NFPA 80 and Rolling Fire Doors

- Balanced Fire Protection
- Testing Requirements
- Operation
- Repairs
- Maintenance

Balanced Fire Protection

- Using Closure Products for containment
- And automatic sprinkler systems for suppression
- To achieve the highest level of life safety and property protection.

The “Balanced Fire Protection” Benefits of Fire Door Systems Versus Sprinklers

- Regular testing without building damage
- A physical barrier to contain explosive and flammable materials
- Maintains the “balance of suppression” system against the possibility of frozen piping, system malfunction or loss of water service
- The ability to provide labeled smoke protection in addition to labeled fire protection
- Compartmentalization for Firefighters

The "Balanced Fire Protection" Benefits of Fire Door Systems Versus Sprinklers

- Provide "Area of Refuge"
- Security – Ability to close and lock off openings as desired.
- Sound Attenuation – In addition to fire protection, insulated fire doors carry an STC rating to muffle unwanted sound between areas.
- Means of Egress Protection –Protect parallel openings along egress paths. Smoke protection also is commonly required by local building codes.

NFPA80 5.2.14 – Maintenance of Closing Mechanisms.

All horizontal or vertical sliding and rolling fire doors shall be inspected and tested annually to check for proper operation and full closure. Resetting of the automatic-closing device shall be done in accordance with the manufacturer's instructions. A written record shall be maintained and shall be made available to the AHJ.

When the annual test for proper operation and full closure is conducted, rolling steel fire doors shall be drop tested twice.

The first test shall be to check for proper operation and full closure. A second test shall be done to verify that the automatic-closing device has been reset correctly.

Causes of Automatic Closing System Activation

- Routine testing of the building alarm system
- Power failure with a fail-safe system
- Meeting the annual testing / resetting requirement
- Someone burnt the fries in a school cafeteria and triggered a local smoke detector
- Central alarm was triggered due to an actual fire
- Fuselink melts and separates due to high temperature at the door opening

Original Activation

Fusible Links

Release Devices

Advanced Rolling Fire Door Systems That Are Available Today

Motor operator designed specifically for use with fire door products

Advanced Rolling Fire Door Systems That Are Available Today

- Motor drive does not disengage from door shaft
- Fail-safe design
- Governing device is built into the operator
- Well controlled automatic closing speed, even on very large units
- No spring release mechanisms
- Does not require a release device to connect to alarm system
- Never requires mechanical resetting
- Reset at floor level with push of a button

