FALL STATISTICS & HAZARDS

A new study by a University of Tennessee researcher, using OSHA (Occupational Safety & Health Administration) data, concludes **falls from roofs** or from structures continue to be the top two causes of construction fatalities. The category of fall from/through roofs accounted for 76 deaths, or 10.7 percent of all fatalities. A second category of falls — fall from/within structure — was the second most common cause of a construction fatality. The researcher said the rankings have changed little over time.

Note: The above data was taken from the May 1, 2005 NRCA (National Roofing Contractors association) "For Members Only" newsletter. At Thaler, it occurs to us, this 10.7 figure may be indicative for the whole of North America. For detailed information, refer to the respective departments of labor in the U.S. or Canada.

OSHA data also indicates that, nationwide, construction workers have accounted for one out of every six fatal work injuries from 1992 through 1997. During that same period, the three leading causes of fall deaths among construction workers nationwide were falls from roofs, roof holes, roof edges (51 percent), scaffolds (17 percent), and ladders (17 percent). Special trade contractors such as roofers, carpenters and masons accounted for approximately 59 percent of all construction related fatalities. (Reference: www.safetyonline.com)

In addition, a significant amount of maintenance or repair work is carried out on buildings with low slope/flat roofs — on the roofing itself, on HVAC or other mechanical or electrical equipment, on window washing equipment, rooftop lighting, security cameras, signage, communications equipment, and similar appurtenances. The exposure to falls from the edge of the roof or through skylights presents a serious risk for the workers performing these tasks.

THALER PURCHASE OPTION

The Thaler NO-FALL FENCE can be purchased outright for re-use time and time again, with the exception of the "roof side" brackets which are to be left in place and covered over with the roofing materials ("roof side" brackets must be re-ordered for each project).

THALER "TURNKEY" OPTION

Thaler can provide interested parties with a complete NO-FALL FENCE service including: a roof plan showing post and bracket locations, openings and roof edge details; engineered, stamped drawings; installation; and removal. With this scenario, Thaler owns the fence and will store it for future use for the same client, or any new client. Thaler however, do request that the roofing contractor remove the roof edge flashing for re-roofing work.

ARCHITECTS / ROOF CONSULTANTS NOTE

The combination of the Thaler NO-FALL FENCE at the roof edge, and the Thaler EASY SLIDER Horizontal Lifeline Fall Protection System for safely erecting the fence, and future maintenance of rooftop architectural, mechanical and electrical building components, provides an innovative approach to helping workers and employers reduce the unnecessary high number of injuries and fatalities occurring from fall hazards in the construction industry.

Specifying the use of these two Thaler products will save lives while simultaneously reducing liability on the part of construction professionals.

