

IMAGE GRAVURES

MANUFACTURING OF GRAVURE
PRINTING CYLINDERS

INTERNSHIP STUDY REPORT BY
DHEER PATEL





Dt.23.07.2024

To Whom It May Concern

This is to certify that Dheer Patel has successfully completed his internship at Image Gravures from 5th July 2024 to 22nd July 2024. During his internship, Dheer worked diligently on a study titled "The Manufacturing of Gravure Printing Cylinders."

Over the course of his two-week internship, Dheer demonstrated a high level of academic intellect and analytical capability. His work included:

Detailed Analysis of Gravure Printing Cylinders Manufacturing Processes: Dheer studied various components and processes involved in the manufacturing of Gravure Printing Cylinders.

Practical Application: Dheer applied his academic knowledge of mechanical engineering principles to real-world scenarios. He was involved in hands-on activities that included assembling components, testing their functionality, and ensuring quality control.

Project Report: At the end of his internship, Dheer prepared a comprehensive project report detailing his findings and suggestions for optimizing the manufacturing process. He presented his report to the senior engineering team, showcasing his understanding and insights gained during the internship.

We are confident that Dheer will continue to excel in his academic and professional pursuits. We wish him all the best in his future endeavours.

Sincerely,
Anant Patel
Image Gravures

Partner



IMAGE GRAVURES

AN ISO 9001:2015 CERTIFIED COMPANY

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Introduction to Image Gravures

Image Gravures is a prominent player in the printing and packaging industry, known for its excellence and innovation. As a state-of-the-art rotogravure cylinder manufacturing unit, Image Gravures specializes in delivering high-quality printing solutions to various industries, including food and beverage, pharmaceuticals, and cosmetics. The company excels in creating precision-engineered gravure cylinders essential for achieving exceptional print quality and consistency in high-volume production.

With a vision to revolutionize the gravure printing process, Image Gravures has invested significantly in advanced technology and a highly skilled workforce. This dedication to quality has earned the company a reputation as a reliable partner for businesses seeking superior print solutions.

Understanding that each client's needs are unique, Image Gravures offers customized solutions tailored to specific requirements. The company's expert team collaborates closely with clients to deliver solutions that exceed expectations, whether it's intricate designs, vibrant colors, or complex patterns.

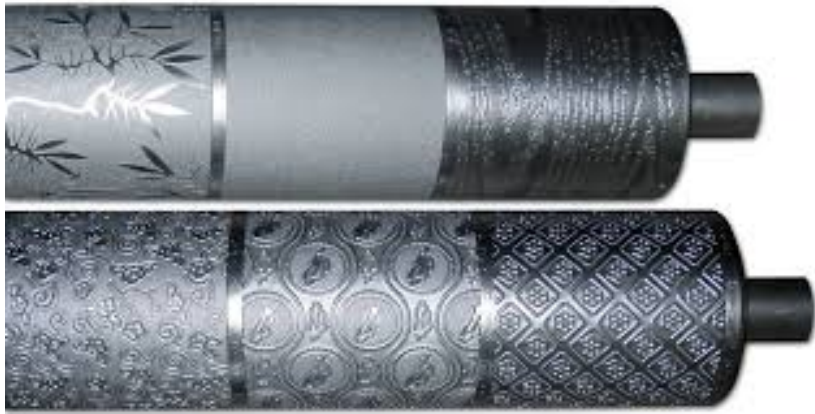
In a competitive industry, Image Gravures stands out for its quality, innovation, and customer-centric approach. The company's commitment to excellence drives it to continually push the boundaries of gravure printing, making it the preferred choice for businesses seeking to elevate their brand through superior packaging solutions.

INTRODUCTION TO GRAVURE CYLINDERS

Gravure printing cylinders are the heart of the rotogravure printing process, known for producing high-quality, detailed images with exceptional clarity and consistency. These cylinders are precision-engineered tools, engraved with tiny cells that hold the ink, transferring it to the printing substrate in a controlled and accurate manner. The gravure printing process is widely used in industries such as packaging, publishing, and decorative printing, where high-volume production and superior print quality are essential. The durability and efficiency of gravure printing cylinders make them an indispensable component for achieving vibrant colors, fine details, and smooth gradients, ensuring the highest standards in printed materials.

