



# Raven CA Training Outline

## ORIENTATION

- RLS Solutions Inc
  - Company History & Mission
  - Cohesant Inc and Other COHT Divisions
  - RLS Personnel
- CA Company Review
  - Personnel Responsibilities and Requirements
  - Education, certifications, duties, authorities
- RAVEN CA Network
  - Purpose of Certified Applicators
  - Review of Network
  - Review of CA Agreement

## TECHNICAL OVERVIEW

- RLS Solutions Products
  - Formulation, Design, Properties, Uses and Performance Capabilities
  - Material Handling/Safety
- Application Equipment
  - Required Components
  - Design and Purpose
  - Safety
  - Maintenance
- Industry Standards Review
  - NACE
  - SSPC
  - ICRI
  - OSHA
  - NSF/IAPMO (STD 61)

## SURFACE PREPARATION (SSPC-SP COM)

- **Concrete (NACE 6/SSPC-SP 13)**
  - Substrate Assessment
    - Existing Coatings
    - Structural Conditions
    - Surface/Profile Conditions
    - Contaminate Testing
      - Greases/Oils
      - Salts/Chlorides
  - Environmental Conditions
    - Monitoring
    - Controls
  - Cleaning/Profiling
    - High Pressure Water Cleaning
    - Abrasive Blasting
    - Other Methods
    - Inspection
  - Primers, Resurfacing, Joints and Terminations
    - Prevention of Holidays



- Remediation of Voids & Bugholes
- Concrete Repair & Restoration
- Joint Treatments, Terminations and Transitions
  
- **Steel (NACE 1-5, 8/Various SSPC)**
  - Substrate Assessment
    - Existing Coatings
    - Structural Conditions
    - Existing Corrosion, Pitting and Holes
    - Contaminate Testing
      - Greases/Oils
      - Salts/Chlorides
  - Environmental Conditions
    - Monitoring
    - Controls
  - Cleaning/Profiling
    - Solvent Cleaning
    - High/Ultra-High Pressure Water Cleaning
    - Abrasive Blasting
    - Other Methods
    - Inspection
  - Primers, Fillers, Reinforcements, Joints and Terminations
    - Blast Hold Primers
    - Striping
    - Remediation of pitting, thin substrate, holes
      - Fillers
      - Fiberglass Inlay Reinforcement
    - Joint Treatments, Terminations and Transitions

#### **SPRAY EQUIPMENT**

- Fluid Dynamics Theory
- Coating Application Methods and Equipment
  - Hand Application
  - Spray Application
- Plural Component Spray Equipment
  - Positive Displacement Pump Function and Operation
  - Description and Function of Major Components
    - Air Motors
    - Feed Transfer Pumps
    - Displacement Pumps
    - Heating Devices
    - Hoses and Heated Hose Assemblies
    - Gauges and Regulators
    - Mixing Manifold and Static Mixers
    - Whip Hose and Spray Gun/Tips
  - Material Heating, Transfer and Delivery
  - Proportioning
  - Pressurization and Atomization
- Ancillary Equipment
  - Generator, Air Compressor, Heating Devices, Controls and Monitoring
- Spray Operations
  - Preparation for Spraying



- Material Heating
    - Hose Set Up and Inspection
    - Spray Gun/Tip Set Up and Inspection
    - Purge Material
  - Start Up, Spraying/Monitoring, and Shut Down
  - Purging and Clean Up
  - Storage
- Maintenance and Troubleshooting
  - Basic Theory and Troubleshooting Tips
    - Time Table for Troubleshooting
    - Common Problems and Preventative Measures
  - Maintenance and Repairs
  - Technical Assistance

#### **APPLICATION OPERATIONS**

- Safety
  - Mechanical and Spray System Issues
  - Electrical
  - CSE
  - PPE
  - Other Safety Issues
- Spray Techniques
  - Tip Selection
  - Gun Position and Movement
  - WFT Control
  - Cross Hatch Pattern
  - Monolithic Application
- Structure Specifics Issues
  - Manholes/Lift Stations
  - Below Grade
  - Above Grade
  - Elevated
  - Large Diameter Pipes/Tunnels
  - Tanks
  - Flooring
  - Structural Steel
  - Piping

#### **QUALITY CONTROL and RISK MANAGEMENT**

- Documentation
- Specification Requirements and Submittals
- Hold Points and Inspection



### **INSPECTION and REPAIR**

- Industry Standards, Procedures and Equipment
  - NACE, SSPC and ASTM
  - Surface Preparation
  - Environmental Monitoring
  - Coating Film Measurement
  - Holiday Inspection
  - Adhesion Testing
  - Vacuum/Exfiltration Testing
- Coating Film Defects
  - Holidays
  - Runs, Drips and Sags
  - Edge Splitting
  - Other Defects
- Coating Repairs
  - Assessment
  - Remediation
  - Repair Procedures

### **PROJECT PLANNING**

- Estimating, planning, bidding
  - Specification Review
  - Coating Selection
  - Submittals
- Pre-Bid and Pre-Construction Conferences
- Materials and Equipment
  - Logistics Planning
  - Procurement
  - Mobilization Checklists
  - Preventive Maintenance
- Project Coordination
  - Safety and Emergency Response Plans
  - Time Table
  - GC/Sub Coordination
  - Inspectors and Inspections
  - Documentation and Submittals
  - Acceptance of Work
  - Warranty and Warranty Inspections

### **HEALTH AND SAFETY**

- OSHA Compliance
  - Written Programs
  - Program Implementation and Enforcement
- CSE Specifics
- Coating Application Specifics
  - PPE Selection, Usage and Maintenance
- Documentation
- OSHA Assistance and Inspections
- RLS Materials Safety Review



**INFORMATION and COMMUNICATIONS**

- RLS Support
  - Sales Team
  - Technical Team
  - Manufacturing
  - Order Fulfillment
  - R&D
- RLS Marketing
  - Website
  - Trade Shows
  - Advertising
  - Industry Activity
- Corporate Support and Associated Technologies