TRUEDEK®

STEEL DECKING SOLUTIONS
FOR CONCRETE SLABS

Installation GUIDE

PRE-START

- Check for manoeuvring access for deliveries and installation.
- Ensure roofing straps are available for all TRUEDEK® panel lifting.
- Either side or roof access required to lift panels onto deck. Purlins or girts may have to be removed or installation delayed.
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DETAILING

- Client will supply AutoCAD "for construction" drawings to Premier Steel Technologies (pstech) to allow detailing of TRUEDEK® for dimensions and quantity.
- Plans should have details on dimensional layout, reinforcing cover, shear stud details, penetrations, precast recesses, pull-out or threaded bars, reinforcing, beams, columns, step ups and set downs.

LABELLING

- Client will supply AutoCAD "for construction" drawings for pstech to establish marking plan.
- Marking plan will provide panel details and position by either colour coding or numbered legend.
- Each panel will be either colour coded or labelled for ease of selection.
- Each panel or group of panels fit in a determined position and can not be substituted.
- **IF IN DOUBT of dimension or panel position ASK!**!

SAFETY

- PPE must be worn on all building sites in accordance to specific state or company regulations. Take care around sharp edges and corners.
- Gloves must be used to handle TRUEDEK® panels. Take care around sharp edges and corners of panels.
- Appropriate PPE must be worn during **approved** modifying or cutting of TRUEDEK® panels.
- Use safe lifting method for lifting, moving or installing panels.
- All installers must be harnessed when installing panels using approved harnesses, lanyards and static lines as specified in OH&S regulations and designers details.
- Ensure perimeter guard rails are installed immediately after placing panels.
- Use insulated "tripods" or "roof –hooks" for all electrical cabling to avoid contact with steel deck.
- Use only approved tagged electrical equipment.
- Use appropriate Work Method Statements and Risk Safety Assessments prior to commencing TRUEDEK® installation.
- During installation of TRUEDEK® or placement of concrete the areas where work is being carried out will be restricted to authorised personnel. All areas directly beneath installation areas to be isolated and deemed "strictly no access areas". Personnel

requiring access to the installation or beneath the installation areas must seek approval from site project manager/foreman or OH&S site officer.

- During any welding, localised areas to be isolated with access only to authorised personnel. Suitable fire protection to be provided during windy conditions.

TRUEDEK® PANEL DELIVERY

- Installation program to be provided to pstech allowing a delivery sequence to match construction requirements.
- TRUEDEK® panels will be delivered in strapped bundles with each bundle separated with dunnage.
- Check delivery docket to ensure correct quantities and dimensions.
- All TRUEDEK® or infill panels to be off loaded using roofing straps.
- Clear access required for delivery of panels under, around and over structure.
- Panels to be unloaded in designated areas for ease of installation.

TRUEDEK® PANEL INSTALLATION

- Ensure access available for lifting and manoeuvring of panels.
- Suitable ground conditions to be provided allowing scissor lift or working scaffold to be used under deck.
- Obtain marking plan identifying installation areas, TRUEDEK® panels, dimensions and quantity.
- Establish work platform by lifting TRUEDEK® panels from the underside of the deck in the selected bay.
- Measure distance that TRUEDEK® panels will cover longitudinally. Allow equal distance on each side for the infill panels to be placed and fixed after main "section" has been installed.
- Commence installing panels from designated end with "male" coupling ready for next panel.
- **Should first panel not fit review dimensions and check with Premier Steel Technologies or designer for correct modifications.**
- **Check for "Transverse Reinforcing" through panels to allow installation prior to completion of panels.**
- **Ensure all dowels, starter bars and wall-slab connection bars are set to avoid clashes with TRUEDEK panels.**

TRUSS / TRUSS / TRUSS Configuration

Steel Frame

- Locate first panel in position allowing for the end infill panels, sufficient end bearing and space around the shear studs.
- All shear studs to be introduced prior to TRUEDEK Installation and to be located within lap joint zone at nominal dimensions.
- Spot weld or similar first panel to beam establishing position for the remaining panels.
- Continue installing panels from underside until suitable working platform has been established.
- After work platform has been established TRUEDEK® panels can be lifted on platform for installation from deck level.
- Ensure either safe working beams are used to support entire TRUEDEK® bundle or split TRUEDEK® bundles are distributed on deck with dunnage.
- Install remainder of panels until next beam intersection.
- Check that sufficient space has been left for end infill closer panel.
- Check all panels have sufficient end bearing and space around the shear studs.
- Ensure all panel lap joint couplings have locked together.
- Should panels not be locked or move under load tek-screw along joint.
- Spot weld or similar panel ends alternatively to beams or supports securing deck.
- Use string-line to mark off adjacent bay panel position to ensure straight line continuity for reinforcing installation.
- Repeat procedure for installing panels into each individual bay.

