



Checklist

EVALUATING WIND RESISTANCE OF LARGE COMMERCIAL DOORS

ABOUT COMMERCIAL ROLL-UP, OVERHEAD, AND SECTIONAL DOORS

Commercial warehouse doors are large and therefore vulnerable to wind-induced pressure during severe windstorms. Inward and outward forces will find a weak link, if it is present, and cause the door to fail. The doors, tracks, and structural connections are all key elements in a continuous load path that transfers these forces into the building. In addition to the standard door accessories, there are simple additions to the door system that create a more wind-resistant design. Depending on the door type, there are varying means for improving performance.

Inspection Process

When conducting a visual inspection of a large door, look for a certification label as shown in Figure 1, which may include wind speed (mph), pressure rating (psf or DP), or an approval rating. When a label is not present, close examination of the door, track, and attachment details can provide some guidance about whether the door is actually wind resistant. Since design pressure varies depending on location, terrain exposure, and building size, a pressure rating is preferred. A pressure rating on the certification label is a good indicator that the manufacturer is trustworthy.

Roll-up and overhead doors equipped with wind locks, as shown in Figure 2, will keep doors from being forced out of the tracks during a windstorm, which is a common failure point in commercial buildings. It is important to note that roll-up steel doors can be designed to meet the building code requirements without necessarily including wind locks. Sectional doors may have horizontal or vertical bracing. These features do vary slightly within the commercial door industry with each manufacturer having their own proprietary design.

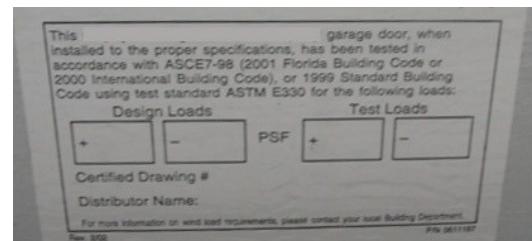


Figure 1. Check for a certification label when conducting a visual inspection of a commercial door. Keep in mind that labels are formatted in a variety of ways.



Figure 2. The roll-up door pictured is equipped with wind locks that will keep the door from being forced out of the tracks during a windstorm.

Roll-Up, Overhead Doors Inspection Checklist

Use the following checklist to identify key areas of inspection.

QUESTIONS	YES	NO
1. Is there a label? Approvals: Miami-Dade County Approved Florida Product Approval No Approval/Unknown Wind speed: _____ mph Pressure rating/design pressure: _____ psf		
2. Impact-rated doors should meet the requirements ANSI/DASMA 115 and/or the Florida Building Code standards TAS 201, 202, and 203. Does a label indicate that the door has met this requirement?		
3. Are there wind locks on the door that slides in the track?		
4. Are tracks sturdy? Tracks are considered weak if you can rotate them in a twisting motion.		
5. Are brackets attaching the track to the wall loose, broken, or missing bolts or nuts?		
6. Are any elements of the curtain, tracks, brackets, or accessories rusted?		
7. Are any elements of the curtain, tracks, brackets, or accessories badly dented?		

Assessment

- If there is a label indicating the approval, wind speed (mph) or pressure rating (psf), the door is likely designed to the local code and may be high-wind rated.
- If there is a label indicating the approval, wind speed (mph) or pressure rating (psf), and a large missile impact test requirement, the door is likely designed to the local code, high-wind rated, and impact rated.
- If the answers to questions 3 and 4 are "Yes," the door is likely designed to meet the local code and is high-wind rated.
- If the answers to questions 3 and/or 4 are "No," the door is likely NOT rated for high winds.
- If the answer to any of questions 5–7 is "Yes," the door needs repair or possibly replacement.



Figure 3. Horizontal bracing on the sectional door pictured above creates a more wind-resistant door, reducing the risk of damage.



Figure 4. Inspect for rust on commercial doors. The picture above shows a severe case of rusting on a roll-up door, which can greatly decrease its strength.

Sectional (Garage-Type) Doors Inspection Checklist

Use the following checklist to identify key areas of inspection.

QUESTIONS	YES	NO
1. Is there a label? Approvals: Miami-Dade County Approved Florida Product Approval No Approval/Unknown Wind speed: _____ mph Pressure rating/design pressure: _____ psf		
2. Impact-rated doors should meet the requirements ANSI/DASMA 115 and/or the Florida Building Code standards TAS 201, 202, and 203. Does a label indicate that the door has met this requirement?		
3. Does the door have at least one horizontal strut across each of the panels as shown in Figure 3 and/or are there plates above the door and in the floor for vertical supports?		
4. Are the tracks sturdy? Tracks are considered weak if you can rotate them in a twisting motion.		
5. Are the rollers metal and are the axels through the rollers solid metal?		
6. When the door is closed, do the brackets supporting the track line up with the rollers?		
7. Are the brackets that hold the track to the wall loose, broken, or missing bolts or nuts?		
8. Are any elements of the panels, tracks, brackets, or accessories rusted or rotted? Shown in Figure 4.		
9. Are any elements of the panels, tracks, brackets, or accessories dented?		
10. Are the hinges between panels loose, broken, or missing bolts, nuts, or screws?		

Assessment

- If there is a label indicating approval, wind speed (mph) or pressure rating (psf), the door is likely designed to the local code and may be high-wind rated.
- If there is a label indicating approval, wind speed (mph) or pressure rating (psf), and a large missile impact test requirement, the door is likely designed to the local code, high-wind rated, and impact rated.
- If the answers to questions 3–6 are “Yes,” the door is likely designed to the local code and is high-wind rated.
- If the answer to any of questions 3–6 is “No,” the door is likely NOT rated for high winds.
- If the answer to any of questions 7–9 is “Yes,” the door needs repair or possibly replacement.

Strengthening or Replacing Commercial Roll-Up, Overhead, and Sectional Doors

For retrofit improvements and door replacement information, please check with the door manufacturer for guidance on how to strengthen the door and its track so that it has the properties found in new wind-rated doors appropriate for your location.