4 MAIN CYLINDERS

- Embossing Cylinders
- Anilox Cylinders
- Gravure Cylinders
- MS Base Cylinders



Embossing Cylinders



Anilox Cylinders



Gravure Cylinders



MS Base Cylinder

Manufacturing Stages

- 1 **Job Card**
- 2 **Fabrication**
- 3 **Base Shells**
- 4 **QC Inspection**
- 5 **Nickel Plating**
- 6 **Copper Plating**
- 7 **Cutting & Polishing**
- 8 **Electronic Engraving**
- 9 **Chromium Plating**
- 10 **Chromium Polishing**
- 11 **Proofing & QC**
- 12 **Dispatch**

1

JOB CARD

A. Specifications Collection

1. Client Consultation:

- Understand client requirements and intended use.
- Discuss quality expectations and standards.

2. Detailed Requirements:

- Gather specifications such as dimensions, tolerances, material type, and engraving details.

B. Design Details

1. Artwork Submission:

- Receive artwork or design files from the client.

2. Design Review and Adjustments:

- Review the design for suitability.
- Make necessary adjustments for optimal engraving and print quality.

C. Material Requirements

1. Raw Materials:

- Specify the type and grade of materials for the base cylinder.

2. Additional Materials:

- Identify other needed materials (cleaning agents, polishing compounds, etc.).

D. Timeline and Deadlines

1. Project Timeline:

- Establish a timeline for each manufacturing stage.

2. Milestones and Delivery Date:

- Define key milestones and confirm the final delivery date with the client.

2

FABRICATION

2. Fabrication

A. Material Selection

Raw Material Identification:

Choose the appropriate type and grade of steel or aluminum based on the job card specifications.

Ensure the material meets quality standards for durability and machinability.

Material Sourcing:

Source the raw materials from reliable suppliers.

Verify the material certification to ensure it meets required specifications.

B. Cutting and Shaping

Initial Cutting:

Cut the raw material into manageable pieces using industrial saws or cutting torches.

Ensure the pieces are slightly larger than the final dimensions to allow for machining and finishing.

Shaping:

Use lathes and milling machines to shape the cut pieces into cylindrical forms.

Ensure the initial dimensions are close to the specified size while leaving room for precision machining.

C. Welding and Assembly

Component Welding:

If the cylinder is composed of multiple parts, weld the components together. Use techniques such as TIG or MIG welding to ensure strong, clean welds.

Post-Welding Inspection:

Inspect the welded joints for any defects such as cracks or voids.

Perform non-destructive testing (NDT) if required to ensure weld integrity.

D. Initial Machining

Rough Machining:

Perform rough machining to bring the cylinder close to the final dimensions.

Use CNC lathes and milling machines for accuracy and efficiency.

Surface Preparation:

Prepare the cylinder surface for subsequent processes by ensuring it is smooth and free of large defects.

Use grinding and sanding techniques to achieve a uniform surface.



Milling Machine



CNC Machine

E. Balancing

Dynamic Balancing:

Mount the cylinder on a dynamic balancing machine to check for imbalances. Add or remove material as needed to achieve perfect balance, preventing vibrations during printing.

Balancing Verification:

Recheck the balance after adjustments to ensure it meets the required standards. Document the balance results for quality control records.

F. Final Inspection

Dimensional Verification:

Measure the cylinder dimensions to ensure they meet the specified tolerances. Use precise measuring tools such as micrometers and calipers.

Surface Quality Check:

Inspect the surface for smoothness and uniformity. Ensure there are no visible defects that could affect subsequent plating or engraving.



Balancing Machine

3

WELDING AND MACHINING

3. Base Shells

A. Precision Machining

Detailed Machining:

Use CNC lathes and milling machines to achieve precise dimensions and surface finish.

