



Fire Protection in the Aluminum Industry

Cold rolling mill, SMS Group

A particular challenge

Even small fires can shut down an entire production facility. The fire risk is considerable: High temperatures during casting as well as processing by rolling, forging, extrusion, or bending facilitate the outbreak of a fire. Technical defects in production plants, open constructions, and interlinked production areas encourage rapid fire propagation.

The various protection zones in aluminum plants require different extinguishing technologies and fire protection concepts. Minimax offers these fire protection technologies from a single source. In the process, the fire protection company is able to draw on its vast experience in various industries: Whether in power stations, automotive or aluminum plants, logistics centers, office and administration buildings, data centers, or on ships – wherever fire hazards arise, Minimax supplies custom solutions and a comprehensive range of services after the fire protection system has been installed.

Minimax fire protection solutions as an overall concept

Our comprehensive in-house product portfolio and know-how built up over decades offers you the right solution for every fire risk. The requirements of the customer and the property are addressed on an individual basis. Thanks to our in-house Development and Production department, we are well equipped to respond to special requirements.

The Minimax product portfolio includes various product and system approvals for VdS, FM, and UL, among others. You thus benefit from potentially increased acceptance by insurance companies and local authorities. We are able to offer, depending on the requirements and fire protection solution, the design of the fire protection system according to different fire protection guidelines, such as VdS, ISO, EN, or NFPA.

Everything from a single source! From in-house engineering via complete project management to commissioning on site and subsequent maintenance. Minimax will accompany you throughout the entire life cycle of your fire protection equipment.

You benefit from the expertise that we have gathered from years of experience in projects around the world.

Risks:

Cold rolling mill: Finished coils are delivered to the mill. The strip is pulled off the coil so that it can be fed into the rolling mill. During the process the strip can break and instantly creating a shower of sparks. The cooling medium used is highly flammable, and therefore a single ignitable spark is enough to start a fire. Another fire risk arises from technical problems, such as from a too high bearing temperature. Due to high process speeds and the presence of fire loads a very rapid spread of fire is to be expected in both cases.

There is a high risk of business interruptions if fires get close to control and drive units. There is generally a high fire risk in the aluminum industry because of the materials and fuels used in connection with the production processes. The rolling mills as the heart of entire plant, poses the highest risk from too high.

Oils & lubricants: Slabs reach very high further processing temperatures in the furnace. Leakages and breaks in surrounding hydraulic lines can easily release a spray jet or spray mist with oils and lubricants, which easily ignites on hot surfaces. High temperatures are also a constant during rolling and therefore pose an unavoidable ignition source.

Electrical risks: Small causes like short circuits, overheating of cables or defect electronic components can lead to major business interruptions.

In general, like in other industrial environments, there are additional risks. These include: Electrical rooms, cable ducts, transformers, hydraulic rooms, storage areas, conveyor systems, and more.

Solutions:



Extinguishing technology: Fires can occur and spread rapidly anywhere and at any time. With the help of a fire detection and fire alarm system, however, this danger can be detected and fought at an early stage. All signals converge at the fire alarm control panel, which reliably provides the responsible authorities with all relevant information. In addition, the control and function monitoring of all fire protection systems takes place via the fire detection technology in many cases.

UniVario industrial fire detectors are intelligent, platform-based, and microprocessor-controlled. Thanks to a modular concept and modern signal processing technologies, these detectors meet individual requirement profiles in a remarkably wide range of applications. They function indoors and outdoors, in the immediate vicinity of the equipment to be protected as well as from greater distances. They can be used in clean room areas as well as under harsh process conditions, and in explosion hazard areas, thus offering solutions for all requirements.