



**AFSA**  
CONSULTING INTERNATIONAL



*Fire Protection Surveyor  
Services, Risk Assessment,  
Scenario Preparation*

*Control, Maintenance,  
Training*



*Engineering, Installation,  
Start Up Services*

*Project Control, Commissioning*





Afsa Fire Protection LLC, including Emirates and Afsa Consulting UG of Germany is an consulting company in fire protection consulting business.

Our consultants are ISO accredited, have international validity of expertise and advice and successfully serve as fire protection consultants in all areas (pressurization, ventilation, extinguishing, electrical equipment ...).

Since Afsa Fire Protection is an expert in NFPA, BSI, DIN and EN standarts and regulations, we cover most of the relevant fire protection engineering know-how.

In case of the necessity, by calculating the fire loads we provide tailormade solutions in industrial facilities (sprinkler density, fire resistance duration of construction materials, equivalent times of fire rating).



## *Why should you choose an expert?*

Fire engineers must be involved in all stages of a project for an effective concept. Therefore engineers having adequate experience and knowledge background are able to coordinate the various engineering sciences can achieve successful results. For example: a consultant expertising in fighting techniques or deal only with the architectural details, or a insurance specialist can not manage all this cycle!

In many countries it is not required to be an accredited fire consultant. Due to this reason, parties and institutions (insurance companies, retired fire brigade officers, suppliers of fire suppression or detection systems) provide services in critical areas that require engineering based experience and tools. It is essential that the approval of the design or installation is to be performed by an independent professional consultant.

