



THE
SPRAY NOZZLE
 PEOPLE

Case Study

Chemical Industry

DELUGE COOLING SOLUTION

Emergency situations such as electrical power outages may be rare but they can have serious implications for chemical processing companies. While it may be impossible to foresee emergencies, it is possible to mitigate the risk of events that could have disastrous consequences.

► THE PROBLEM

SNP was asked by a large chemical company to advise on a tank cooling system for emergency situations. They had a pressurised liquid mixing vessel with a diameter of 1.8m and a capacity of 5700 litres which had a continuously running internal agitator. During an electrical power cut, the catalyst inside the tank settled to the bottom and caused the temperature to rise rapidly. In this instance, they had had to use their fire protection system for cooling, a situation that was far from ideal. They knew they needed a long-term, robust solution.

► THE SOLUTION

SNP advised the installation of a deluge spray system that could deal with similar future scenarios and provide a critical function for years to come. Because the majority of the tank was surrounded by insulation, it was necessary to deluge spray the bottom of the tank under the support skirt.

Working with the customer's flow requirements and space constraints, SNP devised a solution which would ensure complete coverage across the entire bottom of the vessel. This comprised a triangular array of three smaller nozzles which, made from a 316 stainless steel, would also resist any outdoor elements.



► CHALLENGES

- Tank surrounded by insulation
- 1 bar pressure available
- Spray requirement 120 l/min
- Limited space under the tank

► THE PRODUCT

- The 90° 3/4" MaxiPass 343M
- Each spraying 37.9 l/min
- 316 Stainless steel