Machine the cylinder to the exact outer diameter and length specified in the job card.

Surface Finishing:

Employ grinding and honing processes to achieve a smooth surface.

Ensure the surface roughness meets the required standards for plating adhesion.

B. Balancing

Initial Balancing:

Perform initial dynamic balancing to identify any major imbalances.

Adjust the cylinder by adding or removing material to achieve balance.

Fine Balancing:

Use fine-tuning techniques to ensure the cylinder is perfectly balanced.

Verify the balance through multiple tests to confirm stability.

C. Surface Preparation

Cleaning:

Thoroughly clean the cylinder to remove any machining oils, dirt, or debris.

Use ultrasonic cleaning or chemical cleaning solutions for deep cleaning.

Surface Inspection:

Inspect the surface for any remaining imperfections or contaminants.

Use magnification tools if necessary to detect minute defects.

D. Stress Relieving

Heat Treatment:

Subject the cylinder to heat treatment to relieve any internal stresses caused by machining.

Carefully control the heating and cooling process to avoid warping or distortions.

Post-Treatment Inspection:

Inspect the cylinder for any changes in dimensions or shape after stress relieving.

Ensure the cylinder maintains its precision and integrity.

E. Final Machining

Final Dimensioning:

Perform any final machining needed to bring the cylinder to exact specifications.

Ensure tight tolerances are maintained.

Polishing:

Polish the cylinder to achieve a high-gloss finish.

Use progressively finer abrasives to ensure a smooth, mirror-like surface.



Pre Polished Cylinders

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QC INSPECTION

Quality Control Inspection

Dimensional Check:

Verify all dimensions against the job card specifications using precise measuring instruments.

Check the diameter, length, and any critical dimensions to ensure accuracy.

Surface Quality Inspection:

Inspect the surface finish for smoothness and uniformity.

Ensure there are no scratches, dents, or irregularities.

Balancing Verification:

Recheck the balance of the cylinder after all machining and finishing processes.

Confirm that the cylinder is perfectly balanced and ready for plating.

Documentation:



Inspection Station



Polished Cylinders

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NICKEL PLATING

5. Nickel Plating

A. Surface Preparation

1. Pre-Cleaning:

- Clean the cylinder thoroughly to remove any grease, oil, dirt, or other contaminants.
- Use degreasing agents and ultrasonic cleaning to ensure a pristine surface.

2. Surface Activation:

- Apply a mild acid etch to the cylinder to activate the surface.
- Rinse thoroughly to remove all traces of the etching solution.

B. Nickel Plating Process

1. Setup and Bath Preparation:

- Prepare the nickel plating bath by mixing the nickel salt solution with other necessary chemicals.
- Adjust the pH and temperature of the bath according to the plating specifications.

2. Electroplating:

- Submerge the cylinder in the nickel plating bath.
- Apply an electric current to initiate the electroplating process, depositing nickel ions onto the cylinder surface.
- Monitor the current density and plating time to control the thickness of the nickel layer.

3. Thickness Control:

- Continuously monitor the plating thickness using a thickness gauge.
- Ensure the nickel layer meets the required specifications (typically 10-50 microns).

C. Rinsing and Drying

1. Rinsing:

- Remove the cylinder from the plating bath and rinse it thoroughly with deionized water to remove any residual plating solution.
- Ensure all plating chemicals are completely washed off.

2. Drying:

- Dry the cylinder using air blowers or in a controlled environment to prevent oxidation or contamination.

D. Inspection

Visual Inspection:

Conduct a visual inspection of the nickel-plated surface to check for uniformity and smoothness.

Look for any signs of pitting, peeling, or other defects.

Thickness Measurement:

Measure the thickness of the nickel layer using a precise thickness gauge.

Ensure the plating is uniform and meets the specified thickness requirements.

Adhesion Testing:

Perform adhesion tests to ensure the nickel layer is firmly bonded to the cylinder surface.

Use methods such as a bend test or tape test to check for any delamination.