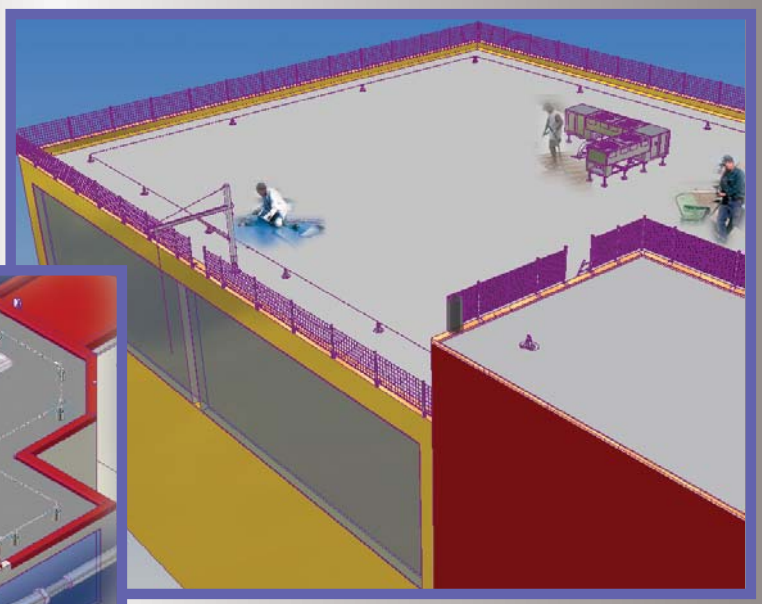


Illustration showing applying roofing safetly using Thaler NO-FALL FENCE

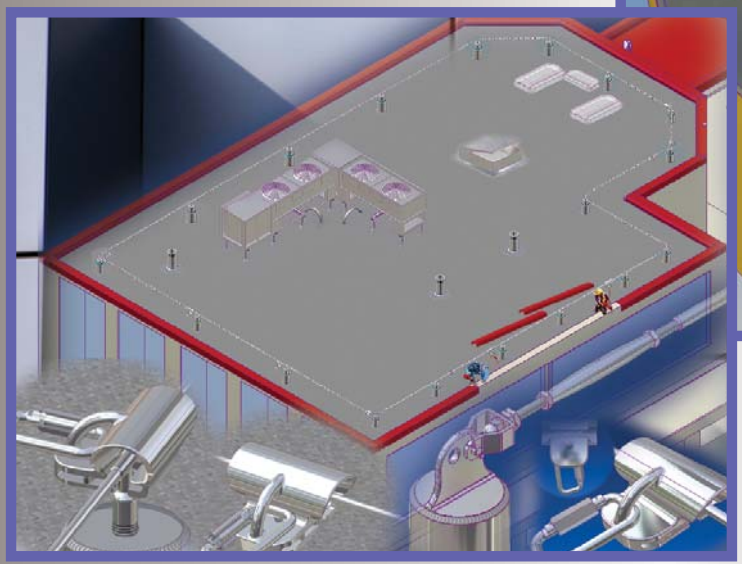
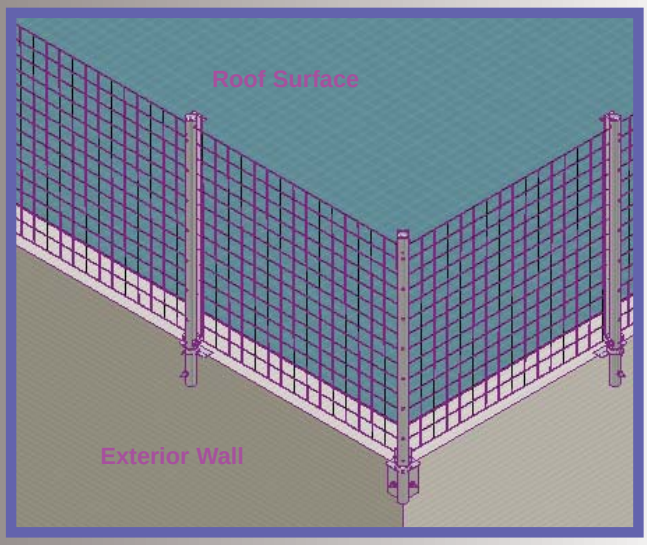
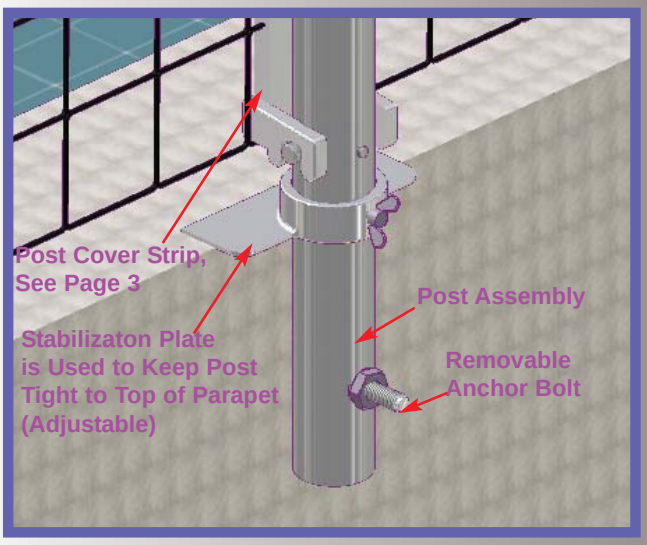


Illustration showing completion of roof edge using Thaler Horizontal Lifeline System (K-700)

