

# OS MINING APPLICATION



## ONE SEVEN MINING APPLICATION

One Seven® MINING can be used for fire prevention and for fire suppression. For prevention One Seven® dry foam is used to cover dangerous areas in the goaf to prevent fire damps and dust explosions. One Seven® wet foam is used for acute fire suppression on machinery or on the coal. In case of fire the goaf can be sealed with foam. The temperature in case of fire can be reduced very fast as the foam itself has a high cooling impact.

### Preventive Effects for MINING Application

- Inhibitory effect
- Isolating effect
- Suppression of sparks
- Reduction of Oxygen reactivity of the coal
- Avoiding of oxygen exposure
- No sparks can be created in case of cave-ins

### Extinguishing Effects for MINING Application

- Cooling effect
- Oxygen depletion effect
- Isolating effect
- Temperature reduction by vaporization
- Repression of O<sub>2</sub> by foam
- Reduction of air flow by sealing of goaf and abandoned roads with foam

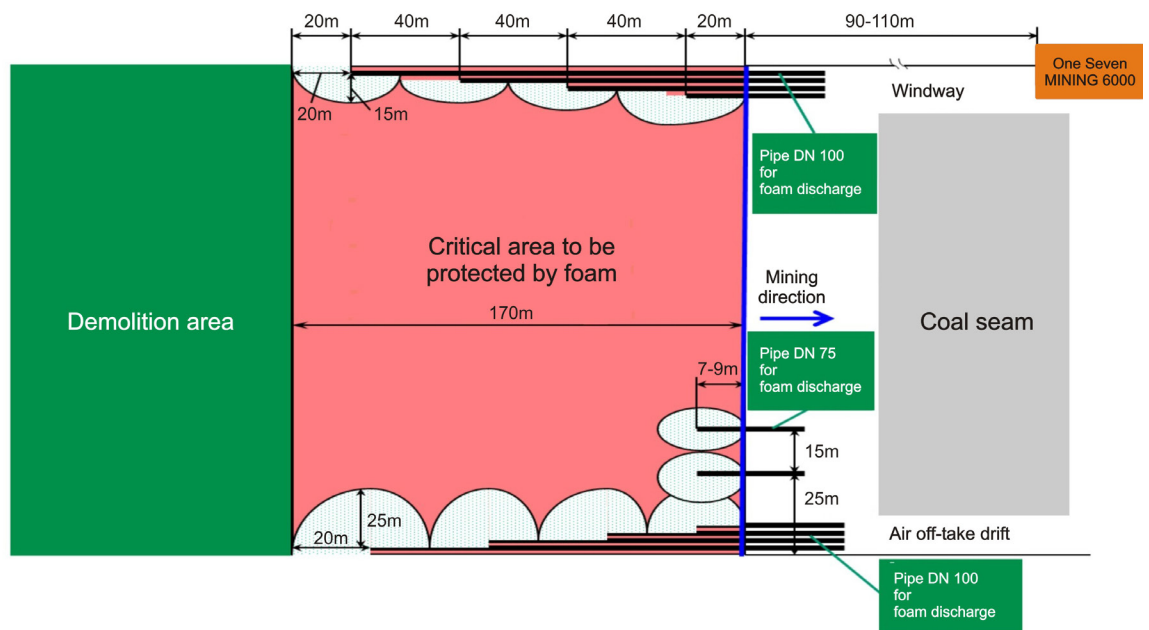
## DESCRIPTION

The foam concentrate tank and the foam module are built inside the main frame.

The foam module generates the One Seven® compressed air foam.

The main frame is welded with solid stainless steel sections and is coated with stainless steel plates to protect the system from falling stones and rocks. Mounted transport loops will provide a secure transportation in the underground. Trapezoidal thread spindles are available for straight alignment. The One Seven® foam concentrate class A, which is especially developed for mines, has a proportioning rate of only 0.3 %. The foam concentrate tank is equipped with all necessary connections for the system to work. In addition there is a filling inlet for pressurized filling of the tank.