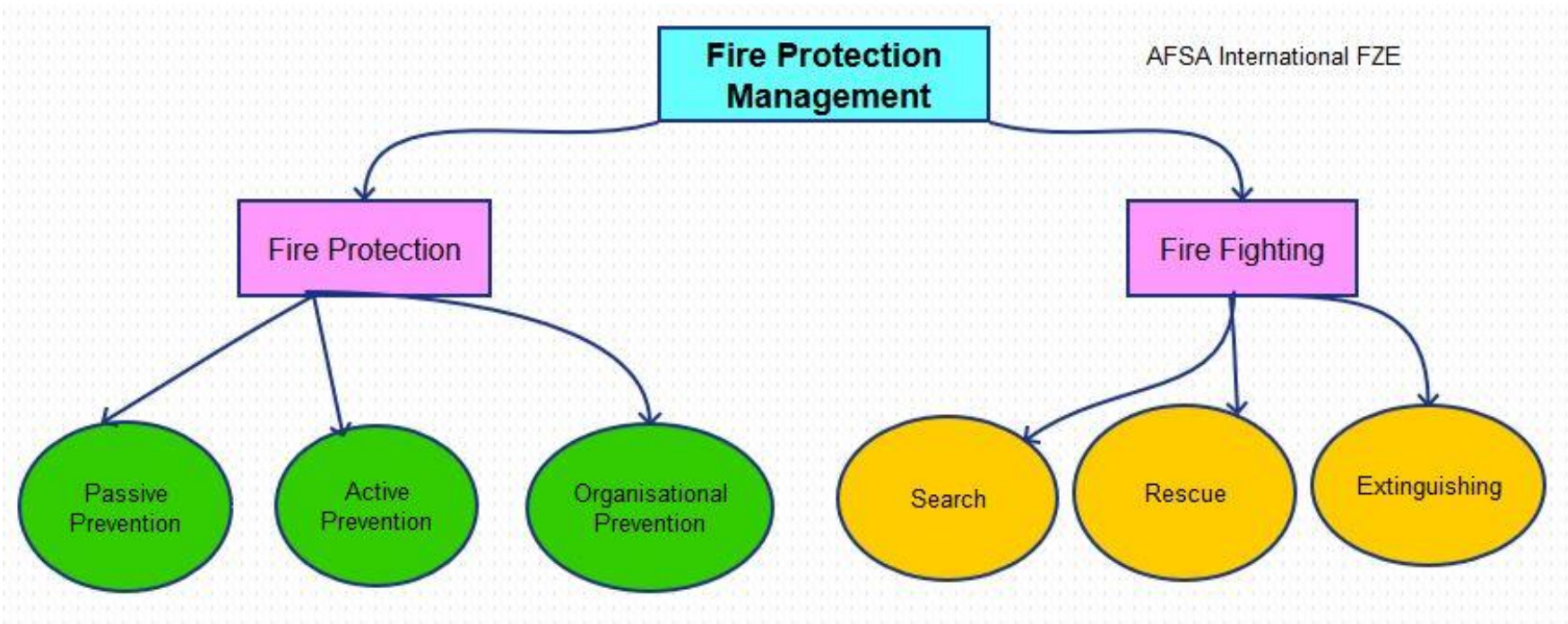




The most common mistake made in this regard is that if a system is to be purchased (as an example: clean agent suppression) then the design, installation, commissioning, maintenance and consultancy will be offered and provided by the same organization in one price. It is not 100% possible for parties and companies to be neutral and impartial, when their primary money making area is selling systems, materials and spare parts under today's unstable economical conditions! Such commercial companies offer «the consultancy services» as a free promotion, thus the importance of fire protection consulting is quickly ignored.

Most of the recent experiences show that in most of the fire incidents, the share of calculation and installation error is tremendous. So it is up to the company's know-how and competence that you are contracting as a consultant.

Fire protection is a combination of many disciplines as shown below. It is possible to achieve good results if these principles are applied simultaneously. Architecture of the building or industrial plants, mechanical and electrical equipments and infrastructure, the fire-fighting equipments are all part of a fire fighting strategy and should be considered as a whole.





## Fire Protection, How?

Fire protection doesn't merely consist of detection and extinguishing systems. Starting from the preliminary projecting stage, up to building start-up services, establishing fire fighting teams, user training, it as well covers many disciplines and processes including periodic hazard analysis with business-specific emergency action plan.

Today the buildings and their usage are becoming more complex. A building's fire protection strategy should be created according to its specific fire risks under an appropriate fire protection concept. The standards require minimum precautions, therefore Identifying additional risks and implementing the right measures depends ultimately on the knowledge and experience of fire consultants and designers.





*Some of the issues of Fire Protection;*



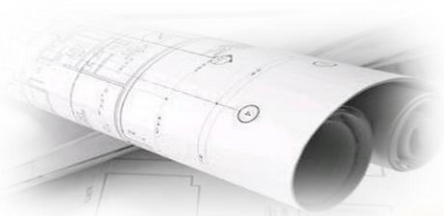
- Passive fire protection - Architectural design, fire and smoke barriers, space separation, compartmentation
- Active fire protection - fire suppression systems, sprinkler, fire hydranten
- Fire detection - fire alarm systems and brigade call systems
- Smoke control and management
- Escape facilities- Emergency exits, Fire lifts etc.



- Building design, layout, and space planning
- Fire prevention programs, Fire protection management and periodic inspection
- Fire dynamics and fire modeling for industrial facilities by calculating and designing with fire loads
- Human behavior during fire events
- Risk analysis, including local risks



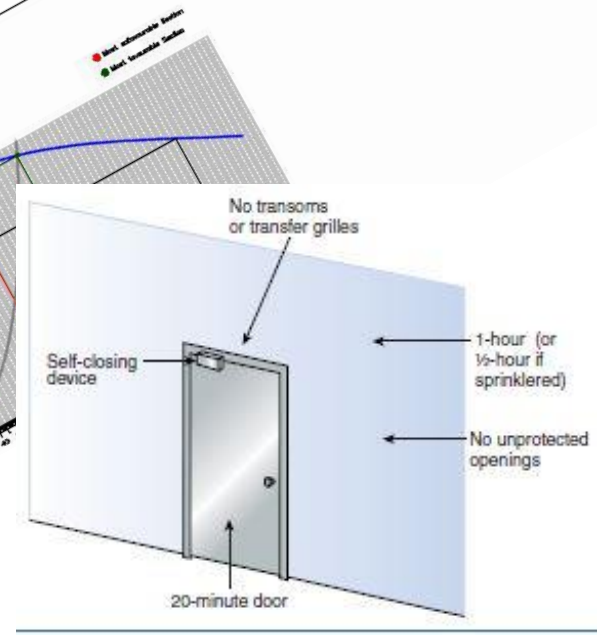
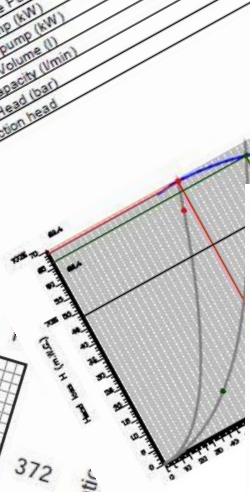
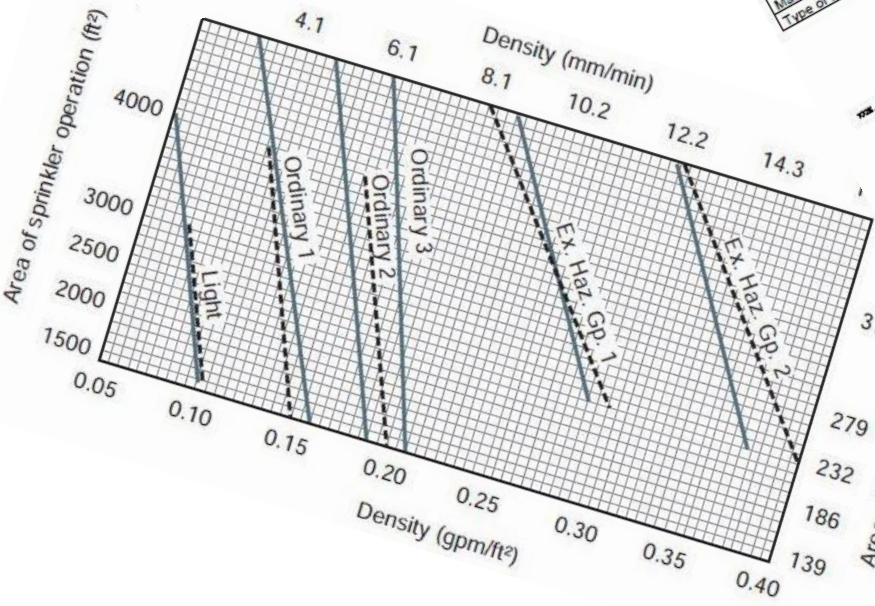




