

# WITNESS PROTECTION

## Selecting Fall Protection Equipment That Ensures Operator Safety

By Doug Ingram, General Manager, Green Access & Fall Protection, Benko Products

When operators are required to access tall vehicles such as isotainers, tanker trucks and railcars for loading and unloading processes, it is pivotally important to assure two things: operator safety, including fall protection, and sufficient vehicle access.

Falling is perhaps the most obvious operator risk, as a fall from atop one of these vehicles—which may be several stories tall—could result in serious injury or death. OSHA regulations dictate that employers must provide fall protection equipment that addresses the risk factors present. Assuring operator stability during loading and unloading is also critical, as dry bulk and liquid products are heavy and often awkward to handle—making a stable working surface all the more necessary. Safety, additionally, includes protection from adverse weather conditions, including rain and heavy wind.

To keep operations running smoothly, fall protection equipment must not hinder operator-accessibility. If a safety hoop protects an operator during the loading/unloading process, but he or she cannot efficiently access the vehicle, this equipment cannot be deemed a successful solution. In addition to these considerations, access and fall protection equipment should be selected based upon the application flexibility and longevity it provides. To further enhance the effectiveness of this equipment, customization is an invaluable option—catering the equipment to suit unique application parameters, such as challenging weather conditions and taller-than-standard vehicles.

### Equipment Safety and Access Features

All equipment should ensure operators a stable walking surface with a non-skid grip strut design, and each means of access — including gangways, also called safety bridges, and safety stairs — offer additional specialized safety features. Gangways, designed to grant operators access to the top of a vehicle in instances where the working range is within 15 degrees above or below the platform height, provide welded stops to prevent it from traveling beyond a pre-determined position. Safety stairs, an ideal solution for applications where the working distance is greater than 15 degrees, are made with a supportive, rigid design to facilitate access to an elevated walkway. Both aluminum gangways and safety stairs may offer enhanced stability with galvanized steel back box sections and back uprights. Adjustable chain stops may be added to gangways or safety stairs to make them self-supporting, further improving stability.

Loading racks feature heavy-duty construction and are designed to facilitate access to vehicles such as isotainers and tanker trucks that may need to be loaded in harsh outdoor environments. They offer a selection of one of several access options, including safety stairs and gangways—both of which feature tubular handrails and mid-rails for operator safety and stability, as well as to satisfy OSHA standards. Another feature is a new telescoping mid-rail design, which alleviates many of the concerns with traditional mid-rails featuring slotted connections. As a slotted connection creates an inflexible barrier, if installed incorrectly, the mid-rail could break when force is applied. The telescoping mid-rail is

simpler to install, and its flexible design ensures even an improperly installed telescoping mid-rail will still provide sufficient fall protection.

For applications where the use of access and fall protection equipment is limited or where permanent truck loading platforms and foundations are impractical, portable platforms are an ideal option. They can provide operators with a rugged loading area, with an adjustable height ranging from nine to 13 feet, or can serve as a maintenance work platform.

For superior operator access and fall protection when loading tank/bulk trucks, an elevating platform delivers a unique push-



# Plant Safety



Another example of access equipment that promotes application flexibility is the slide-track: access equipment comprised of a slide-track carriage that glides along a slide-track on the gangway. The slide-track is customizable and moves left to right to ensure operators can reach rail cars and trucks that have been misspotted. As railing extended upon this entire length would be impractical, the slide-track carriage features built-in swing gates that are three-foot-wide and feature the top-rail, mid-rail and toe plate design that meets OSHA requirements. This arrangement is ideal for accessing vehicles with a single dome; for those that feature three domes, the slide-track is offered with a platform that moves along the track and features a safety hoop at the end to provide fall protection — facilitating access to all three domes.

It is also important that the access and fall protection equipment selected provides a long-lasting solution. Equipment that offers durability and longevity does more than increase return on investment: it provides re-

button operated platform that is self-supporting, with no need to rest on top of the vehicle during the loading process. This elevating platform can be designed in lengths ranging from five to 30 feet, depending upon the application, but it only utilizes a single mast. This design saves the installation time and costs required to create a second foundation, which would otherwise be needed to support this equipment. Substituting manual operation with push-button initiated machine screw actuation establishes a simple-to-use design. The platform is paired with railing fall protection for all typical ports on a tanker truck. Along with its ability to be customized to meet specific application parameters, the elevating platform and fall protection can be designed to retrofit to existing platforms. Its rugged, rigid steel construction ensures these elevating platforms withstand harsh weather conditions and loading applications involving corrosive materials.

For additional protection in adverse conditions, canopies—either half-sized, if operators are filling vehicles from one side of a loading rack only, or full-sized for dual-sided loading operations—are designed to cover the access equipment and shield operators from the elements. Canopies may also help maintain the integrity of the product to be loaded, as it keeps additional moisture from rainy conditions from permeating the product.

## Adding Flexibility and Longevity to Access and Fall Protection Equipment

Few companies deal with only a single type of vehicle in their day-to-day operations—many work with isotainers one day and tanker trucks the next. For this reason, access and fall protection equipment should be flexible to handle common application concerns. Adjustable reach gangways allow operators to access vehicles of varying heights and lengths with ease, making them particularly ideal for accessing railroad tank cars. This equipment features an extendable portion of the gangway that may be manually initiated by the operator and locked securely into place.

liability in mission-critical processes and further assures operator safety. Because harsh outdoor conditions can quickly take their toll on these structures, the equipment selected should be designed specifically for the geographical zone in which the application is located. This may stipulate that the equipment is custom-made to withstand challenges, such as extreme rainfall and high winds in hurricane-prone areas.

Access and fall protection equipment may be manufactured from carbon steel, aluminum or fiberglass — or custom-fabricated with a combination of each. Aluminum is lightweight, making it ideal for applications where an extendable safety bridge or similar, manually-adjusted equipment is required. It will not rust under ordinary use. However, application environments where the materials, such as HCl or acid is used in the loading process, the aluminum should be galvanized or epoxy-coated to prevent corrosion.

All the above factors should be considered in the selection of access and fall protection equipment. Also, the more tailored the equipment is to the application, the better as it helps ensure operators receive the best protection available while promoting operator efficiency. It is important to note that “custom” does not need to mean “expensive.” Custom equipment often does not cost much beyond standard product offerings, but the additional safety and durability it provides is well worth the investment. Whether a canopy has been extended in length to accommodate an unusually large vehicle or an oversized walkway has been created for enhanced operator comfort, the most effective solution is the one personalized for the loading process.

## Green Access & Fall Protection, Benko Products

[www.green-mfg.com](http://www.green-mfg.com)

Write In 510