Paneltech

TECHBULLETIN

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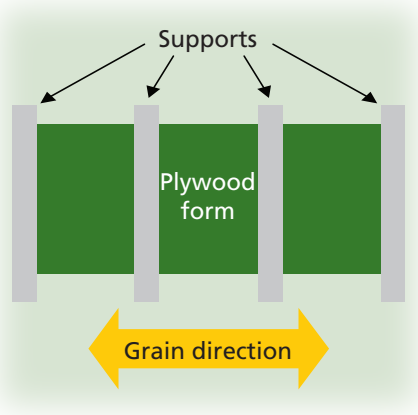
Carpentry Tips

for concrete framework using overlaid panels

Supports

1. The best strength is obtained when the face grain (long direction) of the plywood runs at right angles to the formwork supports.



2. For support members, consider engineered wood or similar reliable material. If dimension lumber is used, to prevent warping avoid wood that is too wet or too dry.

3. When drilling holes for form ties, always drill from the face of the plywood to the back to reduce chip-out. A ships auger, with a scoring cut, works better than a paddle bit, which tends to chip and damage the wood. In any case avoid using dull bits that will cause excessive chipping.

4. When mounting 100/30 or 120/30 HDO panels, make sure the back of the panel is against the supports. On logo HDO panels, the company logo is generally the back. If the panel is 100/100 or 120/120, either side can be used as a face.

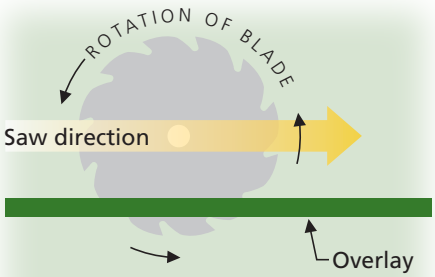
5. Screws are preferable to nails if the panels are to be re-used many times. Finish screws with small heads can be counter-sunk and covered with an epoxy filler. Never nail or screw through a support into the plywood. Always screw or nail through the plywood face into the support. In general always nail through a thinner piece of wood into a thicker piece.

6. When using nails, drive them straight into the supports to make it easier to strip the forms. Avoid the use of threaded nails. Always remove the nails before moving and stacking the plywood to minimize face damage.

7. Remember to clean panels and reapply form release quickly between pours, particularly in hot weather to avoid panel dry-out and cracking. Also apply form release or edge seal to any freshly exposed wood to get the best life from the panel.

8. Consider the concrete mix when selecting the overlay type. Many of the highly alkaline mixes can cause overlay degradation. A panel with high alkalinity resistance such as 120/30 or 120/120 HDO is best for such mixes. Contact the plywood manufacturer if in doubt otherwise any warranty may be void.

9. When cutting overlaid panels make sure the saw teeth are cutting into the overlay, rather than chipping it out. A combination crosscut/rip blade with carbide tips works well, or a thin- kerf carbide-tip finish carpentry blade works even better on HDO, PSF or other glossy-surfaced panels.



Cut panels with overlay side down to prevent chip-out along saw kerf.

10. All cuts, tie holes and cut-outs should be treated with a high-quality edge seal. In lieu of the manufacturer's recommended edge seal, use a 100% acrylic latex house paint.

11. Always use the correct span tables when designing the formwork. Make sure that your formwork is engineered for the correct form strength. It is important to know what wood is being used. For instance, A Class I panel in a system designed for Structural I wood may exhibit excessive deflection, resulting in pillowing.

Wall Forms & Column Forms

Carefully follow the designer and manufacturers specifications on spacing of supports. Remember the highest pressure will be applied at the bottom of a vertical pour.

Slabs, Beams and Girders

Very hot mixes are now being used on many post-tensioned beam systems. Remember to consider the effect of the live load (vibrator, finishing crew, etc.) when sizing the form system and the support spacing.

On deck pours, blockouts are commonly used to create openings for plumbing, electrical conduit, or HVAC ductwork. Blockouts are typically metal or plastic with small mounting flanges to assist the contractor in fastening them to the plywood formwork. To avoid damaging the plywood faces during form removal, small fasteners such as staples or tacks should be used in lieu of screws or larger nails to secure the blockouts to the deck surface.

See Quick Reference Guide on page 2

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QuickReference Guide

Follow these practices for the best panel performance and longest overlaid panel life span . . .

1. **Nail and drill into the face of the panel.** Drilling or nailing from the back produces "chip-out" of the overlay.
2. When cutting panels, **cut with the saw teeth moving into the overlay side of the panel** to prevent "chip-out" along the saw kerf.
3. Apply a good **edge sealer** to cut panel edges to prevent moisture from penetrating the veneer.
4. Use a good **reactive form release** on the face, clean panels and replenish the form oil between pours.
5. Design form systems to **minimize panel deflection.** Keep deflection within the range specified by the panel manufacturer. Excessive deflection can lead to permanent veneer compression and cracking of the panel and overlay.
6. Use **rubber-tipped vibrator heads** on all internal vibrators to minimize damage to the panel faces.

Paneltech
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Committed to Sustainability

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