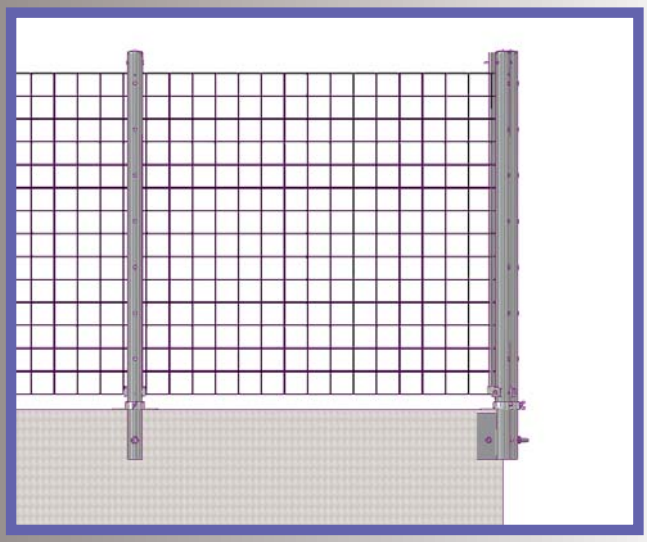
THALER NO-FALL FENCE AT CONCRETE PARAPET (Utilizes "Invisible Anchor" Insert for future fence installation for re-roofing, maintenance, etc.). Suitable for new construction or can be retrofit for any wall finish.



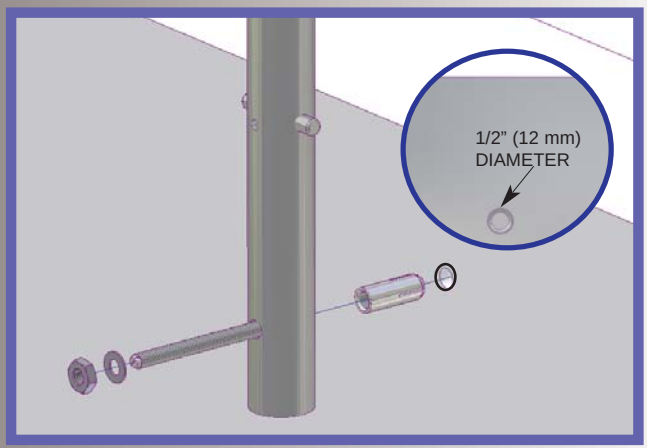
Exterior View of Thaler NO-FALL FENCE at Concrete Parapet.



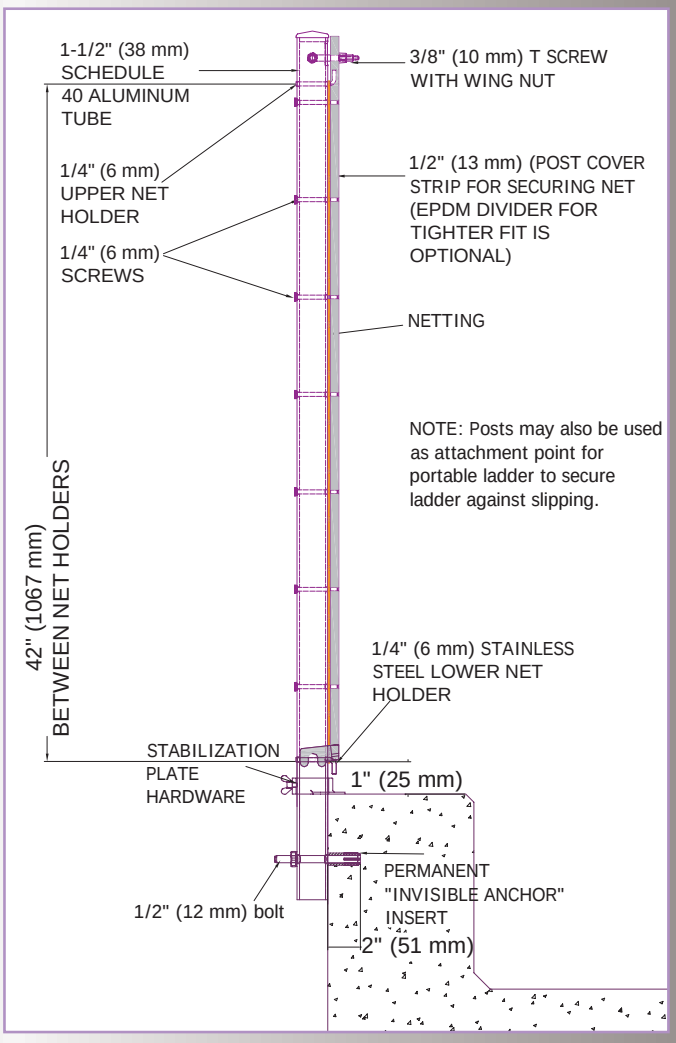
Close-Up View of NO-FALL FENCE Post.



