



WHITE PAPER

Designing New Bay Area Towers For Facade Access

Design-stage rules for facade access on new towers: engineered platform equipment, design loads, 5,000 lb RDS anchorages, approved window anchors and field testing before service.

Executive Summary

How a tower's facade will be reached for cleaning and inspection is best decided at design, when anchors, davit bases, roof tracks and window types are still being laid out. This paper lists the design-stage requirements in California and federal rules that architects, developers and owner's reps should coordinate early.

Key Points

- **Engineer-Designed Equipment:** California powered platform installations must be designed by or under a California-registered professional engineer. §3295(a)(1)
- **Design Loads:** Minimum live load of 250 lb per platform occupant; wind design of 100 mph out of service and 50 mph in service. §3295(a)(2)–(4)
- **Roof Anchorages:** RDS anchorages must support 5,000 lb in any direction per attached worker, inspected annually and certified at least every 10 years. 1910.27(b)(1)(i)
- **Window Units:** New window installations with anchors must pass the A39.1 drop test. §3283(b)(2)
- **Tested Before Service:** Completed installations are field-tested before initial service. 1910.66(g)(1)

Access Planning At Design

Early choices decide whether a building can be cleaned by rope descent, by a building maintenance unit (BMU) or powered platform, or from the sill with belt anchors. Each method carries its own rules. Under federal rules, RDS may not be used above 300 ft above grade, and descents over 130 ft need stabilization. 1910.27(b)(2)(i), (x)

Anchor And Davit Integration

Roof Anchorages

Before any RDS is used, the owner must tell the employer in writing that each anchorage is "capable of supporting at least 5,000 pounds (2,268 kg), in any direction, for each employee attached," based on annual inspection and certification at least every 10 years. 1910.27(b)(1)(i) Platform anchorages must also meet 1910.140(c)(13). 1910.66(c)(3) The industry standard ANSI/IWCA I-14.1 (Window Cleaning Safety Standard) also addresses window cleaning safety; this paper cites it by name only and does not summarize its contents.

Powered Platforms And Davits

§3295 covers platforms, stabilizing components, carriages, outriggers, davits, hoisting machines, wire ropes and electrical components, and it requires engineered design. §3295(a) Owners of new installations must give the employer written assurance about load capacities, stability, carriage forces, hoists, wire rope, stabilization and electrical design. 1910.66(c)(1)

Window Belt Anchors

Where windows are cleaned from the sill, anchors must be Division-approved and placed 42 to 51 inches above the sill, and expansion shield anchors are prohibited. §3283(b), (d)(1), (d)(9)

Coordinating With Facade Engineers

Design Item	Requirement	Source
Platform Equipment Design	CA-Registered PE	§3295(a)(1)
Platform Live Load	≥ 250 lb Per Occupant	§3295(a)(2)
Wind Design	100 mph Out Of Service / 50 mph In Service	§3295(a)(3)–(4)
RDS Anchorage	5,000 lb Any Direction Per Worker	1910.27(b)(1)(i)
Window Anchors	Approved; 42–51 In. Above Sill	§3283(b), (d)(1)
Commissioning	Field Test Before Initial Service	1910.66(g)(1)

Coordinate the access plan with the facade, structural and roof designers so that anchors, davit sockets and tracks land on structure and stay clear of waterproofing details. Ask for the written assurance and test documentation to be part of the turnover package. On WCBA jobs, rope and suspended work is performed by a vetted partner crew.

Sources

- Cal. Code Regs. Title 8 §3295 and §3283. <https://www.dir.ca.gov/title8/3295.html>
- 29 CFR 1910.27 and 1910.66. <https://www.ecfr.gov/current/title-29/part-1910>

This paper summarizes regulations and agency guidance for general information and is not legal advice. Requirements may change and vary by city; consult the current text, your local agency and qualified professionals.

About Window Cleaning Bay Area

Window Cleaning Bay Area provides commercial window cleaning, pressure washing and solar panel cleaning across the San Francisco Bay Area. Contact: grayson@windowcleaningbayarea.com