

SUMMARY OF LIGHTNING PROTECTION SYSTEM

A. AIR TERMINATION SYSTEMS

Components

1. Rods (Air Finials) (Figure 1)
2. Catenary wires (Figure 2)
3. Meshed conductors (Figure 3)
4. Natural air termination components (metal sheets, railings, coverings of parapets, metal pipes, tanks)

Position of the Air Termination System

1. Protection angle method (Figure 4 & 5)
 - ✓ Subject to limits in Table 2
2. Rolling sphere method (Figure 6)
 - ✓ Suitable in all cases
3. Mesh method (Figure 7)
 - ✓ Suitable for flat surfaces

B. DOWN CONDUCTOR SYSTEMS

- ✓ Not less than two down conductors
- ✓ Should be installed at exposed corner of the building

1. Copper tapes or aluminum tapes
2. Natural down conductors (metal of the reinforced concrete, steel framework)

C. EARTH TERMINATION SYSTEM

1. Type A arrangement
 - ✓ Suitable for low buildings (e.g. houses), existing buildings
2. Type B arrangement
 - ✓ overall earth resistance $\leq 10 \Omega$
3. Natural earth electrodes (reinforced steel in concrete/foundation)

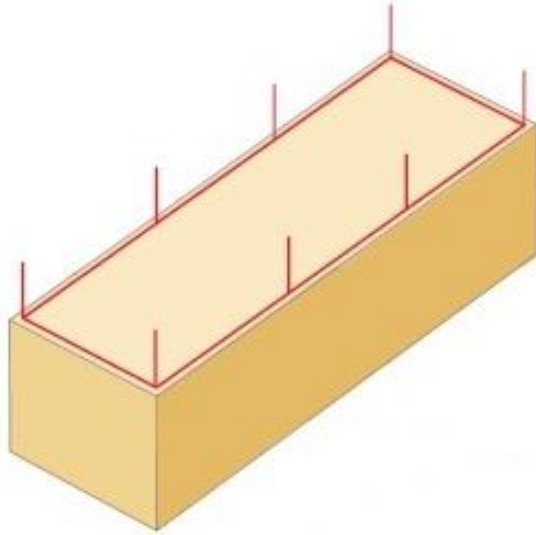


Figure 1

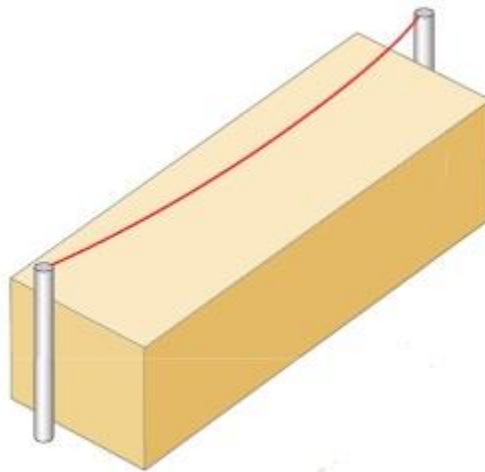


Figure 2

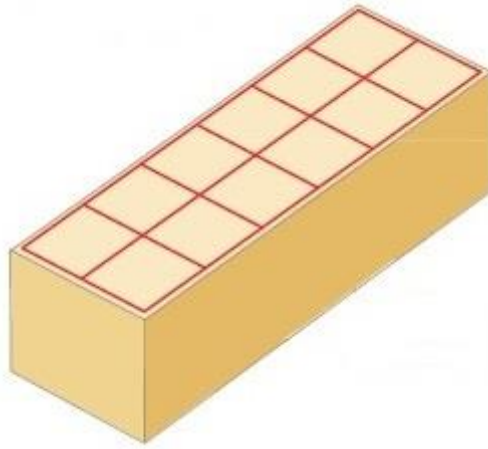


Figure 3

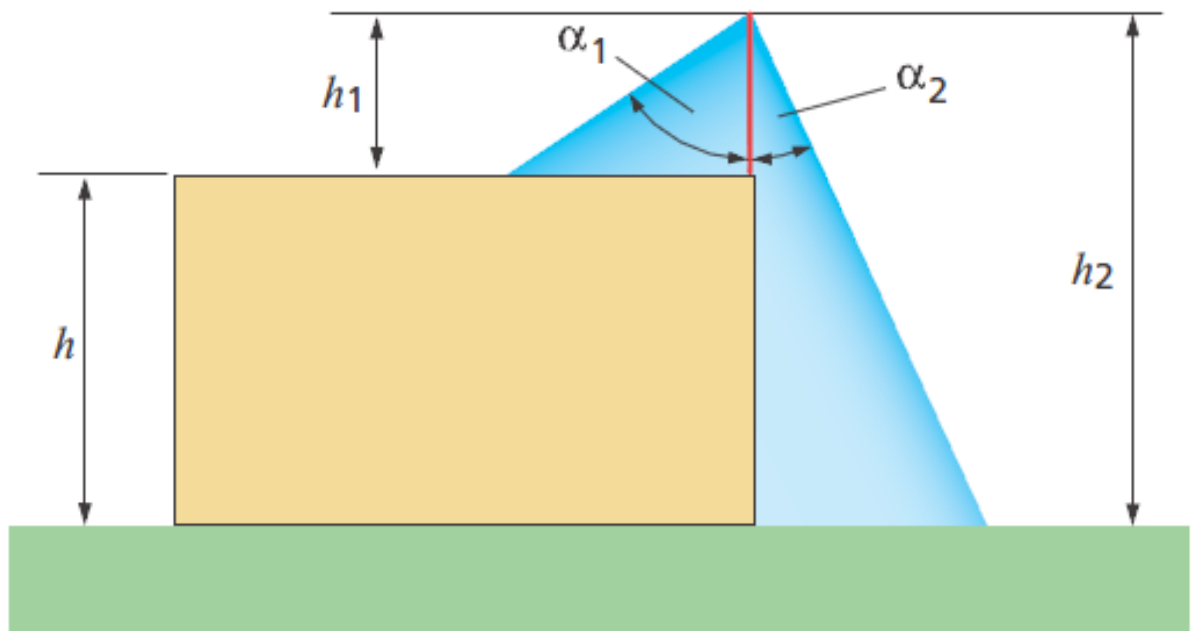


Figure 4

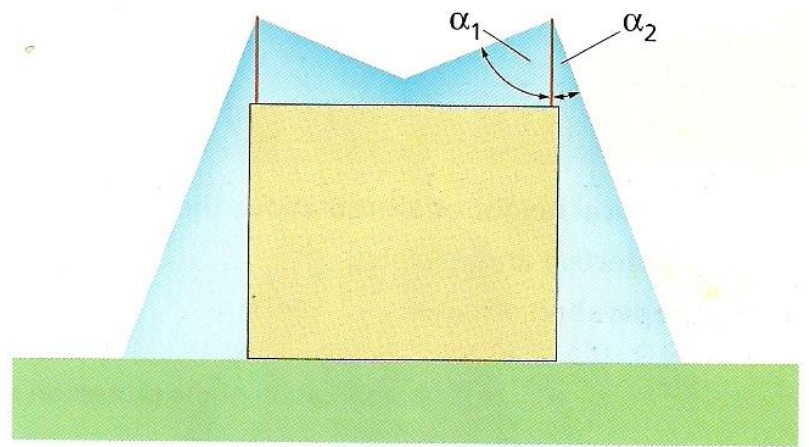
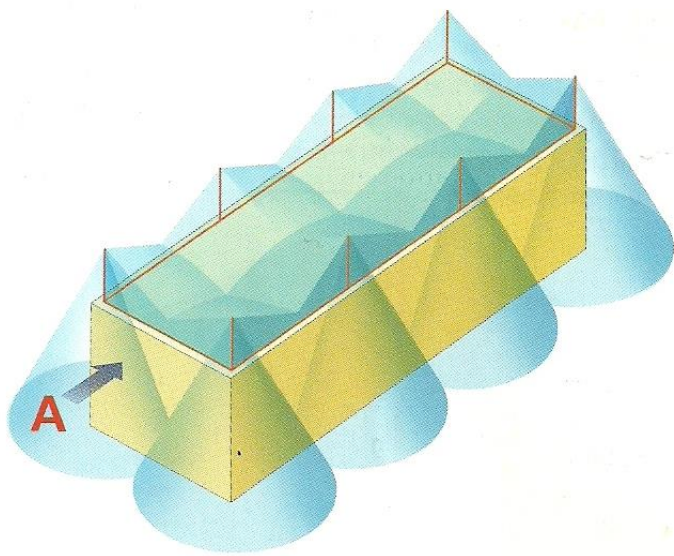