Elevation of Corner in Above Illustration.



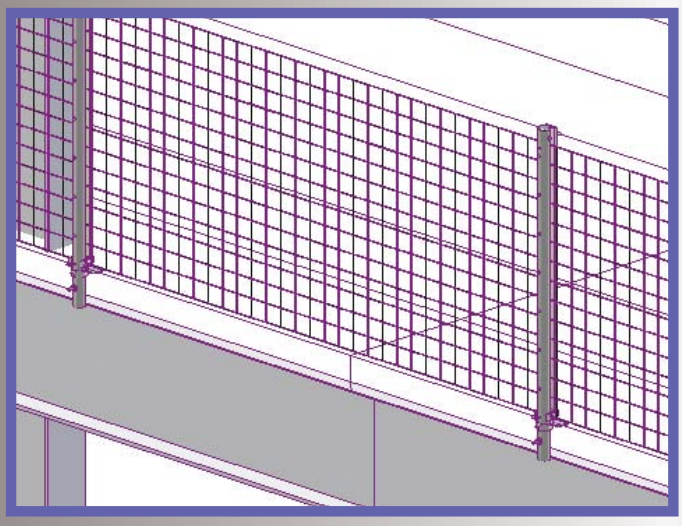
Exploded View of "Invisible Anchor" at left. Inset of Elevation Shows Permanent Anchor for Future Temporary Fence Illustration for Re-roofing or Future Maintenance (for fall protection when working close to roof edge).



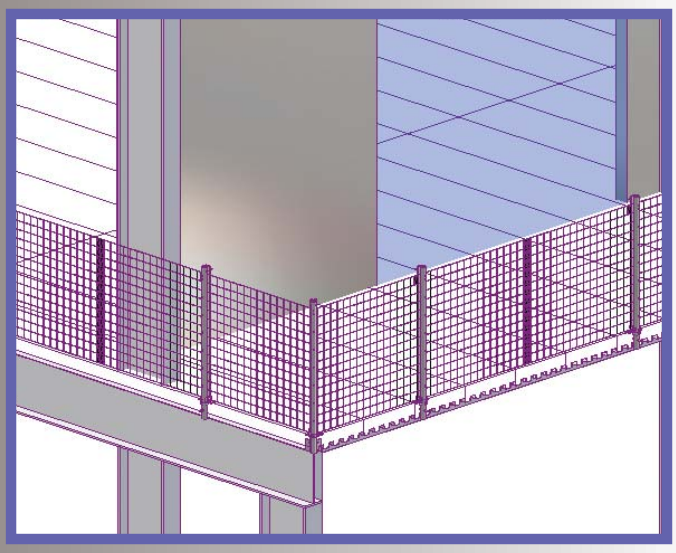
THALER NO-FALL FENCE AT CONCRETE PARAPET

NOTE: For finishes other than concrete, "Invisible anchor" insert can be fabricated any length to accommodate finish thickness. Please submit parapet detail for review.

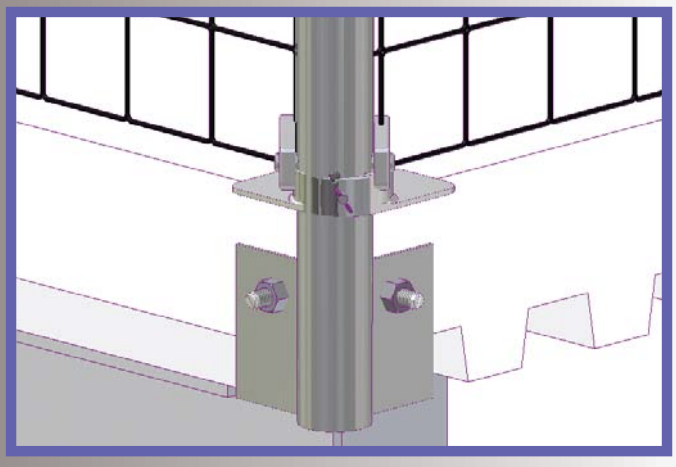
THALER NO-FALL FENCE AT INTERMEDIATE FLOORS (Provides floor-by-floor protection during building constructoin).