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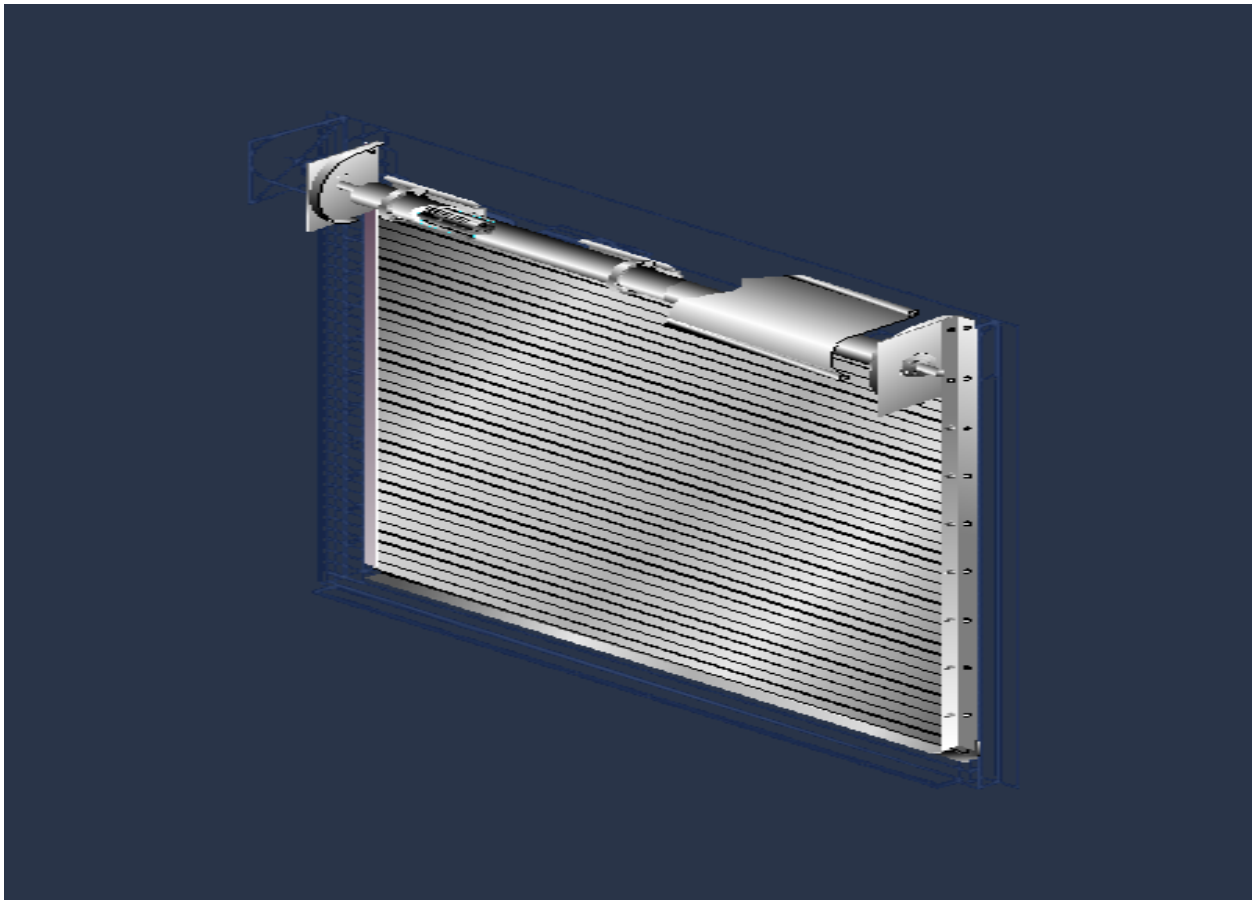
