

# MINNESOTA PIPELINE PROJECT

## PRIVATE INVESTMENT, PUBLIC EDUCATION

### LABOR AND INDUSTRY EXPERIENCE

#### **Flexo Technician -**

A Flexographic Press Operator (technician) is a skilled position responsible for the printing of flexographic materials. Set up, adjust, operate and maintain narrow web flexographic labels or films which include large solids, screen tints, line and halftones with critical color values and registration requirements ranging from standard to critical. Review job specifications to determine the press setup according to the approved customer proof. Perform all make-ready tasks associated flexographic presses such as mounting plates, installing print cylinders, installing/adjusting dies, monitoring and adjusting inks, adjusting tension and register etc. Makes necessary color corrections and/or press adjustments prior to production run to meet and maintain the quality specifications of the work to match proofs for both color and content. Responsible to complete all paperwork and quality checks. Clean, lubricate, and maintain the press, making minor repairs and replacing worn or broken parts as required. Performs periodic maintenance recommended by the manufacturer. Following all safety rules and regulations and maintaining work area in neat and orderly condition are also a must.

#### **Industry-Sector Technical Competencies**

- Press components – (Doctor Blades, anilox rolls, gears and tooling, Dies) – Understand the purpose importance and proper maintenance and safety print components.
- Flexographic Print Components (inks, substrates) – Understand the various ink systems and proper maintenance for Water, UV/LED and Solvent based ink as well as the substrate they are printed on.
- Color Theory – understand basic color theory and its impact on the perception of color.
- Color Measurement – understand density, dot gain, Lab\* color space and the proper use of a spectrodensotometer for measuring them.
- Die Cutting – Understand the fundamentals of precision die cutting, including how they cut, tooling specifications, maintenance and safety.
- Printing Math and measurement – Training in basic math including linear measurement and print related math, including converting counts to feet, calculating total footage based on repeats and quantity requires.
- Press Configurations – Learn the different flexographic press configurations, component arrangements and the markets that they serve.
- Print Terminology – Understand common print terminology and how it related to the flexographic printing industry.
- Safety and Environmental Concerns – Knowledge in proper safety for equipment and manufacturing facilities and environmental concerns for the flexographic industry.

- Paperwork /QC sign offs – Know the proper methods and instruments used to effectively inspect final printed products.
- Troubleshooting and problem solving – Training on common problems and solutions as well as training on trouble shooting guidelines and processes.
- Equipment maintenance and lubrication – Practice industry approved procedures for preventative maintenance and lubrication on machines and tools
- Spec reading/print reading – Knowledge in reading and understanding print specs.