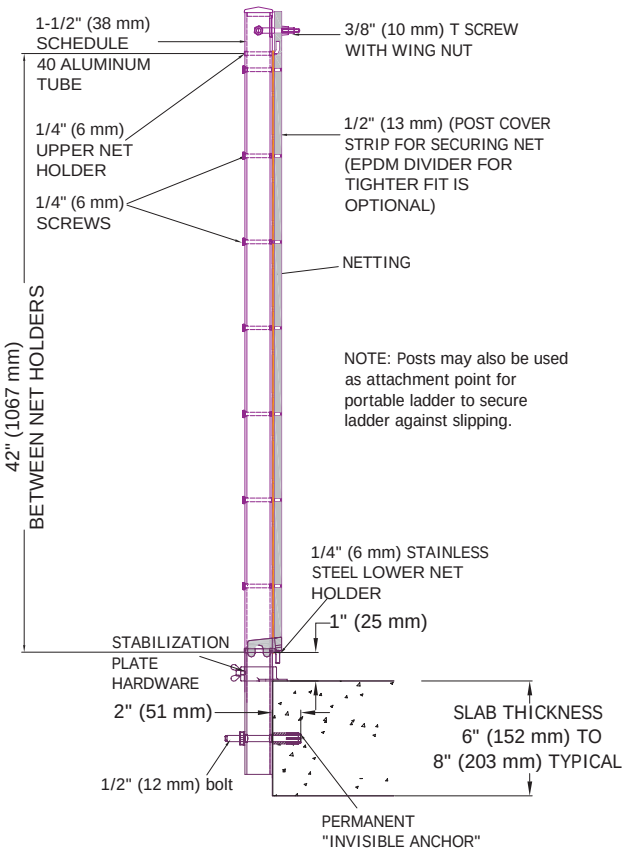
View at Solid Floor Slab.

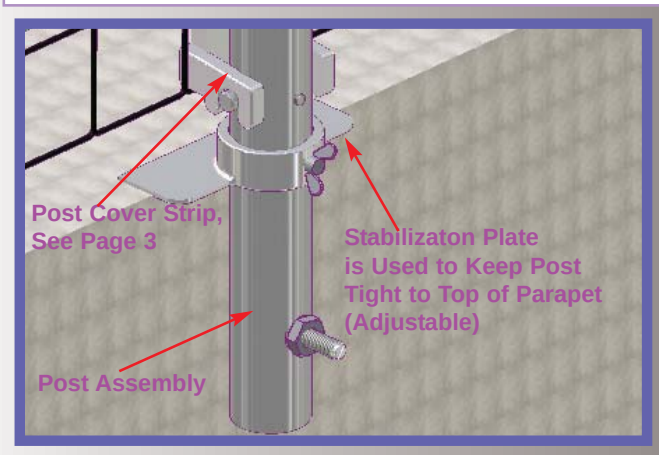


View at Composite Floor Slab.

