

FORMATIONS M210

THERMOFOIL MANUFACTURING STANDARD OPERATING PROCEDURES

SOP-004 SANDING & SURFACE PREPARATION

Document Number: SOP-M210-004

Revision: Rev 0

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Department Overview

KPI

150-200 BEVELED DOORS PER 8-HOUR SHIFT

OR

400-520 SQ FT PER 8-HOUR SHIFT

Performance Measurement

Department performance shall be evaluated using both:

Door Count

- 150-200 beveled doors per shift

Material Throughput

- 400-520 square feet processed per shift

Square footage is used to better reflect actual workload when processing raised panel doors, deep profile bevels, and varying product sizes.

Primary Responsibilities

- Bevel cleanup
 - Surface preparation
 - Product inspection
 - Glue Line staging
 - Colour grouping
 - Quality feedback to CNC
 - Production flow management
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Upstream Departments

- CNC Operations
 - Insert Assembly
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Downstream Department

- Sittex Automated Glue Line
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Quality Ownership

The Sanding Department owns:

- Bevel cleanup
 - Surface preparation
 - Profile preparation for glue
 - Product staging
 - Colour sequencing
 - Order completeness verification
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Critical Daily Checks

- Bevel quality
- Tool chatter
- Tool marks
- Insert fit
- Glue squeeze-out
- Colour grouping
- Order completeness
- Priority order identification

Revision Control

Revision	Date	Description	Approved By
Rev 0		Initial Release	Phil Land

1. Purpose

To prepare all machined doors for thermofoil application by removing machining imperfections, cleaning routed profiles, and ensuring all products meet Formations quality standards before entering the Sittex Glue Line.

The Sanding Department serves as the final surface preparation stage prior to glue application and thermofoil processing.

2. Scope

This SOP applies to all employees responsible for:

- Profile cleanup

- Surface preparation
 - Bevel sanding
 - Quality inspection
 - Documentation
 - Product transfer
 - Defect identification
 - Glue Line staging
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3. PPE Requirements

Required PPE:

- CSA Approved Safety-Toe Footwear
- Hearing Protection
- Dust Mask

Additional PPE may be required during maintenance or cleanup activities.

4. Department KPI

Production Target

- 150-200 Beveled Doors per 8-Hour Shift
 - 400-520 Square Feet per 8-Hour Shift
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Production Expectations

Production output will vary based on:

- Bevel complexity
- Profile depth

- Raised panel volume
- Product size
- Rework requirements
- Quality concerns
- Material handling requirements

Quality shall never be sacrificed to achieve production targets.

Performance Measurement

Department performance shall be evaluated using both:

Door Count

- 150-200 beveled doors per shift

Material Throughput

- 400-520 square feet processed per shift

Square footage is used to better reflect actual workload when processing large profiles, deep bevels, raised panel components, and varying product sizes.

5. Responsibilities

The Sanding Department is responsible for:

- Preparing products for glue application
- Cleaning machined profiles
- Removing routing fuzz
- Removing raised MDF fibres
- Correcting minor machining defects
- Correcting tool chatter where required

- Correcting excessive tooling marks where required
 - Identifying CNC quality concerns
 - Completing inspections
 - Completing documentation
 - Reporting recurring defects
 - Staging product for efficient Glue Line operation
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Sanding Quality Ownership

The Sanding Department is responsible for:

- Bevel cleanup
 - Surface preparation
 - Final profile preparation prior to glue
 - Minor profile corrections required for production flow
 - Removal of tooling marks where practical
 - Removal of chatter where practical
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CNC Defect Reporting Requirements

The following issues remain CNC-owned quality concerns and shall be reported immediately:

- Tool chatter
- Poor machining quality
- Excessive tooling marks
- Excessive chip-out
- Incorrect profiles

- Incorrect rail sizes
 - Machining defects
 - Programming errors affecting cut quality
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Escalation Requirement

If any of the above conditions are identified:

1. Correct the defect where possible to maintain production flow.
2. Notify the CNC Operator immediately.
3. Notify the Production Supervisor immediately.
4. Continue monitoring subsequent product for recurring issues.

