

SURFACE PREPARATION

THIS ITEM SHALL CONSIST OF WASHING, SOLVENT CLEANING, AND ABRASIVE CLEANING OF STRUCTURAL STEEL MEMBERS.

WASHING (QCP #1)

PRIOR TO ABRASIVE BLASTING, ALL SURFACES TO BE PAINTED SHALL BE WASHED WITH POTABLE WATER HAVING A NOZZLE PRESSURE OF AT LEAST 1,000 PSI AND A DELIVERY RATE OF NOT LESS THAN FOUR GALLONS PER MINUTE. (QCP #1) THE CONTRACTOR OR FABRICATOR SHALL PROVIDE EQUIPMENT SPECIFICATIONS TO VERIFY THE ABOVE. THE EQUIPMENT SHALL ALSO BE EQUIPPED WITH GAUGES TO VERIFY THE PRESSURE. THE WATER SHALL CONTAIN TRI-SODIUM PHOSPHATE DETERGENT AT A RATE OF TWO OUNCES (BY WEIGHT) PER GALLON OF TECHNICAL GRADE, HYDRATED WATER (MINIMUM) TO REMOVE WATER SOLUBLE OIL, GREASE, SALT, AND DIRT. BEFORE THE SURFACES DRY, THE BRIDGE OR STRUCTURAL STEEL MEMBER SHALL BE RINSED TO REMOVE ALL REMAINING DETERGENT. THE NOZZLE SHALL BE HELD AT A MAXIMUM OF TWELVE INCHES FROM THE SURFACE BEING WASHED OR RINSED. SURFACES SHALL NOT BE CONSIDERED AS CLEAN UNTIL CLEAR RINSE WATER RUNS OFF THE STRUCTURE. AFTER THE SURFACE IS RINSED AND ALLOWED TO DRY, IT SHALL BE CHECKED FOR REMAINING VISIBLE DIRT. SURFACES SHALL BE RE-WASHED AND RINSED AS NECESSARY TO REMOVE ALL REMAINING DIRT. THE FINISH COAT SHALL BE APPLIED WITHIN THREE MONTHS OF WASHING THE STRUCTURE OR STRUCTURAL STEEL MEMBER.

SOLVENT CLEANING (QCP #2)

AFTER WASHING, ALL TRACES OF ASPHALTIC CEMENT, OIL, GREASE, DIESEL FUEL DEPOSITS, AND OTHER SOLUBLE CONTAMINANTS WHICH REMAIN SHALL BE REMOVED BY SOLVENT CLEANING (QCP #2) (SEE SSPC-SP 1 SOLVENT CLEANING FOR RECOMMENDED PRACTICES.) UNDER NO CIRCUMSTANCES SHALL ANY ABRASIVE BLASTING BE DONE TO AREAS WITH ASPHALTIC CEMENT, OIL, GREASE, OR DIESEL FUEL DEPOSITS. ALL SOLVENT CLEANED AREAS SHALL BE RE-WASHED AS PREVIOUSLY NOTED.

GRINDING EDGES (QCP #3)

THE EDGES OF ALL STEEL SHALL BE ROUNDED IN ACCORDANCE WITH AWS D1.5 SECTION 3.2.9 BEFORE ABRASIVE BLASTING.

ABRASIVE BLASTING (QCP #4)

ALL STEEL TO BE PAINTED SHALL BE BLAST CLEANED ACCORDING TO SSPC-SP10 (NEAR-WHITE BLAST) AS SHOWN IN SSPC-VIS 1-89 (PICTORIAL SURFACE PREPARATION STANDARDS FOR PAINTING STEEL SURFACES).

STEEL SHALL BE MAINTAINED IN A BLAST CLEANED CONDITION UNTIL IT HAS RECEIVED A PRIME COAT OF PAINT.

DURING SHOP APPLICATION AND FIELD TOUCHUP GALVANIZED STEEL (INCLUDING CORRUGATED STEEL BRIDGE FLOORING), ADJACENT CONCRETE, EXISTING PAINTED SURFACE, AND OTHER SURFACES NOT INTENDED TO BE PAINTED SHALL BE MASKED TO PREVENT DAMAGE FROM ABRASIVE BLASTING AND PAINTING OPERATIONS.