E. Post-Plating Treatment

Passivation:

Apply a passivation treatment to enhance the corrosion resistance of the nickel layer.

Rinse and dry the cylinder after passivation.

Final Inspection:

Conduct a final inspection to ensure all specifications and quality standards are met.

Document the inspection results and any corrective actions taken.



Nickel Plating



Electro Plating Machine

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COPPER PLATING

6. Copper Plating

A. Surface Preparation

Cleaning:

Pre-Cleaning: Ensure the nickel-plated surface is free from any contaminants by using degreasers and ultrasonic cleaning.

Rinsing: Thoroughly rinse the cylinder with deionized water to remove any residual cleaning agents.

Acid Activation:

Surface Activation: Activate the nickel surface with a mild acid etch to enhance the adhesion of the copper layer.

Rinsing: Rinse the cylinder thoroughly to remove all traces of the etching solution.

B. Copper Plating Process

Setup and Bath Preparation:

Copper Plating Bath: Prepare the copper plating bath by mixing copper sulfate solution with sulfuric acid and other necessary additives.

Bath Conditions: Adjust the pH and temperature of the bath to the required levels (typically pH 0.5-1.5 and temperature around 20-25°C or 68-77°F).

Electroplating:

Submersion: Submerge the cylinder in the copper plating bath.

Electric Current: Apply an electric current to initiate the electroplating process, depositing copper ions onto the nickel surface.

Monitoring: Continuously monitor the current density and plating time to control the thickness and quality of the copper layer.

Thickness Control:

Thickness Measurement: Use a thickness gauge to continuously monitor the plating thickness.

Target Thickness: Ensure the copper layer meets the required specifications, typically between 100-300 microns.

C. Rinsing and Drying

Rinsing:

Water Rinse: Remove the cylinder from the plating bath and rinse thoroughly with deionized water to remove any residual plating solution.

Final Rinse: Ensure all plating chemicals are completely washed off to prevent contamination.

Drying:

Air Blowers: Use air blowers to dry the cylinder.

Controlled Environment: Alternatively, dry the cylinder in a controlled environment to prevent oxidation or contamination.

D. Inspection

Visual Inspection:

Surface Check: Conduct a visual inspection of the copper-plated surface to check for uniformity, smoothness, and any defects such as pitting, peeling, or discoloration.

Thickness Measurement:

Thickness Gauge: Measure the thickness of the copper layer using a precise thickness gauge.

Uniformity Check: Ensure the plating is uniform and meets the specified thickness requirements.



Copper Plating



Copper Plated Cylinder

Adhesion Testing:

Adhesion Tests: Perform adhesion tests to ensure the copper layer is firmly bonded to the cylinder surface. Use methods such as a bend test or tape test to check for any delamination.

E. Polishing and Finishing

Polishing:

Surface Polishing: Use polishing machines to achieve a smooth and shiny surface on the copper layer.

Fine Polishing: Employ progressively finer abrasives to ensure a high-quality finish.

Final Surface Check:

Inspection: Conduct a final inspection of the polished surface for any remaining defects.

Correction: Correct any defects found during the inspection.



Plated Cylinder Inspection

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CUTTING AND POLISHING

A. Cutting

Precision Cutting:

CNC Machining: Use CNC machines to cut the copper-plated cylinder to the precise dimensions specified in the job card.

Tool Selection: Choose appropriate cutting tools designed for copper to ensure a clean cut and avoid damage to the cylinder.

Final Dimensions:

Measurement Checks: Continuously measure the dimensions during the cutting process to ensure accuracy.

Tolerance Verification: Ensure that all dimensions fall within the specified tolerances.

Deburring:

Edge Finishing: Remove any burrs or sharp edges created during the cutting process.

Deburring Tools: Use manual or automated deburring tools to achieve smooth edges.

B. Polishing

Initial Polishing:

Surface Preparation: Start with a coarse polishing compound to remove any surface imperfections from the cutting process.

Polishing Machines: Use polishing machines with suitable pads to achieve an initial smooth finish.

