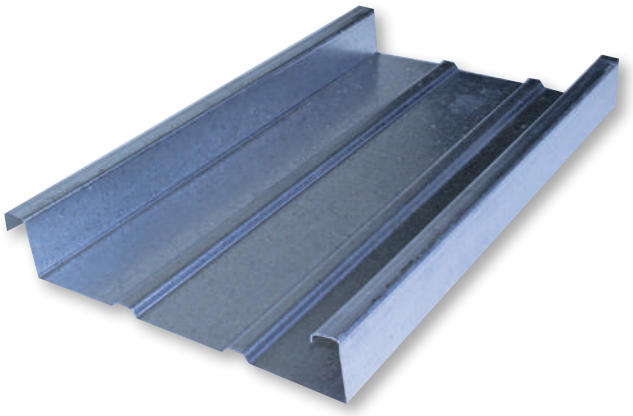
TRAY-DEC 300

INSTALLATION GUIDE

Figure 1: *Tray-dec 300 profile*



Introduction

The trays must be laid in accordance with the engineers' drawings and following the procedures of this guide. The profile of each tray is identical with one another, each having one female end and one male end (see Figure 1). If multiple bundles arrive onsite, each will be labelled to the corresponding Tray-dec plan.

It is best to land the bundle with the female end a couple of meters off the intended starting edge. Place the first full width sheet on the starting point of the area to be covered ensuring that it overlaps onto the supporting structure at least 50mm for steel and concrete beams and 70mm for all other types of seating, e.g. blockwork, timber, etc., at each end. The female end should cover at least 50mm or 70mm (as appropriate) seating along the parallel support. It is important to measure the first tray's seating on the parallel support at each end and confirm that they are the same as all remaining trays will follow in the same orientation.

It is important to pin the first sheet at both ends to establish a solid anchor. When pinning sheets, it is best to use 4mm diameter powder activated drive pins with a washer fitted when anchoring on steel beams, and 32mm thin-shank masonry nails when fixing to blockwork. The remaining sheets can be spread out along the open bay and interlocked one by one off the first sheet. To interlock the next sheet, hold the female end over the previous sheet's male end vertically and rotate it 90 degrees so the two sheets lie neatly side by side. Refer to Figure 2 for this process. Continue to check sheet bearing (seating) on each end of the tray to keep them consistent before pinning them down, otherwise the tray will drift to one side. It is recommended to pin every other sheet on each side. Repeat for all remaining trays.

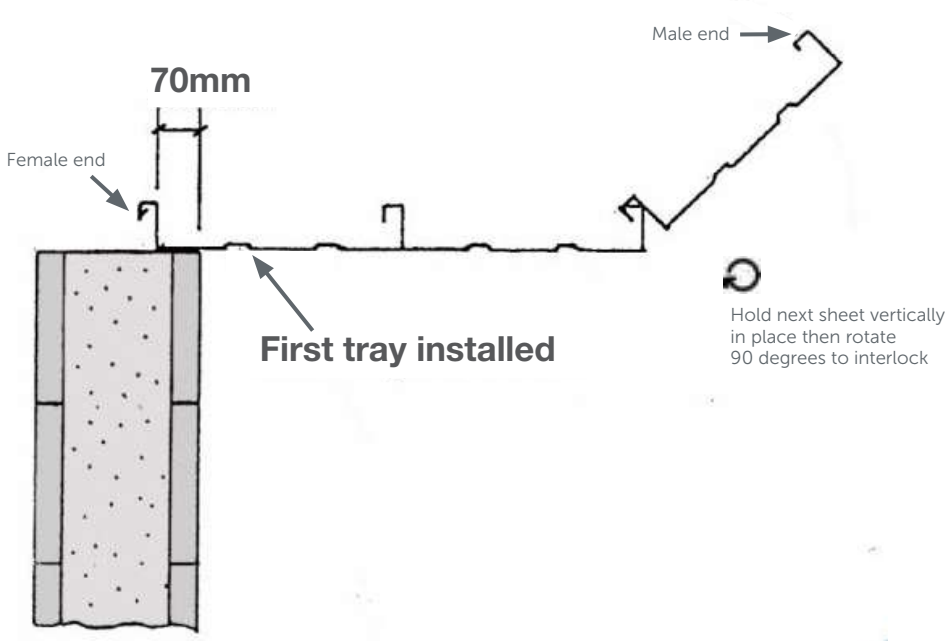


Figure 2: *Interlocking sheets*

Cutting Sheets

Cut trays only when needed. All Tray-dec delivered should be the correct length, allowing for proper seating. It is recommended that cutting is done with a 9" grinder with a cut-off disc. For smaller cuts (check outs, etc) a 5" grinder is used with a cut-off disc. Cutting is required for angled beams, corners, columns, etc. Measure twice before cutting. When cutting around a column it is important to install temporary propping along cut edges before the concrete pour. All cutting should be done by a competent person using proper PPE, most importantly a full-face mask and ear protection.

Once all but one sheet is installed, the remaining void is likely to be smaller than the last sheet width. The last sheet is to be ripped to the width of the void plus 50 mm for the seating over the parallel support on the end.

Edge Flashing (Form)

Edge flashing needs to be customised to suit the edge of the concrete slab. The height of the flashing needs to suit the slab depth. The foot of the edge flashing can be fixed to the structure using 25mm thin-shank masonry nails on block or concrete walls, or 4mm diameter powder activated drive pins with a washer fitted on steel beams, or self-tapping screws directly to the decking sheets.