Repeated defects shall not be corrected indefinitely without corrective action being taken by CNC.

The objective is to prevent quality issues from reaching downstream operations while ensuring root causes are addressed at the source.

6. Material Flow

Orders may arrive from:

CNC Department

- Raised Panel Doors
- Profiled Doors

Insert Assembly Department

- Shaker Doors
- Insert Panel Doors

All incoming product shall be inspected prior to sanding.

7. Production Scheduling – Smartsheet

Purpose

Smartsheet is used to manage production priorities, due dates, and order completion throughout the manufacturing process.

Daily Schedule Review

At the beginning of each shift:

Review:

- Daily production schedule
- Rush orders
- Remakes
- Due dates
- Special instructions

Report scheduling conflicts immediately.

Order Completion

When sanding is complete:

Verify:

- Quality standards met
- Documentation completed
- Product transferred correctly

Mark order complete in Smartsheet.

8. Business Central Scanning

Scan Into Department

When beginning work:

Scan:

1. Assembly Order
 2. Sanding Department
 3. Employee Barcode
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Scan Out Of Department

When work is complete:

Scan:

1. Assembly Order
 2. Sanding Department
 3. Employee Barcode
-

9. Documentation Verification

Before beginning work verify:

- TFO Number
- Quantity
- Profile type
- Special instructions
- Deficiency Reports
- Remake documentation

Report missing paperwork immediately.

10. First-Off Inspection

A first-off inspection is required whenever:

- Starting a new order
- Starting a remake
- Changing profiles
- Changing product style

Verify:

- Profile quality
- Surface quality
- Rail dimensions
- Edge condition

No separate paperwork is required.

By initialing the Production Report, the operator confirms the first-off inspection was completed.

11. Bevel Door Sanding

Primary Department Function

The primary sanding workload consists of:

- Beveled doors
- Raised panel profiles
- Specialty routed profiles

Special attention shall be given to:

- Bevel corners

- Profile transitions
 - Routed intersections
 - Deep routed sections
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Removal Requirements

Remove:

- Routing fuzz
- Raised MDF fibres
- Minor machining marks

Do not alter:

- Profile geometry
 - Profile dimensions
 - Product design features
-

Pass Criteria

- Smooth bevel profile
 - Consistent appearance
 - No visible fuzzing
 - No raised fibres
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12. Slab Door & Square Shaker Inspection

Inspection Requirements

Slab doors and square shaker doors should not normally require sanding.

Inspect for:

- Routing fuzz
 - Raised fibres
 - Tool chatter
 - Tool marks
 - Chip-out
 - Surface defects
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Pass Criteria

- No sanding required
 - Clean machining
 - No visible defects
 - Ready for Glue Line processing
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Escalation Requirement

If a slab door or square shaker door requires sanding:

1. Correct the defect if necessary to maintain production flow.
2. Notify the CNC Operator.
3. Notify the Production Supervisor.
4. Continue monitoring subsequent product for recurring issues.

Slab and square shaker doors requiring sanding are indicators of an upstream machining quality concern.

13. Edge Inspection Standards

Critical Requirement

Door edges should not normally require sanding.

Inspect all edges for:

- Tool marks
- Tool chatter
- Machining lines
- Rough routing

Escalation Requirement

If edge sanding becomes necessary:

Notify the Production Supervisor immediately.

Edge sanding requirements indicate a CNC machining issue and require investigation.

14. Insert Door Inspection

Inspect all insert doors for:

- Proper insert fit
- Flushness
- Glue squeeze-out
- Insert movement

Verify inserts remain properly seated.

Pass Criteria

- Insert secure
- Proper fit
- No movement

- Minimal glue contamination
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15. Glue Squeeze-Out Inspection

Inspect doors for:

- Excessive glue squeeze-out
- Glue contamination on profiles
- Glue contamination affecting thermofoil preparation

Minor glue contamination may be cleaned as required.

Escalation Requirement

Report recurring glue contamination issues to the Production Supervisor.

Repeated squeeze-out concerns may indicate an Insert Assembly process issue.