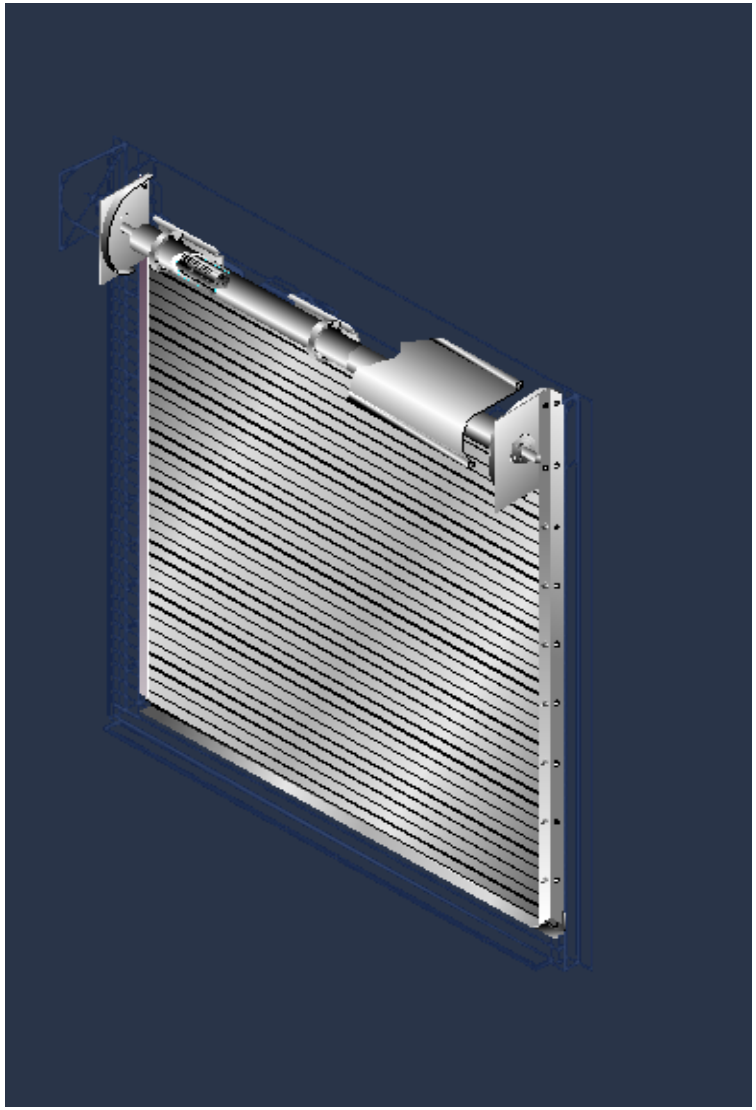
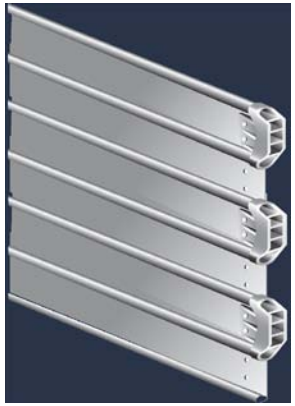
Door Components

