

2-BIN KANBAN

What is 2-Bin Kanban?

It is a simple inventory management tool, using 2 bins, to right-size material inventories to make sure workers always have enough material on hand to complete work. It visually signals when more material needs to be reordered, as it is used.

Basic Elements

- **Two Bins!** The first bin, typically placed in front of the other, is pulled from until empty. Once it is, material is pulled from the second while material is ordered to replenish the first bin.
- **Kanban Cards** are found on the bins and detail reorder information (purchasing agent contact info, product #, vendor, lead time, price, etc.) to make it simple and fast to reorder. Outdated information can alert the purchaser to update the system if reorder conditions change.
- **Sized Bins.** Bins need enough material to balance reorder time against the material usage rate. They can be physical bins, pallets, or marked off on the ground. Calculate bin size by:



(Definition)

S = Size of the bin (how much material it should hold)

R = Reorder time (in days)

M = Material used per day (units vary by material)

$$S = R \times M$$

$$S = (30 \text{ units/day}) \times (3 \text{ days}) = \underline{90 \text{ units}}$$

(Example)

?

3 days

30 units per day

It makes sense that the bins should be sized to hold 90 units. If you use 30 units of materials per day, and it takes 3 days to get more on site, than you need 90 units, 3 days of material in your second bin, to last you until you are replenished. Make sure R and M are both calculated in days or your math will be off!

Getting workers accustomed to using 2-bin Kanban can take time. Try it out first with materials for which you have a good grasp of rates of usage, reorder time, or might be taking up more space than you desire.

Potential Snags and Tips

Material Size. Two-bin works great with small consumables but can also be used with larger materials like plywood or pipe. In this case, the “bins” are not physical bins, but are marked off areas in a laydown area. You can “draw” the bins with tape or paint.

Variance in workflow or lead times. Do your crews sometimes do “1 unit” of work one day and “5 units” of work another? Or does material sometimes take 2 days to arrive and other times a whole week? This variance can play havoc with 2-bin Kanban. You could increase bin size to add a buffer, but also consider using The Last Planner System® to improve construction workflow reliability. Talk to your supplies about your new inventory management system and ask about why they have variations in their lead times, “5-why” can be helpful here. Can you help them reduce or remove variation?