THE ABRASIVE SHALL BE A RECYCLABLE STEEL GRIT. AFTER EACH USE AND PRIOR TO REUSE, THE STEEL GRIT SHALL BE CLEANED OF PAINT CHIPS, RUST, MILL SCALE, AND OTHER FOREIGN MATERIAL BY EQUIPMENT SPECIFICALLY DESIGNED FOR SUCH CLEANING.

THE SURFACE PROFILE SHALL BE A MINIMUM OF ONE MILS AND A MAXIMUM OF THREE AND ONE HALF MILS. ABRASIVES OF A SIZE SUITABLE TO DEVELOP THE REQUIRED SURFACE PROFILE SHALL BE USED. ANY ABRASIVE BLASTING WHICH IS DONE WHEN THE STEEL TEMPERATURE IS LESS THAN FIVE DEGREES ABOVE THE DEW POINT SHALL BE RE-BLASTED WHEN THE STEEL TEMPERATURE IS FIVE DEGREES ABOVE THE DEW POINT. DEW POINT SHALL BE DEFINED AS THE TEMPERATURE AT WHICH MOISTURE CONDENSES ON THE STEEL SURFACES.

ALL FINS, TEARS, SLIVERS, AND BURRED OR SHARP EDGES THAT ARE PRESENT ON ANY STEEL MEMBER AFTER BLASTING SHALL BE REMOVED BY GRINDING AND THE AREA RE-BLASTED.

ALL ABRASIVES AND RESIDUE SHALL BE REMOVED FROM SURFACES TO BE PAINTED USING A VACUUM SYSTEM EQUIPPED WITH A BRUSH-TYPE CLEANING TOOL. ALL STEEL BLAST CLEANED IN ANY ONE DAY SHALL BE KEPT DUST FREE AND PRIME COATED THE SAME DAY. FAILURE TO PRIME COAT THE SAME DAY WILL REQUIRE RE-BLASTING BEFORE PRIME COATING. NO DUST OR ABRASIVES FROM ADJACENT WORK SHALL BE LEFT ON THE FINISH COAT.

THE QUALITY CONTROL SPECIALIST SHALL PERFORM THE FOLLOWING TEST (AND THE INSPECTOR WILL VERIFY) TO ENSURE THAT THE AIR IS NOT CONTAMINATED: BLOW AIR FROM THE NOZZLE FOR THIRTY SECONDS ONTO A WHITE CLOTH OR BLOTTER HELD IN A RIGID FRAME. IF ANY OIL OR OTHER CONTAMINANTS ARE PRESENT ON THE CLOTH OR BLOTTER, ABRASIVE BLASTING SHALL BE SUSPENDED UNTIL THE PROBLEM IS CORRECTED AND VERIFIED BY ANOTHER TEST. THIS TEST SHALL BE DONE AT THE START OF EACH SHIFT AND AT FOUR-HOUR INTERVALS.

ABRASIVE BLASTING AND PAINTING MAY TAKE PLACE SIMULTANEOUSLY ON ANY ONE BRIDGE AS LONG AS ABRASIVE BLASTING DEBRIS AND/OR DUST CREATED BY THE BLOWING OPERATION DOES NOT COME IN CONTACT WITH FRESHLY PAINTED SURFACES.

THE CONTRACTOR SHALL REMOVE ALL BLASTING RESIDUES FROM THE ROADWAY, PEDESTRIAN WALKWAYS, GUTTERS, AND OTHER DRAINAGE FACILITIES AT THE END OF EACH DAY'S WORK. CARE SHALL BE TAKEN TO KEEP ALL BLASTING RESIDUES OUT OF DRAINS OR CATCH BASINS. NEARBY DRAINS AND CATCH BASINS SHALL BE COVERED DURING BLASTING OPERATIONS. BLASTING RESIDUE SHALL NOT BE PERMITTED ON SURFACES WHICH ARE BEING USED BY VEHICLES OR PEDESTRIANS. THE BLASTING RESIDUES SHALL BE DISPOSED OF OUTSIDE THE HIGHWAY RIGHT OF WAY.