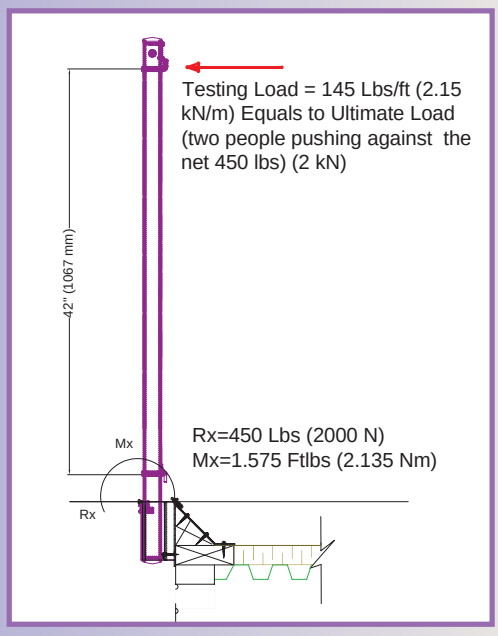


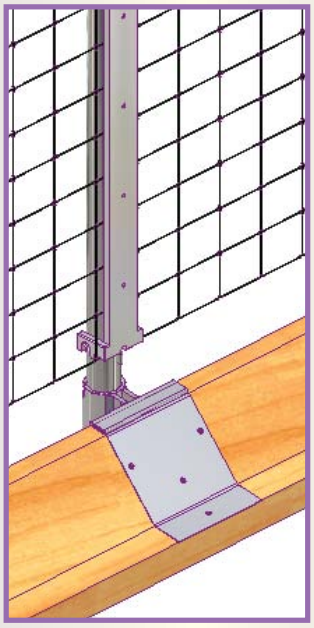
View at Base Corner Post

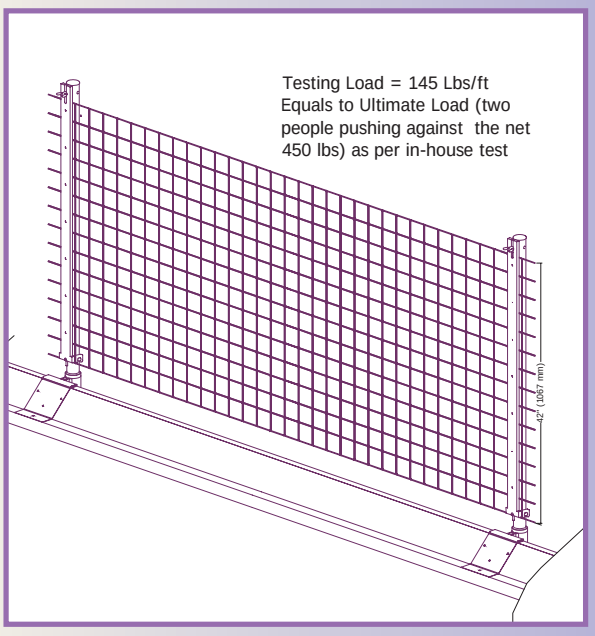




Close-Up View of NO-FALL FENCE Post.







NO-FALL FENCE STRUCTURAL DATA

The strength of the Thaler NO-FALL FENCE relies largely on both the firmness of the substrate and the securement of the fence to the substrate. In the case of the section detail above employing a canted eave, the strength of the fence, secured using the lag screws supplied will sustain a load of two persons pushing against the net, and represent a 2 kN force (450 lbs) providing a solid substrate is possible. However the quality and strength of the wood cant (or roof edge condition) must be evaluated for both material and securement integrity.

These conditions are assessed as part of the Thaler "Turn-Key" service involving fence planning, layout, design, installation, certification, and removal. In other words, Thaler evaluate all conditions and ensure that they are suitable for the use intended prior to the fence being put into service.

WIND LOAD DATA

Wind loading on NO-FALL FENCE is negligible and is directly proportional to surface area upon which the wind is acting. The table below provides data (concentrated load) at each post spaced 8'-0" (2438 mm) o.c. for different wind speeds.

110 mph (177 kmph).....50 lbs (2.25 kN)	50 mph (80.45 kmph).....21 lbs (0.8 kN)
100 mph (160.9 kmph).....42 lbs (1.89 kN)	40 mph (64.56 kmph).....18 lbs (0.8 kN)
90 mph (144.8 kmph).....38 lbs 1.71 kN)	30 mph (48.27 kmph).....14 lbs (0.63 kN)
80 mph (128.7 kmph).....35 lbs (1.57 kN)	20 mph (32.18 kmph).....10 lbs (0.4 kN)
70 mph (76.3 kmph).....30 lbs (1.35 kN)	10 mph (16.09 kmph).....7 lbs (0.31 kN)
60 mph (96.54 kmph).....26 lbs (0.9 kN)	

CUSTOM "ROOF SIDE" BRACKETS

This literature shows only a few roof edge bracket possibilities. Many other roof edge conditions can be accommodated.

Post brackets are typically supplied as two piece components-- "a roof side" piece and an "exterior side" piece. The roof side piece remains in place and is covered with the roofing materials (new "roof side" brackets must be re-ordered for subsequent roofing jobs).
Contact Thaler for roof edge bracket requirements (fax or e-mail roof edge detail if possible).

SPECIFICATION

SPEC NOTE: The following clause is provided for inclusion to Division 01-General Requirements, Section 01 56 23 (Temporary Barricades) or similar.

Provide temporary fall protection fence at roof edges, [and at intermediate floors] having less than minimum 39-1/2" (1 m) or 42" (1067 mm) high parapet or guardrail depending on jurisdiction, where [roofing][and][construction] operations are being performed. All fencing, including anchorages shall be capable of resisting a minimum [200 lbf (890 N)] horizontal load depending on post securement.
Reference: Thaler NO-FALL FENCE manufactured by Thaler Metal Industries Ltd. Mississauga, Ontario 800-387-7217.

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