Concrete Frame

- Locate first panel in position allowing for the end infill panels, sufficient end bearing and cover to reinforcing.
- Shot fix or screw into formwork first panel establishing position for the remaining panels.
- Continue installing panels from underside until suitable working platform has been established.
- After work platform has been established TRUEDEK® panels can be lifted on platform for installation from deck level.
- Ensure either safe working beams are used to support entire TRUEDEK® bundle or split TRUEDEK® panels are distributed on deck with dunnage.
- Install remainder of panels until next beam intersection.
- Check that sufficient space has been left for end infill closer panel.
- Check all panels have sufficient end bearing and cover to reinforcing.
- Ensure all panel lap joint couplings have locked together.
- Should panels not be locked or move under load tek-screw along joint.
- Shot fix or screw panel ends alternatively into formwork securing deck.
- Use string-line to mark off adjacent bay panel position to ensure straight line continuity for reinforcing installation.
- Repeat procedure for installing panels into each individual bay.

Masonry / Precast Frame

- Locate first panel in position allowing for the end infill panels, sufficient end bearing and cover to reinforcing.
- Shot fix or screw into masonry or precast first panel establishing position for the remaining panels.
- Continue installing panels from underside until suitable working platform has been established.
- After work platform has been established TRUEDEK® panels can be lifted on platform for installation from deck level.
- Ensure either safe working beams are used to support entire TRUEDEK® bundle or split TRUEDEK® panels are distributed on deck with dunnage.
- Install remainder of panels until next beam intersection.
- Check that sufficient space has been left for end infill closer panel.
- Check all panels have sufficient end bearing and cover to reinforcing.
- Ensure all panel lap joint couplings have locked together.
- Should panels not be locked or move under load tek-screw along joint.
- Shot fix or screw panel ends alternatively into supports securing deck.
- Use string-line to mark off adjacent bay panel position to ensure straight line continuity for reinforcing installation.
- Repeat procedure for installing panels into each individual bay.

TRUSS / PAN / TRUSS Configuration

- Procedure for installing the TRUSS / PAN / TRUSS configuration is similar to that of the TRUSS / TRUSS / TRUSS configuration apart from pre-fixing with tek screws the "pan" to the next TRUEDEK® panel prior to installation.
- Under **no** circumstances will the last element of any unsupported section be "pan" only or the "pan" only be used as a support platform.
- The first and last elements, apart from the infill panels, installed will be TRUEDEK® panels.
- All infill panel end sections will be supported along the length during construction.

SLAB PENETRATIONS

- Confirm location and details or required penetrations.
- Slab penetrations will have been designed into the TRUEDEK® panels by either introducing void formers or panel supports. Suitable reinforcing including trimmer bars will be introduced.
- No TRUEDEK® panels will be cut for penetrations without the confirmation of the designer or pstech.
- Smaller penetrations can be cored after the concrete and the designer has confirmed an appropriate concrete strength has been reached.

TRUEDEK PANEL ALTERATIONS

- Alterations to TRUEDEK® panels can occur should site dimensions change.
- TRUEDEK® panels can be cut after end diaphragms are removed by using grinder or band saw ensuring minimum damage to components.
- All changes must not interfere with web holes. Check with designer or pstech for the required clearance.
- Diaphragms to be replaced and additional tek screws to be added to top chord / bottom chord and webs. Number of tek screws to be confirmed by designer.
- Ensure sufficient end bearing has been allowed for after alternation.

INFILL PAN INSTALLATION

- All infill panels to be 1.0mm thick G550 material.
- Infill panel to be cut using grinder or roof scissors to appropriate dimensions.
- Minimum bearing to be 40mm for edge condition.
- Infill panel to be either spot welded, shot fixed or screwed into position after coupling on to TRUEDEK® panel. Infill panels which are damaged considerably by welding will be rejected.

EDGEFORM INSTALLATION

Steel Frame

- Edgeform can be either welded or shot fixed to the perimeter steel beam, support anchors or TRUEDEK® panel.
- Edgeform laps will be "tek" screwed to avoid concrete leakage.
- All edgeform to be tied back to TRUEDEK® panels to provide top edge support.