Progressive Polishing:

Finer Abrasives: Gradually move to finer polishing compounds to refine the surface finish.

Multiple Stages: Perform multiple stages of polishing, starting from coarse to medium and then fine abrasives.

Achieving High Gloss:

Final Polish: Use ultra-fine polishing compounds to achieve a mirror-like finish.

Inspecting Finish: Regularly check the surface finish to ensure uniformity and quality.

C. Surface Inspection

Visual Inspection:

Defect Check: Conduct a thorough visual inspection of the polished surface for any defects, scratches, or inconsistencies.

Documentation: Document any issues found during the inspection.

Surface Roughness Measurement:

Profilometer Use: Utilize a surface profilometer to measure the roughness and ensure it meets the required specifications.

Adjustments: Make any necessary adjustments if the surface does not meet the desired smoothness.



Cutting Machine



Polishing Machine

D. Final Adjustments

Corrective Polishing:

Addressing Defects: If defects are found, re-polish affected areas to achieve the desired finish.

Final Inspection: Re-inspect the cylinder after corrective actions to ensure all standards are met.

Documentation of Results:

Final Report: Prepare a report documenting the cutting and polishing process, including any adjustments made.

Quality Control Review: Submit the report for quality control review and approval.

E. Preparation for Engraving

Final Cleaning:

Pre-Engraving Clean: Clean the cylinder again to remove any polishing compounds and contaminants.

Rinsing: Use deionized water to rinse the cylinder thoroughly.

Inspection for Readiness:

Final Approval: Ensure the cylinder is ready for the engraving process by obtaining final approval from quality control.

Documentation: Document all inspections and approvals for record-keeping.



Final Polishing Station



Ready For engraving Cylinders

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ELECTRONIC ENGRAVING

A. Preparation for Engraving

Artwork Verification:

Design Review: Confirm that the digital artwork meets the specifications and requirements for engraving.

File Format Check: Ensure the artwork is in the correct file format compatible with the engraving software.

Cylinder Setup:

Mounting: Securely mount the polished cylinder onto the engraving machine.

Calibration: Calibrate the engraving machine to ensure accuracy in the engraving process.

B. Engraving Process

Laser Engraving Setup:

Parameter Settings: Set parameters such as depth, speed, and frequency based on the material and design specifications.

Test Engraving: Conduct a test engraving on a sample piece to confirm settings are correct.

Engraving Execution:

Initiation: Start the engraving process, allowing the machine to precisely engrave the design onto the cylinder surface.

Monitoring: Continuously monitor the engraving process to ensure it is proceeding correctly without any interruptions.

Depth Control:

Real-Time Adjustments: Make real-time adjustments as needed to achieve the desired engraving depth.

Consistent Depth: Ensure that the engraving depth is uniform across the entire cylinder to maintain print quality.

C. Post-Engraving Inspection

Visual Inspection:

Detail Check: Inspect the engraved pattern for clarity, precision, and fidelity to the original design.

Defect Identification: Identify any areas that may need rework or adjustment.

Depth Measurement:

Measuring Tools: Use specialized tools to measure the engraving depth in various areas.

Uniformity Check: Ensure the engraving depth is consistent throughout the design.

Adhesion and Bonding Check:

Surface Integrity: Inspect the surface for any signs of delamination or other defects that could affect the quality of the print.

D. Final Adjustments

Rework if Necessary:

Correcting Issues: If any issues are identified, make necessary adjustments or re-engage specific areas.

Quality Assurance: Conduct additional inspections to confirm corrections meet quality standards.



Engraving machine



Engraving machine

Documentation of Results:

Engraving Report: Prepare a report documenting the engraving process, including settings used, inspection results, and any corrections made.

Quality Control Review: Submit the report for quality control review and approval.

E. Preparation for Subsequent Processes

Final Cleaning:

Remove Debris: Clean the cylinder to remove any debris or residue from the engraving process.

Rinsing: Use deionized water to rinse thoroughly and prepare the cylinder for chromium plating.

