

# DARCHEM THERMAL PROTECTION

## SPECIFYING PASSIVE FIRE PROTECTION

Darchem's Darmatt™ and Darshield™ systems are custom designed to meet your PFP requirements – there is no 'one size fits all' solution when it comes to protection of critical process safety equipment.

In line with design calculations approved as part of our Lloyds Type Approval certification for PFP enclosures, and to provide you with an accurate proposal, we request that as much as possible of the following information is supplied when sending us an enquiry:

### DEFINING THE HYDROCARBON FIRE CONDITIONS

- What is the Hydrocarbon fire type? – Hydrocarbon Pool Fire or Jet Fire
- What is the fire temperature? – Usually 1,100°C for Pool Fire or 1,200°C for Jet Fire.\*
- \* Alternatively, what is the heat flux (i.e. kW/m<sup>2</sup> or BTU/ft<sup>2</sup> sec) for the specified fire scenario?
- What is the protection period required? – i.e. from 15 minutes up to 180 minutes.
- Is there a blast resistance requirement?

### PLANT OPERATING CONDITIONS

- What is the normal maximum ambient temperature at site? (This is not the solar-radiated temperature.)
- If fire protection is linked to a valve, what is the normal process temperature of the valve?\*
- \* This is required even if the valve is not being protected, as PFP solutions should take into account heat transfer via the valve stem to the actuator due to high process temperatures.

### CHARACTERISTICS OF EQUIPMENT TO BE PROTECTED

- External dimensions & weight of each unit to be protected (valve, actuator, control panel, air tank, junction box etc)?
- Quantity of units, including an indication of number units of similar configuration?
- Clarification of the orientation of actuators on valves?
- Maximum limiting temperature permissible on the equipment to be protected? (This is often different for the actuator and the controls.)
- Are controls mounted on actuators or positioned remotely?

### PROJECT INFORMATION

Whilst the following information is not essential, it assists us with project management, and we may be able to call upon previous related experiences that will aid us with PFP design or customer advice:

- Project name and location?
- Project operator and EPC?