RCI Fail-Safe vs Fail-Secure

Fail-Safe Definition

Fail-safe doors unlock upon power loss, allowing immediate egress. This is the required approach for life safety scenarios including emergency exits, fire-rated openings, and occupied assembly spaces.

- **Maglocks (fail-safe):** Magnetic force releases upon power loss. Commonly used on push-to-exit doors
- **Fire Exit Compliance:** Must unlock within 3 seconds of alarm activation per NFPA 101
- **Code Requirements:** ADA, NFPA, and IBC all mandate fail-safe on public assembly egress paths

Fail-Secure Definition

Fail-secure doors remain locked upon power loss, providing continuous security. Electric strikes hold doors locked mechanically. Required for high-security spaces, data centers, and areas with valuable assets.

- **Electric Strikes (fail-secure):** Solenoid unlocks mechanical latching mechanism. Power loss = locked
- **Secure Areas:** Vaults, server rooms, executive areas benefit from fail-secure approach
- **Dual-Function:** Some installations use both technologies - maglocks for egress, strikes for entry security

Occupancy Type Requirements

Healthcare: Fail-safe on psychiatric units (patient safety), fail-secure in pharmacy. Educational: Fail-safe on classroom exits, fail-secure on secure storage. Retail: Fail-secure on stockrooms, fail-safe on emergency exits.