Inspection for Readiness:

Final Approval: Obtain final approval from quality control to ensure the cylinder is ready for the next stage.

Documentation: Document all inspections and approvals for record-keeping.



Laser Engraving machine



Engraved Cylinders

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CHROMIUM PLATING

9. Chromium Plating

A. Surface Preparation

Cleaning:

Pre-Cleaning: Thoroughly clean the engraved cylinder to remove any oils, dirt, or residues from the engraving process.

Ultrasonic Cleaning: Utilize ultrasonic cleaning to ensure a deep clean, ensuring the surface is ready for plating.

Surface Activation:

Acid Treatment: Apply a mild acid solution to activate the surface of the engraved areas, promoting better adhesion for the chromium layer.

Rinsing: Rinse the cylinder thoroughly with deionized water to remove all traces of the acid.

B. Chromium Plating Process

Setup and Bath Preparation:

Chromium Plating Bath: Prepare the chromium plating solution, typically composed of chromium trioxide, sulfuric acid, and water.

Bath Conditions: Adjust the pH and temperature of the plating bath according to the specified requirements.

Electroplating:

Submersion: Submerge the cylinder in the chromium plating bath.

Electric Current: Apply a direct current to initiate the plating process, allowing chromium ions to deposit onto the surface.

Monitoring: Continuously monitor the current density and plating time to control the thickness of the chromium layer.

Thickness Control:

Thickness Measurement: Use a thickness gauge to monitor the plating thickness throughout the process.

Target Thickness: Ensure the chromium layer meets the required specifications, typically between 0.5 to 2 microns.

C. Rinsing and Drying

Rinsing:

Water Rinse: After plating, remove the cylinder from the bath and rinse it thoroughly with deionized water to eliminate any residual plating solution.

Final Rinse: Conduct a final rinse to ensure all chemicals are washed off.

Drying:

Air Drying: Use air blowers or dry the cylinder in a controlled environment to prevent oxidation.

Inspection for Residues: Check for any remaining residues or contaminants post-drying.



Chromium Electro Plating

D. Inspection

Visual Inspection:

Surface Quality Check: Inspect the chromium-plated surface for uniformity and any visible defects such as dull spots or uneven coating.

Defect Identification: Mark and document any imperfections found during the inspection.

Thickness Measurement:

Use of Tools: Measure the thickness of the chromium layer with precise instruments to ensure it meets specifications.

Uniformity Check: Verify that the plating is consistent across the entire surface.

Adhesion Testing:

Adhesion Tests: Perform tests to check the adhesion of the chromium layer, ensuring it is securely bonded to the cylinder surface.

Documentation: Record the results of all tests and inspections for quality assurance.

E. Final Treatments

Passivation:

Enhancing Corrosion Resistance: Apply a passivation treatment to improve the corrosion resistance of the chromium layer.

Rinsing and Drying: Rinse and dry the cylinder again after passivation.



Chromium Electro Plating

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CHROMIUM POLISHING

A. Initial Preparation

Surface Inspection:

Visual Check: Inspect the chromium-plated surface for any imperfections or defects that may need addressing before polishing.

Document Findings: Record any areas that require extra attention during polishing.

Cleaning:

Pre-Polishing Clean: Clean the cylinder to remove any dust, particles, or residues from the plating process.

Rinsing: Use deionized water for rinsing to ensure the surface is clean and free from contaminants.

B. Polishing Process

Selecting Polishing Tools:

Polishing Machines: Choose appropriate polishing machines equipped with suitable polishing pads for chromium.

Polishing Compounds: Select the correct polishing compounds, starting with coarser compounds and progressing to finer ones.

Initial Polishing:

Coarse Polishing: Begin with a coarse polishing compound to remove any surface imperfections and achieve a basic shine.

Technique: Use a consistent and even pressure to ensure uniform polishing across the surface.

Progressive Polishing:

Medium Abrasives: Transition to medium polishing compounds to further refine the surface.

Fine Polishing: Finally, use ultra-fine polishing compounds to achieve a high-gloss finish.