DP DPPrz (bar)	6.444534
DP Prf (bar)	0.5625
Elevation Dpgood (bar)	0
Root+Prz+Prng 5 (bar)	8.507034
Main Pump Qpm (l/min)	1307.025
DP (kW)	0.90
Main pump ne	0
ne Ne = N / ne (kW)	0.57
ne np	0
ne Ne = N / ne (kW)	26.14053
ne np	7.007034
ne Ne = N / ne (kW)	1756.841
ne np	70.27364
ne Ne = N / ne (kW)	45 kW
ne np	2.2 kW
ne Ne = N / ne (kW)	WFFS-D 80-224/150-45
ne np	70-150-205-240 m³/h
ne Ne = N / ne (kW)	69-82-48-40 m³/G

**DAkKS**  
Deutsche  
Akkreditierungsstelle

Power of diesel Main pump  $P_{dp} = DP_{good} + DP_{Prz} + Prf + 1$  (bar)  
 Jockey pump Capacity  $Q_j = 0.02 \times Q_{pm}$  (l/min)  
 Jockey pump Head  $P_{jp} = DP_{good} + DP_{Prz} + Prf + 1$  (bar)  
 Water Containment into the Network  $V_p = 0.04 \times V_{tot}$  (l)  
 Pressure Tank Min Volume  $V_p = 0.04 \times V_{tot}$  (l)  
 Pressure Tank (kW)  
 Type of selected Fire Pump  
 Power of Main pump (kW)  
 Power of Jockey pump (l/min)  
 Pressure Tank Capacity (l/min)  
 Main pump Capacity (bar)  
 Main pump Head (bar)  
 Type of suction head