## **Occupation Specific Competencies**

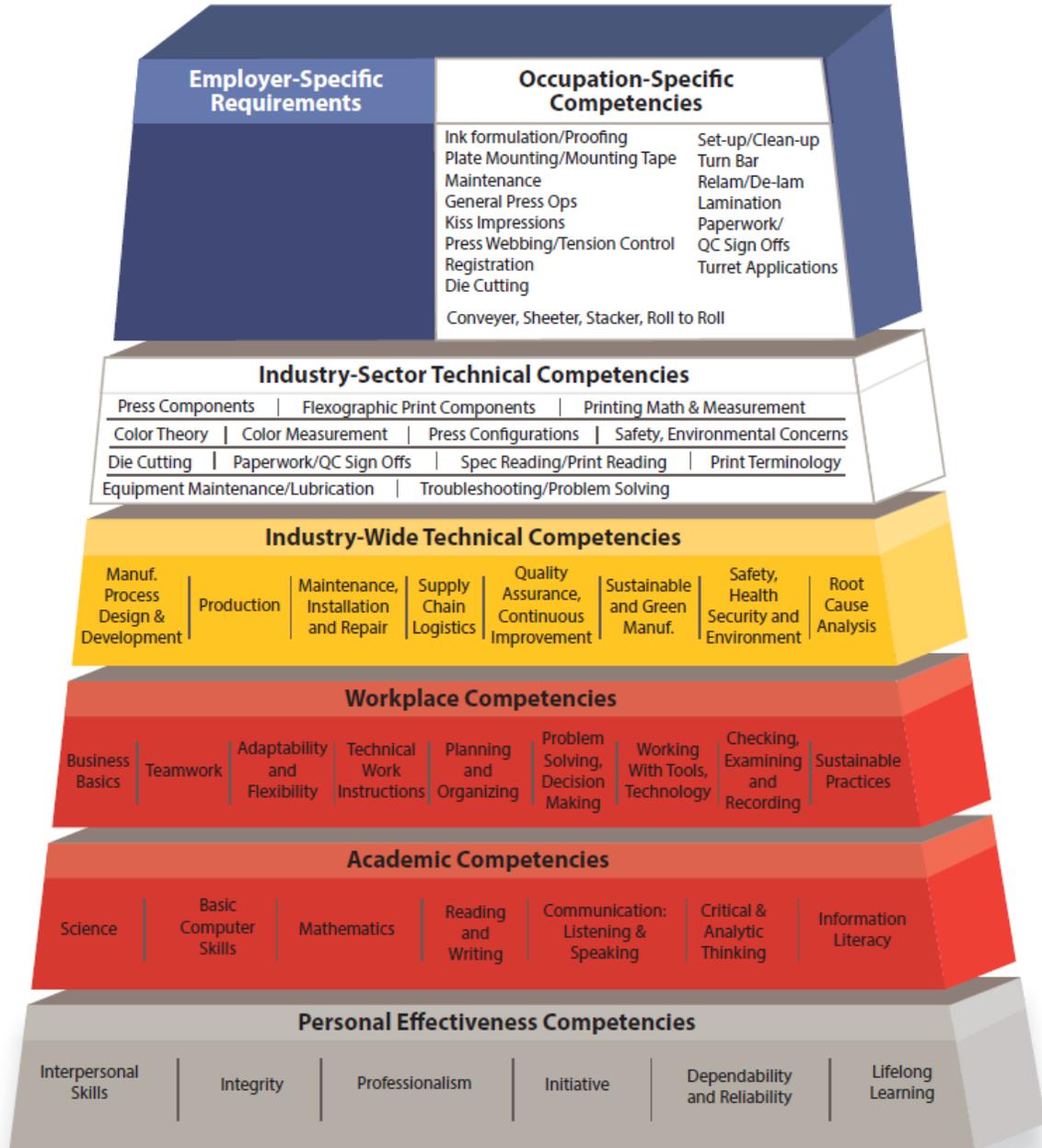
- Ink Formulation and Proofing – Demonstrate Basic ink formulation to match drawdowns to sample with a Delta E of 2.5 or less. Training in proper procedures, formulation math, color measurement ink adjustment and proper use of the drawdown tool.
- Plate Mounting & Mounting tape – Demonstrate accurate flexographic plate mounting for a specific unwind direction and understand the fundamentals of the various mounting tapes and the type of print they would be used for.
- Maintenance – Demonstrate basic press maintenance, with basic cleaning and maintenance procedures.
- General Press Operations – Demonstrate proper press operations to productively set up and run simple Line work, complex Line Work, 4 Color process, 2 Over 4, front and back, 8 color work, and multiple die sets.
- Press Webbing and Tension Control – Demonstrate proper web handling and tension techniques including the proper use of the unwind tension, infeed nip, pacing tension and outfeed pacing tension as well as other various tension application for inline converting.
- Kiss Impressions – Able to perform the ability to properly and productively set kiss impressions on a narrow web press.
- Registration – Demonstrate the ability to register multiple colors to each other as well as dies.
- Die cutting – Demonstrate proper installation maintenance and safety of a rotary or magnetic die and exhibit a clear understanding of how a die cuts and the importance of a die stain test.
- Set up and clean up procedure – Demonstrate safe, proper and productive procedures for repeatable setting up and clean up a flexographic press.
- Conveyer, Sheeter, Stacker, Roll to roll – Demonstrate the ability to install set up and properly stack product using a conveyer, sheeter or stacker. Finish products can also be roll to roll.
- Turn bar – Demonstrate the ability to install web register and print on both sides of the web.
- Relam/De-lam – Demonstrate the ability to properly set up, register print, and maintain tension, while de-laminating then re-laminating a substrate.

- Lamination – Demonstrate the ability to properly install web and set tensions using laminate
- Paperwork /QC sign offs – demonstrate and understating of Quality control as they relate to the manufacturing environment.
- Turret applications – Demonstrate the proper procedures for setting up, webbing and running a turret rewinder.

# PIPELINE Project

## Competency Model for Advanced Manufacturing

### Occupation: Flexo Technician



Based on: Advanced Manufacturing Competency Model Employment and Training Administration, United States Department of Labor, April 2010.

## Flexo Technician Occupational Competency

*Related Instruction means an organized and systematic form of instruction designed to provide the apprentice with the knowledge of the theoretical and technical subjects related to the apprentice's trade of occupation, or industrial courses or, when of equivalent value, by correspondence, electronic media, or other forms or self-study approved by the commissioner.*

	<b>Course</b>	<b>Course Description</b>	<b>Credit/Non-Credit</b>	<b>Hours Spent on Competency</b>
Press Components				
Flexographic Print Components				
Printing Math & Measurement				
Color Theory				
Color Measurement				
Press Configurations				
Food Security/Bio Security				
Safety, Environmental Concerns				
Die Cutting				
Paperwork/QC Sign Offs				
Spec Reading/Print Reading				
Print Terminology				
Equipment Maintenance/Lubrication				
Troubleshooting/Problem Solving				

*On-The-Job Training is the work experience and instruction. Training experience need not be in the exact order as listed below.*

	<b>Trainer/Instructor</b>	<b>Name of person responsible for verifying competency mastery</b>	<b>Hours spent on competency</b>
Ink Formulation/Proofing			
Plate Mounting/Mounting Tape			
Maintenance			
General Press Ops			
Kiss Impressions			
Press Webbing/Tension Control			
Registration			
Die Cutting			
Set-Up/Clean-Up			
Turn Bar			
Relam/De-lam			
Lamination			
Paperwork/QC Sign Offs			
Turret Applications			
Conveyer, Sheeter, Stacker, Roll to Roll			