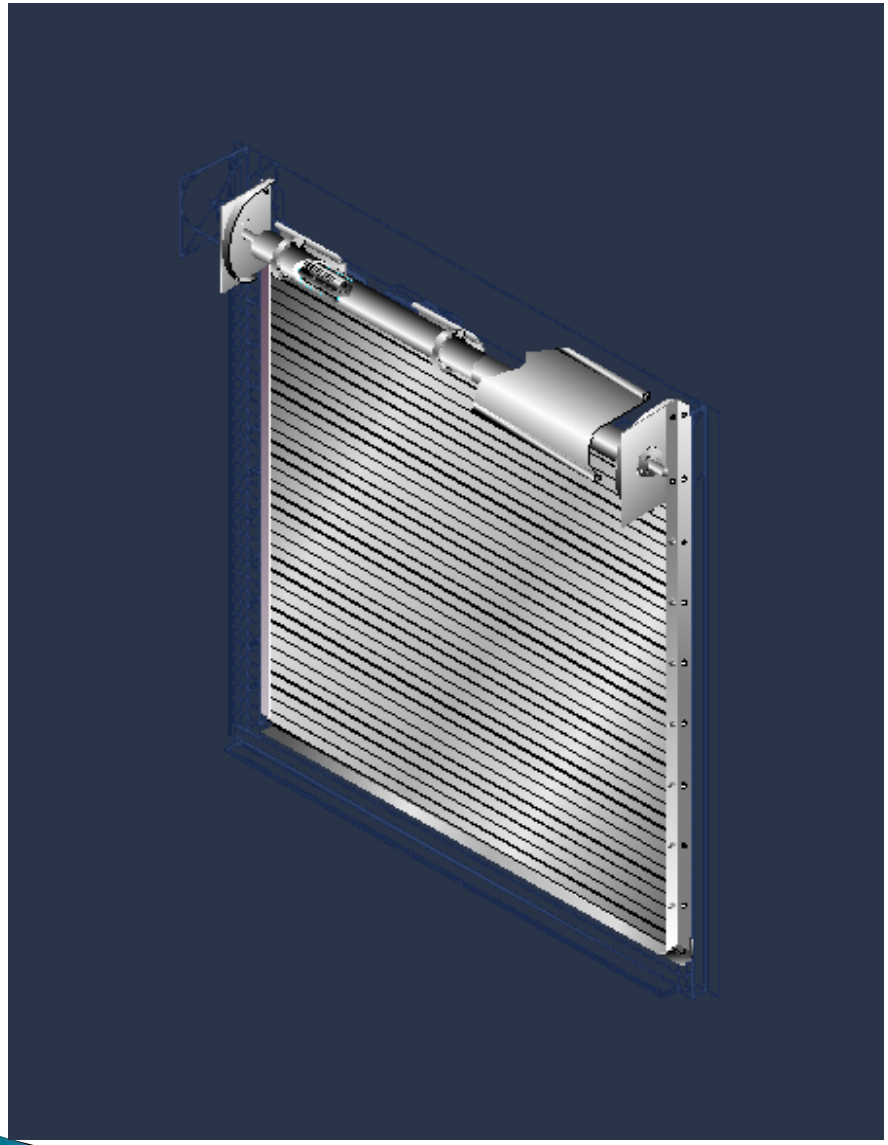


Door Curtain



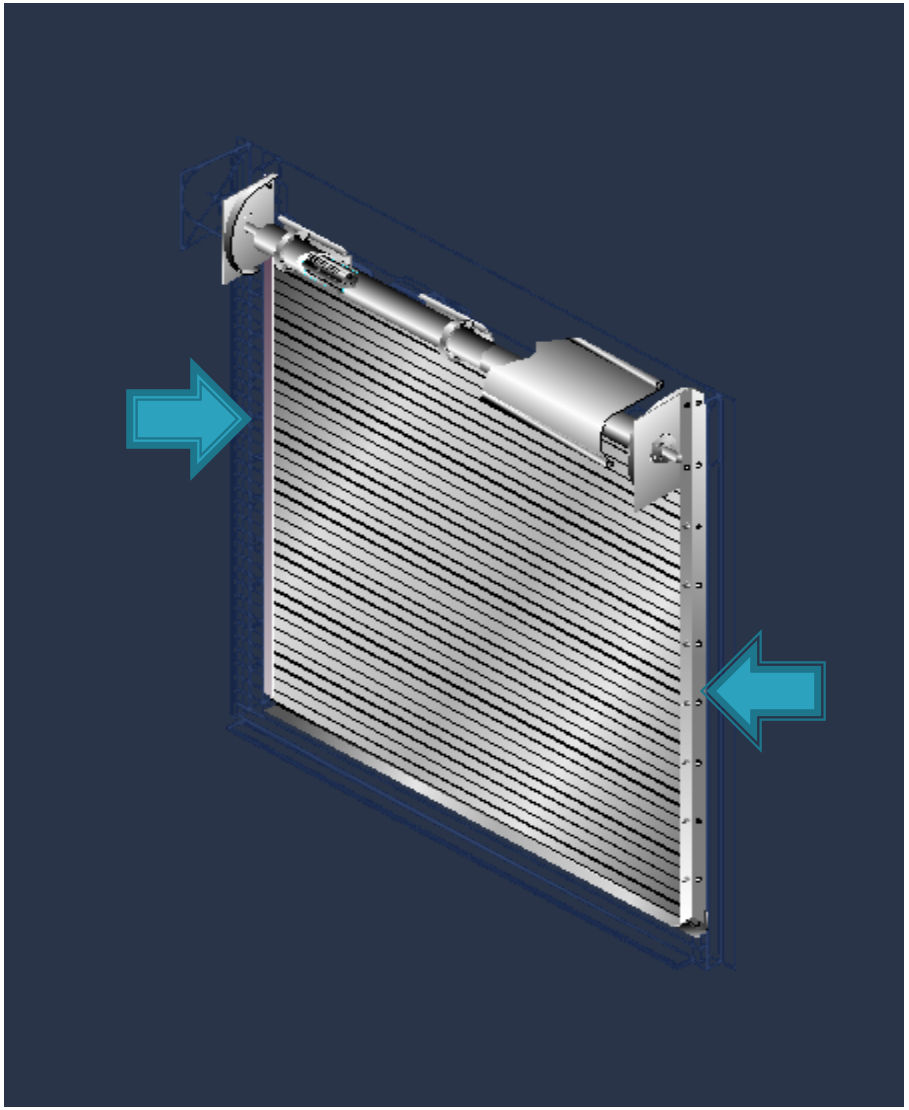


Continuous slats
Endlocks
Windload



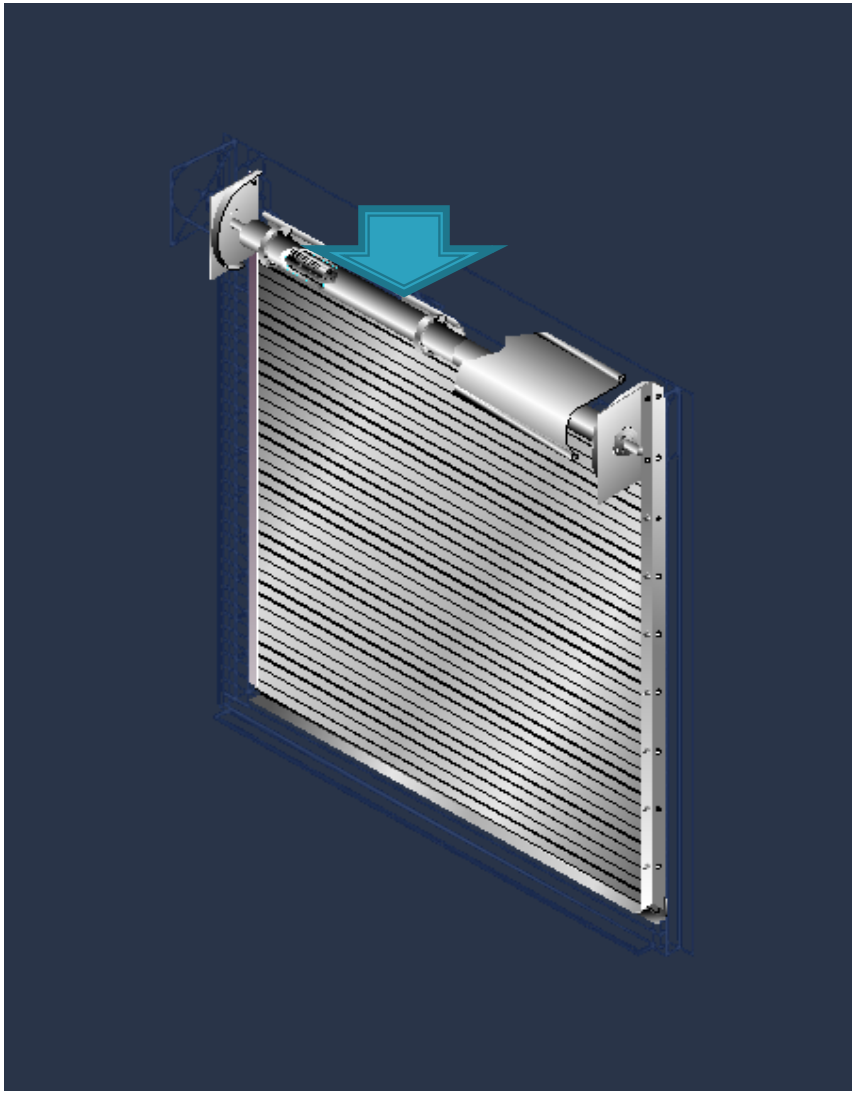
Door Bottom Bar