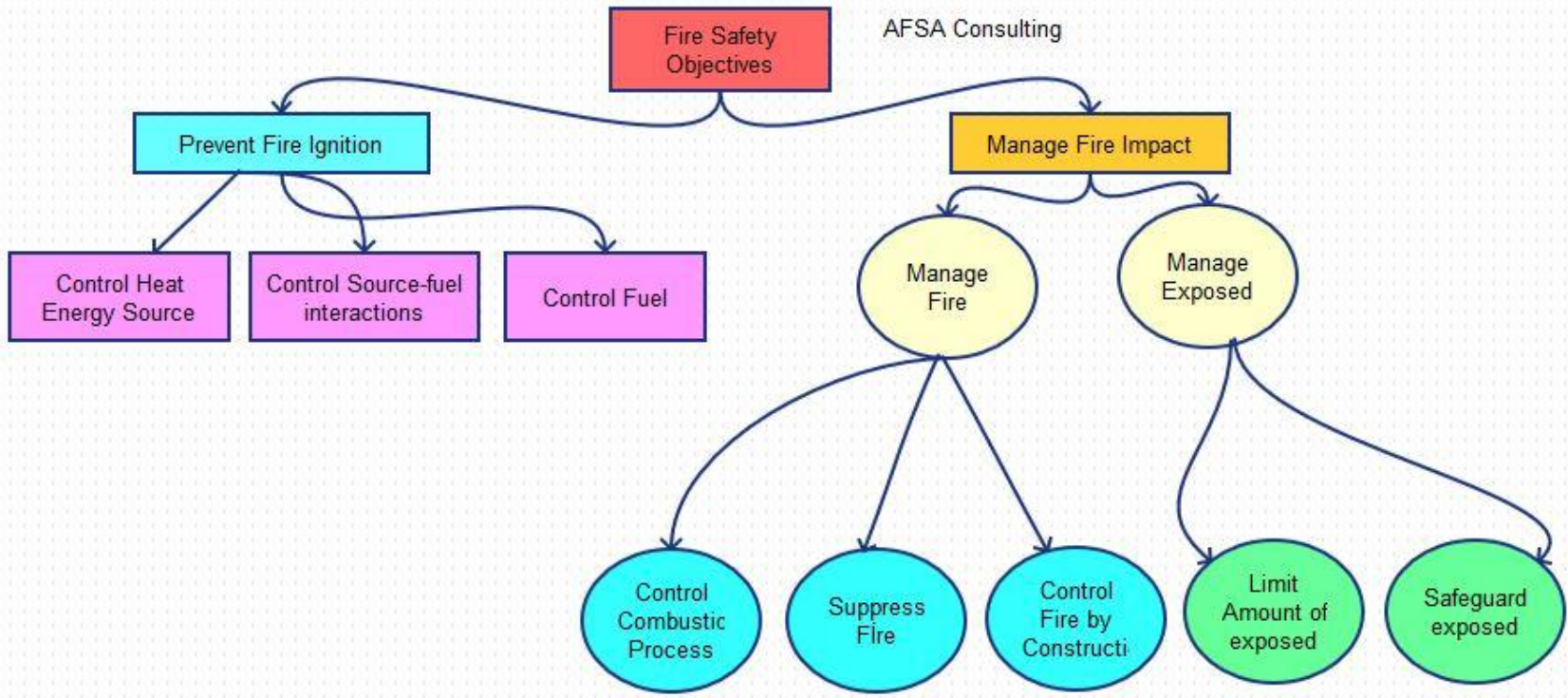


Generally the goals of fire protection engineers are:

- (1) Prevention of ignition
- (2) Detection of fire
- (3) Control of fire development
- (4) Confinement of the effects of fire
- (5) Extinguishment of fire
- (6) Provision of refuge or evacuation facilities, or both
- (7) Staff reaction
- (8) Provision of fire safety information to occupants



# Fire Safety Tree of NFPA 550





According to American Insurance Union's research 70% of companies that are experienced in a middle and large sized fire have gone bankrupt because of financial reasons within the first 3 years after starting business.

*Direct and indirect losses that can be experienced in a fire:*

- Injury and death
- Business and Labour Interruption
- Production loss
- Loss of market good reputation
- Financial loss
- Fee's and damage payments
- Pollution (extinguishing water, smoke, odors, environmental impacts)
- Construction, manufacturing processes and management
- Time loss
- Increased insurance premiums
- Leaving or the loss of experienced staff
- Loss of motivation



## Our Goals;

- Protection of Human and Animal Life,
- Improvement of Fire Protection Awareness for all commodities and parties involved,
- Prevention of Labour and Material Loss,
- Protection of Resources, Nature and the Environment,
- For investors: optimum efficiency for their investment,
- Protection of all national wealth, material and the reputation.



Projects:

- Enka Construction A.S.
- Turkish Do&CO
- ICFraport Antalya Airport
- Iron Mountain Records Management Depots
- Palladium Tower Building
- Nida Kule Building
- Hilton Hotel Batumi-Georgia
- Hilton Hotel Avcılar-Istanbul
- Hilton Skopje
- Titanic Hotel Berlin



Projects:

- Bicer Machinebau GMBH Berlin
- Bolu Hotel Berlin
- STFA Headquarters Building
- Denizbank- Sberbank Headquarters Building
- Halic Convention Centre
- TLS Logistics Warehouses
- Sheraton Hotel Mali Africa
- Eskidji Shopping Malls (Yenibosna & Esenyurt)
- ODE Izolasyon
- AVES Petroleum Depots
- AND Real Estate Business Center



*Thank you for your attention*

