



**How our durable building materials save lives and safeguard goods in the military in case of fire.**



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2023

## 2. WHY IS PASSIVE FIRE PROTECTION SO IMPORTANT?



### What happens to the structure in case of a fire?

#### • Steel

- Starts losing its load bearing capacity above 500°C
- Risk of collapse



#### • Concrete

- Severe risk of spalling at surface temperature over 380°C
- Exposure of rebar structure
- Loss of load bearing capacity
- Risk of collapse
- Risk of damage due to flying debris





### 3. WHY IS PASSIVE FIRE PROTECTION (PFP) SO IMPORTANT ?

- **FACT CHECK** : “Steel & concrete structures can stand fire and don’t collapse”.  
*Wrong !! They start losing their load bearing capacity at high temperatures, with risk of collapse.  
Concrete already above 380°C, and steel above 500°C. Both, with risk of collapse!*
- PASSIVE FIRE PROTECTION (PFP) ,despite its name, it is **always working**. It will **prevent a fire from spreading**.
- PFP is **structural** and **built into the building**.
- **People have time to escape** from a building that has a fire thanks to fire-resistant walls, floors, ceilings and fire doors



## 2. VERMICULITE, THE MAGIC KEY COMPONENT OF ALL OUR PRODUCTS



### Characteristics

- 100% natural mineral, ecologically sustainable, unlimited durable
- superior fireproof performance (> 4 ½ hours at > 1.100 °C)

### Application sectors of PFP projects

- INFRASTRUCTURE: airports, harbours, warehousing, tunnels, buildings, military
- PLANTS: industrial, power, chemical, military
- O&G, HYDROCARBON, offshore & tank installations

### 3. SLV, NESTAAN'S SPRAYED MORTAR, AS DURABLE PFP SOLUTION



#### **Sprayed cement-based PFP mortar: strengths**

1. Extremely fast and easy to apply
2. Robust adhesion
3. Safe and time-saving application. No drilling, no need for nail guns or drill machines. So fewer safety problems on site thanks to our mesh and pins glued with high temperature adhesive
4. Ideal for all types of columns, beams or concrete
5. Additional corrosion protection
6. Practically no weather implications. Moisture resistant
7. Resistant, long life, 100% ongoing functioning of vermiculite
8. Few maintenance and simple repairs
9. Very competitive in Life Cycle Cost (LCC) and Total Cost of Ownership (TCO)

# REFERENCES

## Training & Aircraft Maintenance Centre MEA Beirut (Military) Libanon - 2013



### Assignment

Make a huge open covering roof, under which the airplanes were stationed during maintenance, completely PFP-proofed for 2 hours.





## Annie Cordy tunnel Brussels - Belgium



## Tupras refinery Izmit – Turkey