Manipulation of edge flashing, specifically around corners is best done with a 4" or 5" grinder with a cut-off disc. All edgeform is made-to-order (height, base and length).

Cantilevered edge forms will require a larger base. If a slab edge is flush with the beam, a standard base of 60mm is recommended. See Figures 3 & 4 for typical details.

Restraint Straps

Restraint straps are used to connect the edge flashing to the steel deck. Restraint straps are normally placed at 600mm centres and are attached using self-tapping screws.

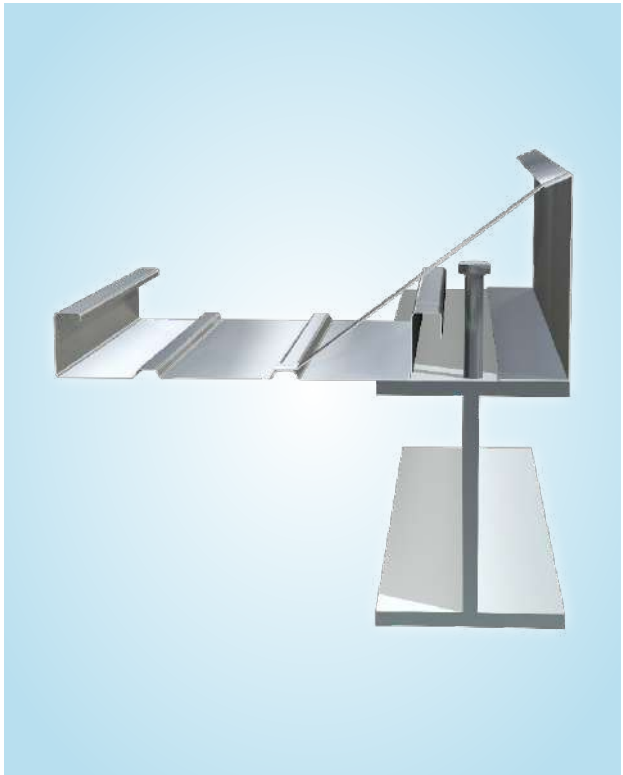


Figure 3: *Typical edge form profile layout*

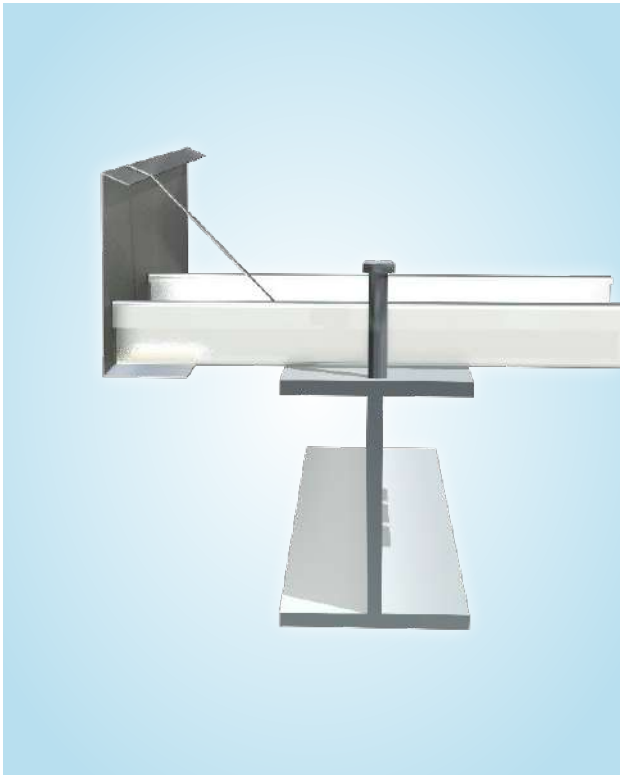


Figure 4: *Typical edge form profile layout with cantilever*

Concrete Placement

Prior to placing the concrete, the sheets are to be clean, dry and free of contaminants, such as oil or grease, and any miscellaneous construction debris should also be removed.

Both BRANZ and HERA have published very good guides for concrete handling and placement.

Place concrete over the beam, not in the middle of the span. Concrete should not be dumped in a heap and where a concrete pump is being used, the height of the discharge nozzle should not be higher than 300mm above the height of the top of Tray-dec sheets. This will avoid any damage occurring to the sheets.

Propping Requirements

When concrete is poured onto Tray-dec sheets during construction, the sheets will deflect under the applied weight. The resulting deflection is a function of the unsupported span and the slab thickness. Refer to the Deflection graphs in the Tray-dec product guide.

In situations where the deflection will exceed acceptable limits it is necessary to install temporary propping to support the slab until the structural engineer allows the removal of the propping.

Propping Notes

Where temporary props are required during the construction phase, the following points should be noted;

a) The props should be a minimum width of 100mm and must be of sufficient depth and strength to carry the construction load. Specific design may be required. Refer to structural engineer.

b) Prop sizes and spacing should be approved by the structural engineer.

c) The spreader beams and props should not be removed until the concrete has reached adequate strength according to the structural engineer.

d) If temporary props are used and are supported by a lower floor, consideration must be given to the strength and deflection imposed on the floor and structure below.

All propping should be adequately braced and fixed to prevent movement both during floor installation and concrete pouring. All temporary propping should be inspected by the structural engineer as part of the pre-pour inspection.

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