Figure 5

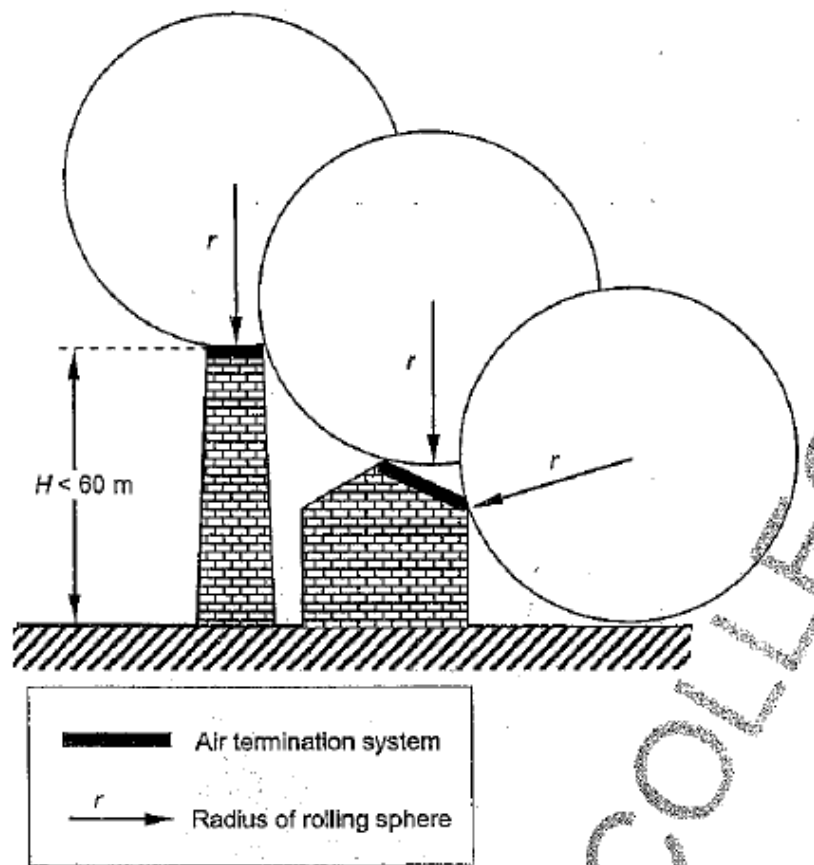


Figure 6

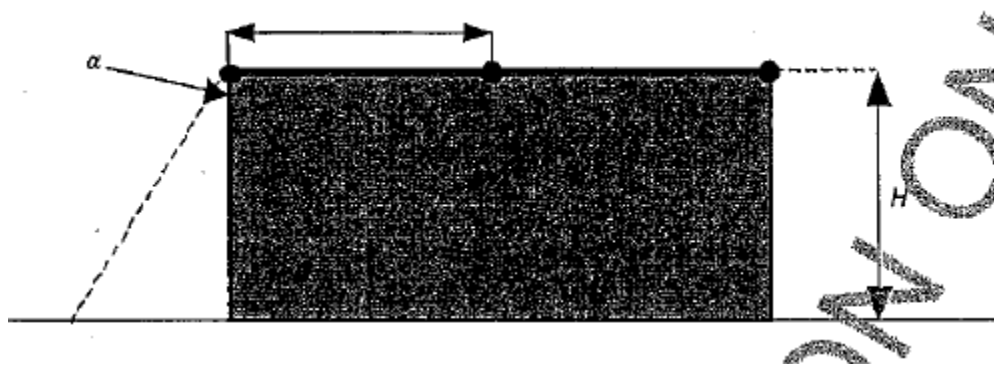


Figure 7