

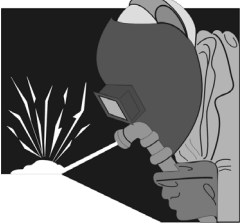
- Allowable diaphragm shear strengths for FORMLOK deck fastened to supports with mechanical fasteners should be determined by multiplying the puddle weld diaphragm shear strengths in the diaphragm tables by the adjustment factors shown in the diaphragm table footnotes.
- Allowable diaphragm shear strengths and flexibility factors for FORMLOK decks with structural concrete fill are not affected by the choice of sidelap connection and apply whether the sidelaps are fastened or not. Connection of the sidelaps is suggested to resist construction loads and may be required to meet fire rating requirements.
- Allowable diaphragm shear strengths and flexibility factors for VERCOR decks with structural concrete fill are based on minimum #10 screws at the sidelaps for the spacings shown in the tables on pages 133-143.
- Allowable diaphragm shear strengths and flexibility factors for PLW2, W2, PLW3, and W3 FORMLOK decks used without concrete fill are provided on pages 64–65 and 82–83 of this catalog.

Floor Deck Without Concrete Fill

Refer to Verco's Evaluation Report or Verco's Roof Deck Catalog VR4 for diaphragm values for B, N3 and N FORMLOK decks and VERCOR decks without concrete fill. Note that the FORMLOK indentations (embossments) do not impact shear strength or flexibility of panels without concrete fill.

ATTACHMENT OF FLOOR DECK

Support Fastening



FORMLOK deck is to be welded to supports with arc spot (puddle) welds having an effective fusion diameter of at least ½ in., or arc seam welds having an effective fusion width of at least ⅜ in. x 1 in. long (excluding the circular ends) as shown in Figure 4. Arc seam and arc spot welds are to be located and spaced as described in the tables. Welds are to be spaced not more than 12 in. on center across the width of the unit for all FORMLOK decks to meet UL requirements.

VERCOR deck with structural concrete fill is to be attached to supports with minimum #12 SDI recognized self-drilling self-tapping screws.

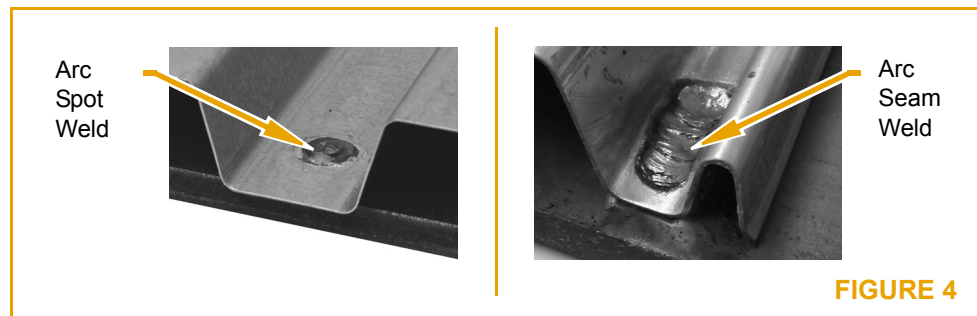


FIGURE 4

Steel Headed Stud Anchors/Arc Spot Welds

Arc spot welds may be eliminated where they coincide with steel headed stud anchors. If FORMLOK or VERCOR deck with concrete fill is attached to the supports with steel headed stud anchors, refer to Table 5 on page 22 for allowable diaphragm shear strengths and flexibility factors.

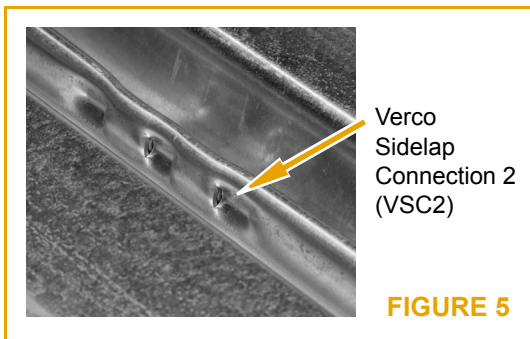
Mechanical Fasteners to Supports

As an alternate to welds, FORMLOK deck may be attached to the supports with mechanical fasteners, specifically, Hilti Fasteners, Pneutek Fasteners, and SDI recognized #12 or #14 screws from Buildex, Elco, Hilti, and Simpson. Allowable shear strengths for FORMLOK decks attached with mechanical fasteners are determined by multiplying the allowable diaphragm shear strengths for deck attached with welds by the adjustment factors shown in the diaphragm table footnotes for each FORMLOK profile and attachment pattern.

Comply with minimum and maximum substrate thickness requirements for applicable mechanical fasteners. Consult fastener manufacturer for applicable fire-resistance assembly ratings.

Sidelap Connections

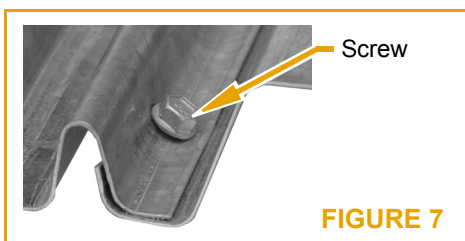
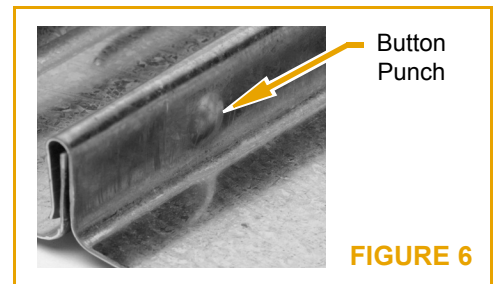
FORMLOK deck is to be fastened at the sidelap with the PunchLok II tool, button punches, screws, or 1½ in. long top seam welds at 36 in. on center maximum. VERCOR deck is to be fastened at the sidelaps with screws at the spacing shown in the tables.



PunchLok® II System: Connect sidelaps of the PLB, PLW2, PLW3, PLN3, and PLN FORMLOK decks with the Vercor PunchLok II tool. The PunchLok II tool creates a positive connection between the male and female lips of the FORMLOK decks. The connection made by the PunchLok II tool is referred to as a VSC2 (Vercor Sidelap Connection 2). An acceptable VSC2 connection has been made when the sidelap material has been sheared and offset so the sheared surface of the male leg is visible (Figure 5). The VSC2 connection may be made in either direction.



Button Punches: When sidelaps of FORMLOK decks are connected with button punches (BP), as shown in Figure 6, an average-sized person should be able to stand (not jump) on the flute adjacent to the attachment without the joint coming apart.



Screws: When self-drilling, self-tapping screws are used to connect the sidelaps of B-36-SS, W2-36-SS, W3-36-SS, N3-SS, N3-NS, or N-24-SS FORMLOK decks, they are to be minimum #10 x ¾ in. long. The “SS” designation indicates deck provided with modified female lip for screw fastening. See Figure 7. The “NS” designation for N3 FORMLOK deck indicates deck provided with nested sidelap. Deep and Shallow VERCOR decks have a nested sidelap.



Top Seam Welds: When sidelaps of FORMLOK decks are connected with top seam welds (TSW) (Figure 8), the 1½ in. long weld must engage the top of the inner (male) leg. Clinch the joint before welding to create positive contact between the lips.

Consider the PunchLok II system as a cost-effective alternative to top seam welds.