



2019 CAST POLYMER - CERTIFIED COMPOSITES TECHNICIAN - (CCT - CP)

TOPIC	Resource	Body of Knowledge %
Module 1 Basic Composites Knowledge / Overview of Cast Polymers	CCT Basic Composites Manual/ CCT Cast Polymer Study Guide	10%
Production Processes		
Matrix and Materials		
Industry introduction		
What Cast Polymers are, unique characteristics		
Advantages of Cast Polymers		
Cast Polymer history		
Reinforced Composites manufacturing processes		
Cultured Marbled Molding, Solid Surface Molding, Engineered Stone, Polymer Concrete casting.		
Module 2 Cast Polymer Plant Safety	CCT Cast Polymer Study Guide / CCT Basic Composites Manual	15%
Shop, plant safety basics		
Chemical, fire, fluid handling, electrical safety		
Power tool safety, Lock out Tag out		
Lift truck safety, manual lifting, compressed air		
Safety in handling MEKP		
General housekeeping and safety		
Module 3 Cast Polymer Materials	CCT Cast Polymer Study Guide	15%
The cast polymer matrix		
Thermoset resins - polyester and vinyl ester		
Initiators, promoters, inhibitors, additives		
Gel Coat / In mold coating		
Cultured Marble, Onyx, Granite, Cast concrete, cast resin		
Functional fillers and cast polymers/particle theory		
Module 4 Gel Coat Application	CCT Cast Polymer Study Guide	10%
Mold preparation and release application		
Gel coat safety		

Gel coat technology and application methods		
Controlled Spraying definitions, overspray containment		
Spray Gun setup and calibration, measuring gelcoat, quality control of gel coat.		
Summary of controlled spraying benefits		
Gel coat spraying techniques, guns, checklist		
Module 5 Matrix Casting Techniques	CCT Cast Polymer Study Guide	30%
Casting technology, temperature, measuring, veining, mixing		
Casting techniques		
Vibration		
Demolding and finishing		
Troubleshooting Fillers and matrix systems		
Solid Surface application processing, cure		
Renewing and Repair Techniques		
Measuring, batching, documentation, samples		
Trim and Finish processes		
Line Setup - Hand and Automated Casting		
Module 6 Fabrication Techniques and Equipment Principles	CCT Cast Polymer Study Guide	10%
Plural component application equipment		
Plant compressed air system		
Automated Casting Equipment		
Grounding of Fluid handling systems		
Mixing Equipment		
Fluid pumps and initiator delivery, operation		
Equipment calibration, maintenance		
Module 7 Quality Assurance and finishing	CCT Cast Polymer Study Guide, CCT Basic Composites Manual	10%
The approach to quality, Quality in Cast Polymer and Solid Surface		
Standards for finishing care and maintenance		
Quality Assurance system vs Quality Control program		
Management roles in Quality		
Building a quality system, Lean, Six Sigma -Quality terminology		
Procedural quality control, batch documentation		