16. CNC Quality Feedback

The Sanding Department serves as a major quality checkpoint for CNC.

CNC Issues Requiring Immediate Reporting

Notify the CNC Operator and Production Supervisor immediately if any of the following are observed:

- Excessive chatter
- Tooling marks
- Poor machining quality
- Chip-out
- Incorrect rail sizes

- Incorrect profiles
- Slab doors requiring sanding
- Square shaker doors requiring sanding
- Repeated quality concerns

17. Quality Control Requirements

Verify throughout production:

Profile Quality

- Smooth routed surfaces
- Clean bevels
- Consistent profiles

Surface Quality

- No raised fibres
- No fuzzing
- No contamination

Insert Quality

- Proper fit
- Proper seating
- No movement

18. Product Release Standards

Before release to Sittex Glue:

Verify:

- Door is clean

- Surface preparation complete
- Profiles acceptable
- Inserts verified
- No visible debris remains

Product shall be glue-ready.

19. Glue Line Preparation & Order Staging

Purpose

The Sanding Department is responsible for assisting efficient flow into the Sittex Glue Line by staging product according to production priorities and thermofoil colour requirements.

Proper staging reduces unnecessary colour changes and improves overall plant efficiency.

Glue Department Schedule Review

Prior to sending product to the Glue Line:

Review:

- Glue Department Smartsheet schedule
- Priority orders
- Rush orders
- Remakes
- Colour requirements

Verify product is staged according to the current schedule.

Order Completion Verification

Before sending an order to the Glue Line, verify the order is complete.

Confirm:

- All doors are present
- All inserts are present
- All large panels are present
- All components have been sanded as required
- All material thicknesses associated with the order are included
- Quantities match production paperwork

The operator shall ensure all components required for the order move forward together whenever possible.

Large Panels and Alternate Material Thicknesses

Special attention shall be given to:

- Large panels
- Applied moulding panels
- Components requiring alternate material thicknesses
- Specialty components that may not travel with the main order

Verify these components are accounted for prior to releasing the order.

No Room on Glue Line Roller

If all components cannot be placed on the Glue Line roller at the same time due to space limitations:

The operator shall clearly identify the location of remaining components.

Examples:

- Large panel rack

- Secondary staging area
- Overflow cart
- Alternate conveyor
- Sled number

Documentation Requirement

When components are staged separately from the main order:

Record on production paperwork:

- Component type
- Quantity
- Storage location
- Employee initials

Example:

2 Large Panels Located on Panel Rack A

4 Pieces 3/4 MDF Located on Overflow Cart #2

This information shall remain attached to the order paperwork.

Colour Grouping

Whenever possible, product shall be staged according to the actual thermofoil colour scheduled in the Glue Line and Thermofoil Departments.

Orders from different customers may be grouped together provided they share the same thermofoil colour.

Examples:

- Antique White

- Super Matte White
- Black
- First Class Walnut

The objective is to reduce unnecessary colour changes and improve production flow through Sittex and Thermofoil.

Order Identification Requirements

When multiple orders are staged together on the Glue Line roller:

- Each order shall remain clearly identified.
- Shop paperwork shall remain with the correct order.
- Product shall be stacked so the start and end of each order is clearly visible.
- Labels shall remain visible whenever possible.

Operators shall ensure downstream departments can easily determine:

- Where one order ends.
 - Where the next order begins.
 - Which paperwork belongs to each order.
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Mixed Order Staging

It is acceptable and encouraged to stage multiple orders on the Glue Line roller when:

- The thermofoil colour is the same.
- Orders are clearly separated.
- Identification remains obvious.
- Production sequence remains easy to follow.

The purpose is to maximize Glue Line throughput and minimize unnecessary colour changes.

Priority Orders

Priority orders shall take precedence over normal colour grouping.

Examples:

- Rush orders
 - Remakes
 - Customer priority orders
 - Supervisor-directed orders
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Rush & Remake Conveyor

A dedicated alternate conveyor shall be used for:

- Rush orders
- Remakes
- Production priority orders

These orders shall bypass normal staging whenever possible.