TESTING EQUIPMENT

BOTH THE CONTRACTOR FOR THE FIELD APPLICATION AND THE FABRICATOR FOR SHOP APPLICATIONS SHALL PROVIDE AND ASSIGN TO THE ENGINEER THE FOLLOWING TESTING EQUIPMENT IN GOOD WORKING ORDER FOR THE DURATION OF THE PROJECT, ONE SET OF TESTING EQUIPMENT FOR EACH QUANTITY CONTROL SPECIALIST. THESE SHALL BE SEPARATE SETS FROM THOSE THAT CONTRACTOR OR FABRICATOR PROVIDE FOR QUALITY CONTROL SPECIALIST.

EACH QUALITY CONTROL SPECIALIST SHALL HAVE HIS OWN TESTING EQUIPMENT. WHEN NO TEST EQUIPMENT IS AVAILABLE, NO WORK SHALL BE PERFORMED.

- ONE SPRING MICROMETER AND ONE ROLL OF COARSE AND THREE (UNLESS OTHERWISE SPECIFIED ON PLANS) ROLLS OF EXTRA-COARSE REPLICA TAPE.
- ONE POSITECTOR 2000-6000, QUANIX 2200, OR ELCOMETER (A345FB11) AND THE CALIBRATION PLATES AS PER THE NBS CALIBRATION STANDARDS IN ACCORDANCE WITH ASTM D-1186.
- ONE SLING PSYCHROMETER INCLUDING PSCHOMETRIC TABLES USED TO CALCULATE RELATIVE HUMIDITY AND DEW POINT TEMPERATURE.
- TWO STEEL SURFACE THERMOMETERS ACCURATE WITHIN TWO DEGREES.
- FLASHLIGHT, 2-D CELL.
- SSPC VISUAL STANDARD FOR ABRASIVE BLAST CLEANED STEEL SSPC-VIS 1-89.
- ONE RECORDER THERMOMETER CAPABLE OF RECORDING THE DATE, TIME, AND TEMPERATURE OVER A PERIOD OF AT LEAST 12 HOURS.

HANDLING

ALL PAINT AND THINNER SHALL BE DELIVERED TO THE PROJECT SITE OR FABRICATOR'S SHOP IN ORIGINAL, UNOPENED CONTAINERS WITH LABELS INTACT. MINOR DAMAGE TO CONTAINERS IS ACCEPTABLE PROVIDED THAT THE CONTAINER HAS NOT BEEN PUNCTURED. THINNER CONTAINERS SHALL BE A MAXIMUM OF FIVE GALLONS.

PAINT SHALL BE STORED AT THE TEMPERATURE RECOMMENDED BY THE MANUFACTURER TO PREVENT PAINT DETERIORATION.

EACH CONTAINER OF PAINT AND THINNER SHALL BE CLEARLY MARKED OR LABELED TO SHOW PAINT IDENTIFICATION, COMPONENT, COLOR, LOT NUMBER, STOCK NUMBER, DATE OF MANUFACTURE, AND INFORMATION AND WARNINGS AS MAY BE REQUIRED BY FEDERAL AND STATE LAWS.

ALL CONTAINERS OF PAINT AND THINNER SHALL REMAIN UNOPENED UNTIL REQUIRED FOR USE. THE LABEL INFORMATION SHALL BE LEGIBLE AND SHALL BE CHECKED AT THE TIME OF USE.

SOLVENT USED FOR CLEANING EQUIPMENT IS EXEMPT FROM THE ABOVE REQUIREMENTS.

PAINT WHICH HAS LIVERED, GELLED, OR OTHERWISE DETERIORATED DURING STORAGE SHALL NOT BE USED. HOWEVER, THIXOTROPIC MATERIALS WHICH CAN BE STIRRED TO ATTAIN NORMAL CONSISTENCY MAY BE USED.