

**Physical and Environmental Security**  
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**Threats**

- Natural environmental
- Supply system
- Manmade
- Politically motivated

**Fences**

- 3 - 4 feet deter casual trespassers
- 6 - 7 feet too high to climb easily
- 8 feet - serious protection
- Gauges 11, 9, 6 lower number = thicker
- Mesh 2", 1", 3/8"

**IDS**

- Beams of light
- Sounds and vibration
- Motion
- Different types of field
- Electrical circuit

**Gates**

- Class I - Residential
- Class II - Commercial
- Class III - Industrial, e.g. Warehouse
- Class IV - Restricted, e.g. Prison

**Defense in Layers**

- Deterrence**
  - Fences
  - Warning signs
  - Security guards
  - Dogs
- Delaying**
  - Locks
  - Defense in depth measures
  - Access Controls
- Detection**
  - External intruder sensors
  - Internal intruder sensors
- Assessment**
  - Security guard procedures
  - Communication structure
- Response**
  - Response force
  - Emergency procedures
  - Police, Fire, Medical

**Fire**

- Detection**
  - Smoke activated
  - Heat activated
  - Plenum area - special cabling
- Class**
  - 4. Derive the Overall Annual Loss Potential per Threat
  - 5. Reduce, Transfer, Avoid or Accept the Risk
  - A - Common combustibles - water or soda acid
  - B - Liquids - CO2, soda acid or Halon
  - C - Electrical - CO2 or Halon
  - D - Combustible metals - total immersion
  - K - Kitchens (commercial)
- Suppression**
  - Fuel - Soda acid - removes fuel
  - Oxygen - CO2 - Removes oxygen
  - Temperature - Water - reduces temperature
  - Chemical - Gas Halon or FM-200 - Interferes
  - Wet pipe, dry pipe, preaction, deluge

**Crime Prevention Through Environmental Design - CPTED**

- Limited entry points
- Force guests to front desk
- Reduce entry points after hours
- Guard validates photo id
- Guest sign in
- Question Strangers

**Windows**

- Standard
- Tempered
- Acrylic
- Wired
- Laminated
- Solar Window Film
- Security Film

**Power**

- Excess**
  - Spike
  - Surge
- Loss**
  - Fault
  - Blackout
- Degradation**
  - Sag/dip
  - Brownout
  - In-rush current

**Static**

- Antistatic flooring
- Ensure proper humidity 40 - 60%
- Proper grounding
- Avoid carpeting
- Antistatic bands when working on hardware
- Temperature 50 - 80 F (10 - 26 C)

**Locks**

- Grade 1 - 3, Commercial, Heavy Duty, Residential
- Warded lock - Padlock
- Tumbler lock
- Combination lock
- Cipher lock