Staging Verification

Before releasing an order:

Verify:

- ☐ Glue Department Smartsheet reviewed
- ☐ Thermofoil colour verified
- ☐ Orders grouped by actual colour where practical

- ☐ Order boundaries clearly identified
 - ☐ Paperwork properly attached
 - ☐ Priority status reviewed
 - ☐ Correct conveyor selected
-

20. Deficiency Reports

A Pink Deficiency Report shall be completed whenever:

- Parts are missing
- Quantities are short
- Components are outstanding

Attach report to the front of the production package.

21. Remake Procedure

If a remake is required:

1. Complete Yellow Remake Form.
2. Record remake code.
3. Attach labels.
4. Submit documentation to Programming.

Remake Codes

- BD – Board Defect
- 3D – Vinyl Defect
- ME – Machine Error
- HE – Human Error

Remakes receive production priority.

22. Production Reporting

Before releasing an order:

Record:

- Date
- Initials

By initialing the Production Report, the operator confirms:

- First-off inspection completed
- Surface preparation complete
- Quality inspections completed
- Product ready for Sittex Glue Line

23. Transfer to Sittex Glue Line

After sanding:

1. Verify quality standards.
2. Verify paperwork.
3. Complete production reporting.
4. Scan out of department.
5. Transfer product to designated conveyor.

24. Daily Housekeeping

Final 10 minutes of shift:

- Clean sanding stations
- Clean work surfaces

- Remove dust accumulation
 - Dispose of waste
 - Organize tools
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25. Friday Deep Clean

Final 30 minutes of shift:

- Deep clean sanding stations
- Equipment cleaning
- Dust removal
- Tool organization
- Maintenance review

Report maintenance concerns to the Production Supervisor.

26. Release Checklist

- ☐ Smartsheet reviewed
- ☐ Business Central Scan-In completed
- ☐ First-off inspection completed
- ☐ Bevel profiles sanded
- ☐ Slab and shaker doors inspected
- ☐ Fuzzing removed
- ☐ Raised fibres removed
- ☐ Outside profiles inspected
- ☐ Edges inspected
- ☐ Insert quality verified

- ☐ Glue contamination removed
- ☐ Product glue-ready
- ☐ Order completeness verified
- ☐ Large panels verified
- ☐ Alternate material thicknesses verified
- ☐ Separate component locations documented if required
- ☐ Glue Department Smartsheet reviewed
- ☐ Orders grouped by actual thermofoil colour
- ☐ Order boundaries clearly identified
- ☐ Priority status reviewed
- ☐ Correct conveyor selected
- ☐ Production Report completed
- ☐ Date recorded
- ☐ Initials recorded
- ☐ Deficiency Report attached if required
- ☐ Remake Form completed if required
- ☐ Business Central Scan-Out completed
- ☐ Housekeeping completed

Appendix A – Sanding Training Record

Employee Name: _____

Trainer: _____

Date: _____

Competencies Verified

- ☐ Business Central Scanning
- ☐ Bevel Sanding
- ☐ Slab & Shaker Inspection
- ☐ Edge Inspection
- ☐ Insert Inspection
- ☐ Surface Preparation
- ☐ Glue Line Staging
- ☐ Colour Grouping
- ☐ Priority Order Handling
- ☐ Quality Verification
- ☐ Documentation
- ☐ Housekeeping

Employee Signature: _____

Trainer Signature: _____

Appendix B – Monthly Sanding Audit

Documentation Compliance: ☐ Pass ☐ Fail

Scanning Compliance: ☐ Pass ☐ Fail

Quality Compliance: ☐ Pass ☐ Fail

Surface Preparation Compliance: ☐ Pass ☐ Fail

Glue Line Staging Compliance: ☐ Pass ☐ Fail

Housekeeping Compliance: ☐ Pass ☐ Fail

KPI Review Completed: ☐ Yes ☐ No

Auditor: _____

Date: _____

Appendix C – Warranty Reference

All sanded components shall be sufficiently prepared to support thermofoil adhesion, appearance requirements, and final warranty standards.