## APPLICATION SCHEME (PATTERN)



## ADVANTAGES

- Protection of the manufacturing technology in the underground
- Prevention from long run-off times
- Easy handable system
- Fast attack possible in case of fire
- Seams can be exploited which usually can't be exploited due to self-combustion hazard

## FOAM SUPPLY

- Transportation length up to 500 m by using pipes or hoses DN120
- Shut-off nozzle for large throwing distance up to 25 m (80 ft) due to high kinetic energy
- Medium expansion foam nozzle for high volume filling of underground cavities and passages
- Open pipe for foaming of not passable areas in underground



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## CHARACTERISTICS

- Two system sizes available, MINING 6000 and MINING 12000
- Permanent generation of up to 6000 l (MINING 6000) or 12.000 l (MINING 12000) compressed air foam per minute
- Low foam concentrate consumption (by using One Seven® foam concentrate class A)
- Complete process for production of the compressed air foam without any electrical power
- Relevant volume streams and pressures will be fixed adjusted at starting up
- Own pressure and volume regulation
- No potential source of ignition through the used materials
- Very solid foam concentrate tank and robust frame
- For underground transport are transport loops at the system
- Manual regulating valve to adjust wet/dry foam quality

## REFERENCES

### Czech Republic: Preventive application and active firefighting

In early 2012 a Czech coal mine successfully applied the One Seven® MINING 6000 for fighting a hidden mine fire. Fire started with a self-ignition of coal in already worked out area of the working section. At this time 11 % of the annual planned 826,500 t hard coal production have already been worked out. With upcoming of the fire mine rescue staff immediately started firefighting by using the One Seven® MINING 6000 system. The mine fire could be extinguished after only ten days. Without using the One Seven® fire fighting system the mine fire would have lasted for several weeks which would have caused losses of nearly 200,000 t of coal.

### Turkey: Preventive application and active firefighting

In July 2014 with a 20 days continuous engagement a hidden mine fire, whose development 5.5 months lagged, could be extinguished by using a One Seven MINING 6000 system and the Class A foam concentrate One Seven AM. A total amount of about 91,000 m<sup>3</sup> wet and dry foam was been discharged into the dammed fire area. The water consumption was 4,200 m<sup>3</sup>, the consumption of foam concentrate was 6,320 litres. A nitrogen-inerting attempt during the weeks before was lead to failure.

The longwall equipment was been found largely undamaged, could be refurbished and prepared for continuing the excavation of the seam.

### China: Preventive application and active firefighting

### Germany: Preventive application

### Australia: Preventive application and active firefighting



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## SCHMITZ ONE SEVEN GMBH – WHO WE ARE, WHAT WE DO

Our core competencies are the development and manufacturing of modern extinguishing systems. As early as 1995 we specialized in the technology of compressed air foam systems. Today Schmitz One Seven GmbH is the global technology leader in this segment of fire fighting and holds numerous patents. These include the One Seven® technology which generates seven uniform foam bubbles from one drop of water using foam concentrate and compressed air.

In the early years One Seven concentrated on mobile fire protection. In close cooperation with Schmitz Fire & Rescue GmbH fire engines were equipped with One Seven® extinguishing systems. Customers have been professional fire brigades, company fire brigades as well as voluntary fire brigades. The first fixed extinguishing system was installed in 1999. Today we have extensive experience in the planning, design, manufacturing and installation of extinguishing systems in accordance with national and international standards (VdS, DIN, EN FM, NFPA). Our fixed extinguishing systems are used e.g. in underground mining, in recycling plants, in petrochemical plants, on offshore platforms, on heliports and in road tunnels.

The reliability and continuous further development of our products are special concerns of our company – because fire protection means responsibility. In the event of a fire the quality of extinguishing systems and extinguishing agents determines whether people and infrastructures survive. We are committed to this with innovative technology from more than 25 years of experience.



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