquiries

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