



Grinding I

OVERVIEW

This certification validates that an individual has the skills and knowledge to successfully complete process planning, basic surface grinding applications, machine set ups, operations, inspection techniques and safety standards.

COMPETENCIES

KNOWLEDGE + SKILLS

Applied Mathematics	Arithmetic Pythagorean Theorem	Right Angle Trigonometry Use of Scientific Calculator
Cutting Tool Selection	Grinding Wheel Applications Grinding Wheel Features/Attributes	Grinding Wheel Nomenclature
Geometrical Dimensioning and Tolerancing	Datum Reference Frame (DRF) Degrees of Freedom (DOF) Feature Control Frame Geometric Control Symbols	Geometric Tolerancing Categories Geometric Tolerancing Characteristics Geometric Tolerancing Zone Shapes Symbols Associated with Feature Control Frames
Inspection	Angularity Verification Feature with Size Verification Feature without Size Verification Perpendicularity Verification	Position Verification Profile of a Surface Verification Surface Finish Verification
Machine Maintenance	Coolants Oils and Lubrications	Refractometer Readings
Machine Safety	Machine Guarding	
Machining Applications	Side Grinding	Surface Grinding
Measurements	Reading Micrometers Reading Steel Rules Reading Vernier Scales Use of Calipers	Use of Dial Indicators Use of Drop Indicators Use of Micrometers Use of Steel Rules
Operations	Part Loading (magnetic chuck)	Wheel Dressing
Print Reading	Block Tolerances Line Types and Conventions Orthographic Projection	Surface Finish Requirements Title Blocks and Revisions
Process Planning	Machine Configuration Machine Selection	Operation Sequencing Workholding Concepts/Devices
Setup	Balancing Grinding Wheels Mounting Grinding Wheels	Mounting/Dressing Magnetic Chucks



Grinding Skills

COMPETENCIES

KNOWLEDGE + SKILLS

Shop Safety

Blood Born Pathogen
Fire Prevention/Suppression
Hazardous Material Information System (HMIS)
Lock Out/Tag Out

Personal Protective Equipment (PPE)
Safety Data Sheets (SDS)
Waste Removal