
Production Scheduling Priority Rules

1.0 Policy Objective & Scope

The objective of this policy is to establish a standardized, transparent system for assigning priority to all production orders within the cabinet and millwork manufacturing facility. This system ensures that customer commitments are met, resource bottlenecks are minimized, and urgent requests are handled without disrupting baseline production flow.

This policy applies to all production orders, including custom cabinetry, architectural millwork, and standard product runs. It governs the scheduling activities of the Production Planning department, the Shop Floor Supervisors, and the Engineering team. All departments must adhere to these priority rules when requesting schedule changes or expediting orders.

2.0 Roles & Responsibilities

- **Production Scheduler:** Responsible for assigning initial priority scores to all new orders, maintaining the master schedule, and communicating priority changes to the shop floor.
- **Production Manager:** Reviews and approves any override of the standard priority algorithm. Authorizes emergency rush orders.
- **Shop Floor Supervisor:** Executes the schedule as prioritized. Reports any conflicts or resource constraints that may affect priority adherence.
- **Sales / Project Manager:** Provides accurate customer promise dates and flags any critical deadlines or penalty clauses that may influence priority scoring.
- **Engineering Manager:** Ensures that all required engineering documentation is released prior to the order entering the priority queue.

3.0 Core Rules & Guidelines

- All production orders must be assigned a priority score using the standardized formula: $(\text{Urgency Factor} \times 0.4) + (\text{Customer Value Factor} \times 0.3) + (\text{Resource Availability Factor} \times 0.3)$.
- Urgency Factor is calculated as days until promised ship date minus estimated production lead time. Negative values indicate past due and receive maximum urgency score.
- Customer Value Factor is based on a tiered system: Tier 1 (key accounts, >\$500k annual spend) = 10, Tier 2 (standard accounts) = 7, Tier 3 (one-time or low volume) = 4.
- Resource Availability Factor is determined by current workload of the bottleneck work center (e.g., CNC, finishing). A lower workload yields a higher factor.
- No order may be manually overridden to a higher priority without written approval from the Production Manager. All overrides must be documented with a reason code.
- Orders that are past their promised ship date automatically receive a priority score of 100 until they are completed or rescheduled with customer consent.

- Rush orders (requested with less than 50% of standard lead time) must be reviewed by the Production Manager and may only be accepted if capacity exists without jeopardizing existing commitments.

4.0 Step-by-Step Workflow

1. Sales or Project Manager enters the order into the ERP system with the customer promise date and any special notes regarding penalties or key account status.
2. Engineering Manager confirms that all required drawings, cut lists, and material specifications are released and linked to the order.
3. Production Scheduler reviews the order details and calculates the Urgency Factor based on the difference between the promise date and the estimated production lead time.
4. Production Scheduler assigns the Customer Value Factor using the current account tier list maintained by Sales.
5. Production Scheduler queries the current workload of the bottleneck work center and assigns the Resource Availability Factor.
6. Production Scheduler computes the overall priority score using the formula and enters it into the scheduling system.
7. The master schedule is automatically sorted by priority score (highest first) and published to the shop floor via ShopDocs and the production display screens.
8. If a rush order or schedule override is requested, the requester submits a Priority Override Request form to the Production Manager for approval.
9. Production Manager reviews the request, checks capacity impact, and either approves or denies the override. Approved overrides are documented with a reason code and timestamp.
10. Production Scheduler updates the priority score of the affected order(s) and re-sorts the schedule. All affected stakeholders are notified via ShopDocs.
11. Shop Floor Supervisor executes the daily schedule in priority order. Any deviations due to material shortages or machine breakdowns are reported immediately to the Production Scheduler.
12. Upon order completion, the Production Scheduler archives the priority score and any override history for future analysis and continuous improvement.

5.0 Documentation & Compliance

- All priority scores, override requests, and approval records must be stored in the ERP system under the order history log. A backup copy is retained in the shared Production Scheduling folder on the company server.
- The Production Manager conducts a monthly audit of the top 10% of priority orders to verify that the scoring algorithm was applied correctly and that overrides were properly authorized.
- Any instance of an order being completed out of priority sequence without a documented override will be flagged as a non-compliance event and reviewed by the Operations Director.
- Quarterly, the Production Scheduler and Production Manager review the priority scoring formula parameters to ensure they remain aligned with business objectives and customer satisfaction metrics.
- All documentation related to priority rules, including this policy document, must be accessible to all relevant personnel via ShopDocs. The current version must be displayed on the production floor.

Regulatory Disclaimer: This document is a generic policy and workflow template. The end-user assumes all liability for validating all procedures, roles, and administrative guidelines against actual organizational structures before formal implementation.