



Formwork: Leading edge

Explain dangers

High-rise formworkers often work at heights on a leading edge where fall protection is required. A leading edge is the unprotected side and edge of a floor, a roof, or formwork.

Because a leading edge changes location as workers place new formwork in front or to the side of the piece they previously installed, it's more difficult to apply standard fall protection controls.

Identify controls

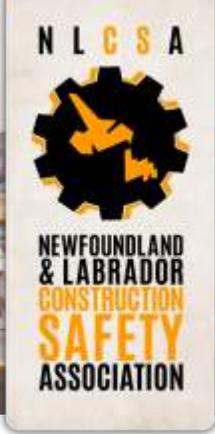
- Due to the high risk of falls involved in high-rise formwork, workers must have received approved working at heights (WAH) training within the previous three years and be made aware of any site-specific fall hazards. In addition, employers must have a fall arrest rescue plan in place.
- Install guardrails along the edge of all completed decks, allowing enough room for installing bulkheads. Remember to install guardrails as the leading edge progresses.
- For work on the leading edge, use an active fall protection system consisting of a full-body harness with a lanyard combined with an energy absorber connected to a rope grab and a lifeline secured to an anchorage.
- If possible, arrange your fall protection system so that it is in travel restraint. If you can't reach the edge, you can't fall.
- If travel restraint is not practical, use a fall arrest system. When using fall arrest with a rope grab, the lanyard length must not exceed 76 cm (30 in).
- Use edge softeners such as a rubber bumper or padding around any sharp edges to prevent the lanyard or lifeline from cutting or fraying.
- Use appropriate anchor points. Wrap connectors or slings around concrete columns or several dowels of

rebar or use embedded connection points that are specifically intended for anchorage. NOTE: Wire or metal anchorage slings are more durable than webbing that can wear and tear over time.

- Check with an engineer if you're unsure about proper anchor points (e.g., how many dowels of rebar are required). Affix the anchor securely so that the connector cannot slip or fall off.
- Mark the transition from completed or "safe" areas to unprotected leading edge areas with clear signs and barriers.
- Keep barriers a minimum of 2 m (6.5 ft) from leading edge operations. Use a sign to indicate that personal fall protection equipment is required in the work area.
- Instead of a lifeline and rope grab, use a self-retracting lifeline (SRL). SRLs work by allowing the lifeline to unspool under slight tension. Just be aware that when you use SRLs, you will probably be in fall arrest, not travel restraint.
- If using a self-retracting lifeline (SRL), make sure that it is certified for use on a leading edge (i.e., designated as an SRL-LE). Also check with the manufacturer to make sure that the type of SRL is recommended for the surface you are working on (concrete, metal, etc.).
- Check the manufacturer's instructions to ensure that the SRL can be used horizontally.
- To minimize fall hazards, don't extend the deck out to the end of the bay. Work across the leading edge, advancing each bay one step at a time.



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- Check the manufacturer's instructions to ensure that the SRL can be used horizontally.
- To minimize fall hazards, don't extend the deck out to the end of the bay. Work across the leading edge, advancing each bay one step at a time.
- To minimize the possibility of formwork and falsework collapse, always nail the formwork in as you progress.
- If you're supplying materials to workers using fall protection, make sure you're in a safe area or protected by using travel restraint or fall arrest

Demonstrate

Demonstrate proper leading edge installation procedures such as setting up a fall protection system, installing guardrails, and erecting signs and barriers.



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