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MATERIAL FLOW EFFICIENCY & LAYOUT OPTIMIZATION CHECKLIST

1 Flow Direction & Alignment

- Does material move in a straight or logical path?
- Are there unnecessary backtracks or cross-traffic points?
- Are 90° or 180° turns required before next operation?
- Is product manually rotated between stations?
- Are transfer points aligned with downstream process?

2 Distance & Travel Time

- Average distance product travels between stations (feet)?
- Are forklifts used for short-distance repositioning?
- Are operators pushing product more than 10 feet repeatedly?
- Are high-frequency moves supported by mechanical assist?

Calculate:

Total daily feet traveled by product = _____

Estimated labor minutes tied to repositioning = _____

3 Transfer Efficiency

- Are products lifted when they could be rolled?
- Are products dragged across surfaces?
- Is excessive force required to reposition?
- Are surfaces level at transfer points?
- Is transition between conveyor and workstation smooth?

4 Workstation Integration

- Are transfer surfaces flush with workstation height?
- Are operators reaching or twisting to reposition product?
- Is rotation required for inspection or assembly?
- Could omnidirectional movement reduce effort?

5 Staging & WIP Flow

- Is WIP staged in clearly defined zones?
- Are staging areas over capacity during peak hours?
- Are pallets stacked inefficiently?
- Does staging interfere with aisle flow?

6 Congestion & Traffic Interference

- Do forklifts cross primary production flow?
- Are pedestrian paths intersecting forklift lanes?
- Are aisles sized appropriately for turning radius?
- Is congestion worst during shift change or peak output?

7 Flexibility & Scalability

- Can layout adjust to volume changes?
- Is expansion limited by fixed anchoring?
- Are transfer systems modular?
- Can stations be reconfigured quickly?

8 Surface & Equipment Condition

- Are rollers worn or uneven?
- Are ball transfers properly spaced?
- Is load capacity matched to product weight?
- Are components aligned and secured properly?

9 Efficiency Summary

- Where is the longest material travel path?
- Which station causes the most repositioning effort?
- Where is the highest congestion point?
- If one section were optimized, which would yield the biggest throughput gain?