Concrete Frame

- Edges can be formed using conventional formwork or Edgeform.
- Edgeform can be either screwed or shot fixed to the perimeter formwork.
- Edgeform laps will be "tek" screwed to avoid concrete leakage.
- All edgeform to be tied back to TRUEDEK® panels to provide top edge support.

DECK PREPARATION

- Infill panel off-cuts to be used to trim around columns and other areas were TRUEDEK® and infill panels do not cover.
- Foam off areas were potential concrete leakage may occur.
- All off-cuts to be removed from deck.
- Where practical inspect the underside of TRUEDEK® panels for any possible leakage areas, panel misalignment and panels which are not coupled together.

REINFORCING INSTALLATION

- Review design drawings marked "for construction" to ensure sufficient details and sections are provided for installation.
- Check for bar spacing in step-up or starter bars in longitudinal direction of panels to suit 250mm nominal TRUEDEK® panel centres.
- All longitudinal fire reinforcing to be placed with correct cover prior to main top reinforcing.
- Check for transverse reinforcing to align with panel web hole spacing.
- Ensure transverse reinforcing can be placed during panel installation. Check for use of lapped transverse reinforcing as required.
- Reinforcing lifted onto TRUEDEK® panels will be distributed on dunnage in bundles less than 500kg but not more than 2 kPa.

Steel Frame

- Check sections for shear stud reinforcing over beams and edge conditions to ensure sufficient room has been left in TRUEDEK for bar placement.
- Shear stud reinforcing bar over supports to be installed first providing the correct bottom cover.
- Reinforcing bars to be laid over TRUEDEK® ensuring correct lap lengths.
- All other reinforcing bars to be installed providing correct cover.
- When all reinforcing bars have been installed the deck is to be cleaned off.

Concrete Frame

- Check sufficient cover has been left to provide TRUEDEK® end bearing requirements.
- Continuity reinforcing bar over supports to be installed first providing the correct bottom cover.
- Reinforcing bars to be laid over TRUEDEK® ensuring correct lap lengths.
- All other reinforcing bars to be installed providing correct cover.
- When all reinforcing bars have been installed the deck is to be cleaned off.

Masonry / Precast Frame

- Ensure starter bars pull-out bars or precast ferrule locations have been detailed to allow installation of TRUEDEK® panels, eliminate potential clashes and provide correct cover to reinforcing bars.
- Check sufficient cover has been left to provide TRUEDEK® end bearing requirements.
- Continuity reinforcing bar over supports to be installed first providing the correct bottom cover.
- Reinforcing bars to be laid over TRUEDEK® ensuring correct lap lengths.
- All other reinforcing bars to be installed providing correct cover.
- When all reinforcing bars have been installed the deck is to be cleaned off.

Penetration Reinforcing

- Should penetrations exist in the TRUEDEK® slab confirm all additional reinforcing.
- Additional bottom bars will require the TRUEDEK® panel web holes to be aligned at 200mm centres to allow transverse bars to be introduced.

- Transverse reinforcing bars introduced at 200mm centres. Transverse bottom bars to be introduced concurrently with panels. Web holes located to provide specified bottom cover.
- Longitudinal bars to be specified at 250mm centres between panels.

- **If reinforcing bars have insufficient cover or there are clashes with other reinforcing, shear studs or TRUEDEK® panels, check with designer for required modifications.**

CONCRETE PLACEMENT

- Conduct site meeting between contractor, concrete supplier and concrete placer to review requirements of mix design, volume, placing finishing and delivery.
- Concrete properties should be suitable to allow flow between TRUEDEK® panels and fill truss voids.
- Concrete should be delivered from low levels avoiding impact on the panels and should be spread uniformly over TRUEDEK® panels.
- Sufficient vibration should be applied using 25mm pencil vibrator.
- Check concrete levels at specific points for required cover in pre-cambered TRUEDEK® panels.
- Maintain check of soffit for leakage or damage of panels. Excessive leakage will require further treatment of panels. Pour will be stopped if panels damaged excessively or under distress from concrete load.
- Appropriate methods of finish to be used achieving desired finish quality.
- The use of curing compounds and methods are recommended to minimise early plastic cracking, assisting in long term performance.

SLAB LOADING

- The designer should be consulted prior to placing any construction loads on the poured composite slab.