C. Final Touches

Buffing:

Final Buffing: Utilize a buffing wheel with soft pads to enhance the shine and smoothness of the chromium surface.

Inspecting During Buffing: Continuously check the surface during buffing to ensure a consistent finish.

Surface Check:

Visual Inspection: Conduct a thorough visual inspection of the polished surface for any remaining defects or areas needing further attention.

Documentation: Document any additional polishing needed for specific areas.

D. Final Inspection

Quality Control:

Final Surface Quality Check: Ensure the polished surface meets the required specifications for gloss, smoothness, and uniformity.

Defect Identification: Mark any defects found during the final inspection for corrective actions.

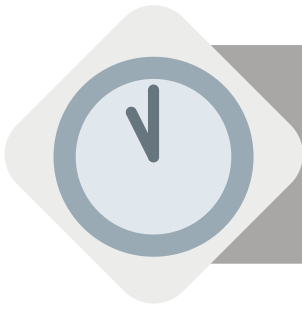
Surface Roughness Measurement:

Profilometer Use: Use a surface profilometer to measure roughness and ensure it meets specified standards.

Adjustments: Make any necessary adjustments if the surface does not meet the required smoothness.



Engarved Cylinders



PROOFING AND QC

A. Preparation for Proofing

Cylinder Setup:

Mounting the Cylinder: Securely mount the polished and engraved cylinder onto the proofing press.

Alignment Check: Ensure proper alignment to prevent misprints during the proofing process.

Ink Preparation:

Ink Selection: Choose the appropriate ink formulation based on the substrate and desired print quality.

Ink Mixing: Mix the ink to achieve the correct viscosity and consistency for optimal transfer.

B. Proofing Process

Initial Test Print:

Conducting Test Prints: Run a series of test prints using the proofing press to check the quality of the print from the cylinder.

Print Setup: Adjust settings such as pressure, speed, and ink flow for optimal results.

Visual Inspection:

Check for Clarity: Inspect the printed proofs for clarity, detail, and fidelity to the original design.

Color Accuracy: Ensure that colors match the intended design and adjust ink formulations if necessary.

Measurement of Print Quality:

Density Measurements: Use a densitometer to measure ink density and ensure consistency across the printed proofs.

Dot Gain Assessment: Evaluate dot gain to determine how much the printed dots expand compared to the original design.

C. Quality Control Checks

Detailed Inspection:

Defect Identification: Examine the printed proofs for any defects such as blurriness, misalignment, or color variations.

Documentation of Issues: Document any issues found for corrective measures.

Standard Compliance:

Specifications Review: Compare the proofs against established quality standards and customer specifications.

Tolerance Checks: Ensure all measurements fall within acceptable tolerances.

D. Final Adjustments

Corrections:

Addressing Issues: Make necessary adjustments to the cylinder or ink formulation based on the findings from the proofing process.

Re-Proofing: Run additional proofing tests as needed until the desired print quality is achieved.

Approval Process:

Final Approval: Obtain final approval from the quality control team or client for the proofed prints.

Sign-Off Documentation: Document the approval process for record-keeping.

E. Documentation and Reporting

Proofing Report:

Detailing Results: Prepare a detailed report documenting the proofing process, including print quality assessments and any adjustments made.

Quality Control Summary: Include a summary of quality control checks and compliance with specifications.

Archiving:

Record Keeping: Archive proof samples and reports for future reference and potential audits.

Client Communication: Share the proofing report and samples with the client for their review and approval.

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DISPATCH

A. Packaging

Protection: Wrap the cylinder in protective materials and place it in a sturdy shipping case.

Sealing and Labeling: Securely seal the package and label it with handling instructions and destination.

B. Documentation

Shipping Documents: Prepare invoices, packing lists, and necessary shipping documents.

Quality Assurance: Attach inspection and proofing reports for client reference.

C. Shipping

Transport Arrangement: Choose a reliable courier and schedule a pickup.

Tracking Information: Provide tracking details to the client.



FINAL PRODUCT READY FOR DISPATCH