- Weather seal
- Lock mechanism



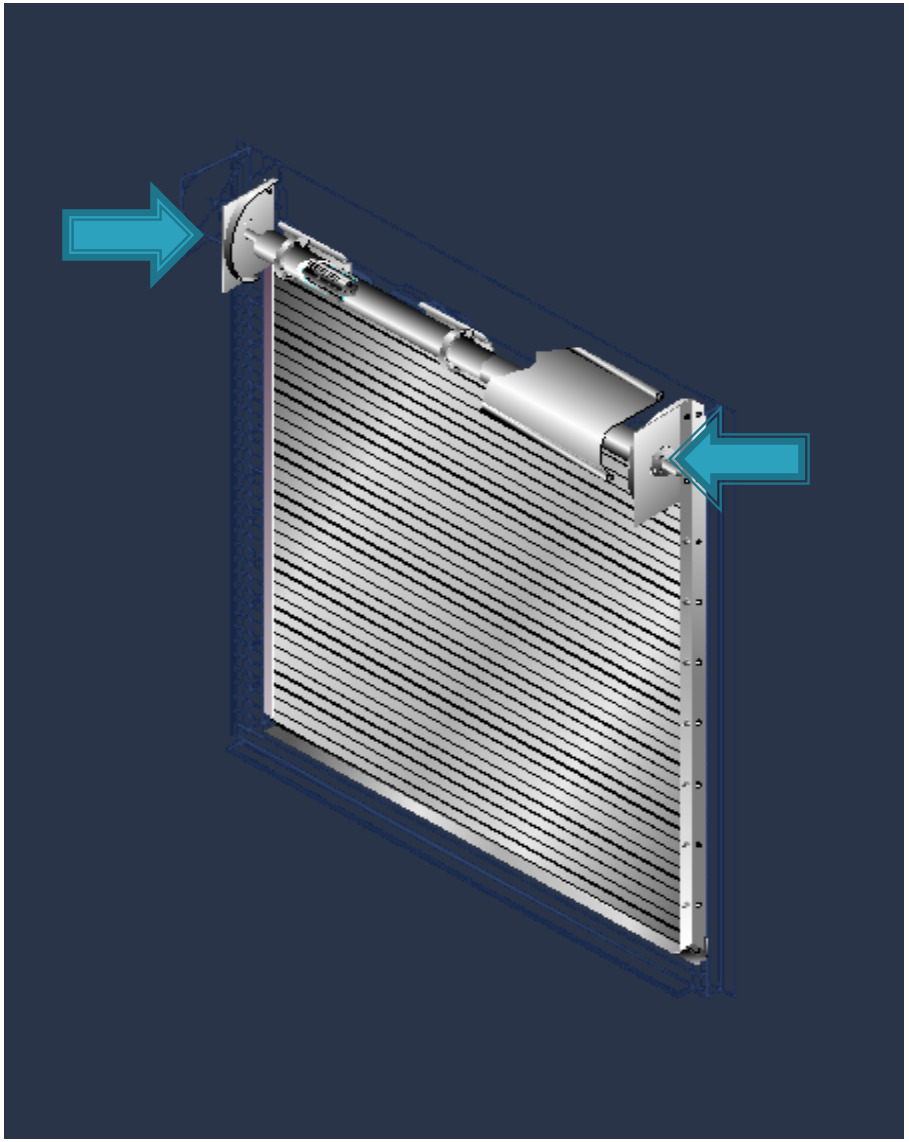
Door Guides

- Aligns curtain
- Supports entire door
- Weather seals



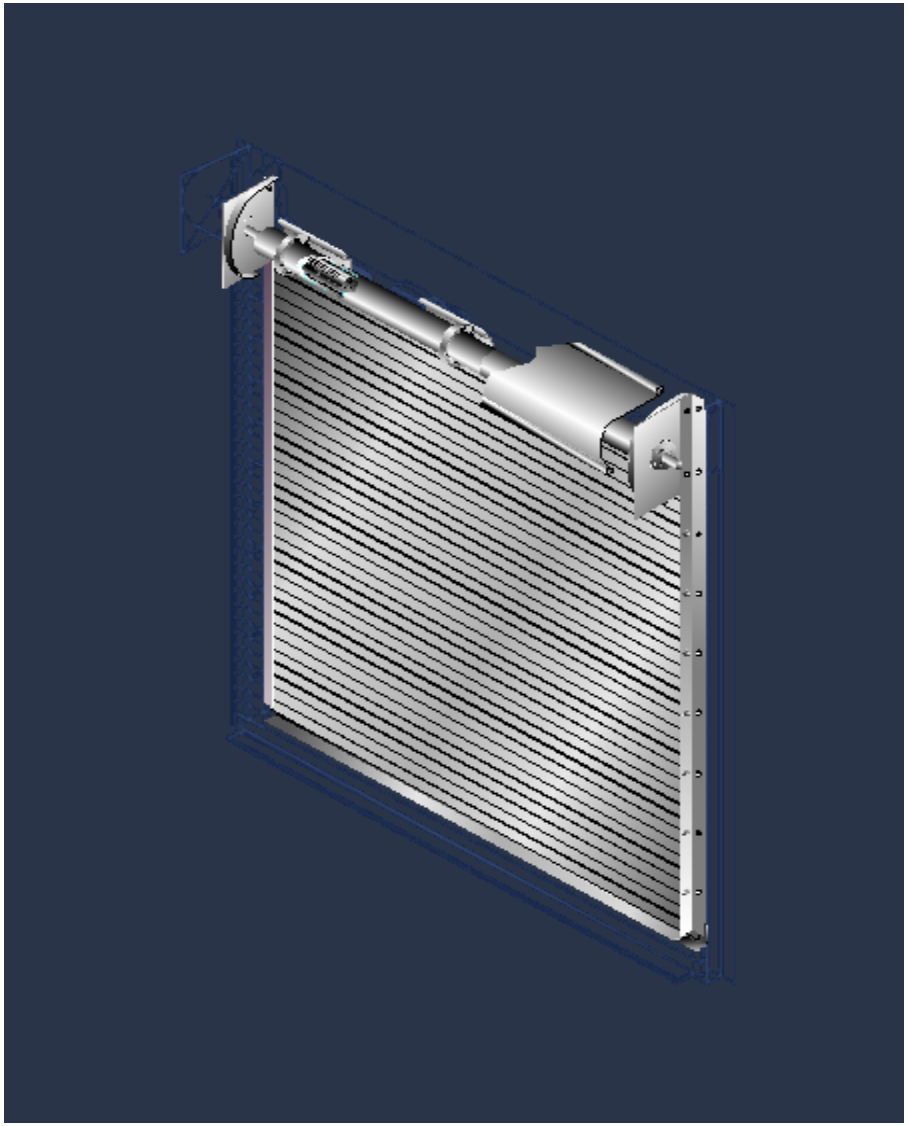
Counter-Balance Shaft

- Steel pipe
- Deflection less than .03” per foot of width
- Contains torsion springs

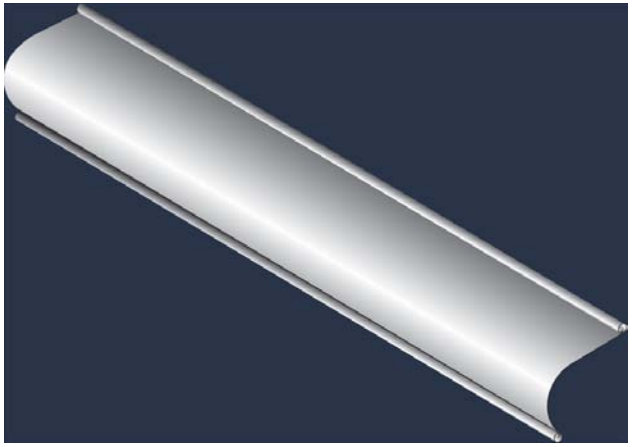


Brackets
(headplates)

- Steel plates
- Bolt to extensions of guides



Coil Hood



- Enclosure for curtain
- Attaches to brackets / wall
- Weather resistance

Inspections
What to Look For

- Fuselinks cannot be painted.
- Fuselinks or other release device must be connected.