

ITEM SPECIAL - FIELD PAINTING, MISC.: SHOP PAINTING AND FIELD TOUCH-UP OF STRUCTURAL STEEL

DESCRIPTION

THIS SPECIFICATION COVERS SHOP CLEANING AND SHOP APPLICATION OF A 3 COAT PAINT SYSTEM ON ITEM 863 - STRUCTURAL STEEL, AND THE FIELD CLEANING AND REPAIR OF SURFACES DAMAGED IN SHIPPING, HANDLING, AND ERECTING THE STRUCTURAL STEEL AND ANY OTHER DAMAGES DURING CONSTRUCTION.

THIS SPECIFICATION SHALL ALSO INCLUDE THE GALVANIZING AS PER 711.02 OF ALL NUTS, WASHERS, BOLTS, ANCHOR BOLTS, AND ALL OTHER STRUCTURAL MEMBERS DESIGNATED IN THE PLANS.

MATERIAL

A. A THREE COAT PAINT SYSTEM CONSISTING OF AN

ORGANIC ZINC PRIME COAT
EPOXY INTERMEDIATE COAT
URETHANE FINISH COAT

AND MEETING THE REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 910 ENTITLED "OZEU STRUCTURAL STEEL PAINT".

B. INORGANIC ZINC SILICATE PRIMER PAINT, FOR THE BOLTED FAYING SURFACES, MEETING THE REQUIREMENTS OF CMS 708.17.

C. A TIE COAT, CONSISTING OF AN EPOXY INTERMEDIATE COAT, MEETING THE REQUIREMENTS OF SUPPLEMENTAL SPECIFICATION 910, "EPOXY INTERMEDIATE COAT" AND THINNED 50% BY VOLUME, WITH A THINNER AS RECOMMENDED BY THE PAINT MANUFACTURER.

APPROVED PAINT, ITEMS A AND C, SHALL BE FROM ONE MANUFACTURER, REGARDLESS OF SHOP OR FIELD APPLICATION.

APPROVED PAINT, ITEM B, MAY BE FROM A DIFFERENT MANUFACTURER THAN ITEMS A AND C. ITEM B PAINT USED SHALL BE FROM THE SAME MANUFACTURER FOR BOTH SHOP APPLICATION AND FIELD TOUCH-UP.

PRE-PAINT CONFERENCE

IF DESIGNATED ON THE PLAN A PRE-PAINT CONFERENCE SHALL BE HELD SEPARATELY FROM THE PRE-CONSTRUCTION MEETING. ATTENDEES TO THIS MEETING SHALL INCLUDE THE GENERAL CONTRACTOR, PAINT CONTRACTOR, STRUCTURAL STEEL ERECTOR, FABRICATOR, QUALITY CONTROL SPECIALIST, ENGINEER, STRUCTURAL STEEL ENGINEER, AND OTHERS IF REQUIRED IN THE PLAN.

THE MEETING SHALL TAKE PLACE BEFORE THE STEEL IS FABRICATED OR PAINTED.

QUALITY CONTROL SPECIALISTS

THIS PERSON WILL NOT BE A FOREMAN OR MEMBER OF THE CONTRACTOR'S OR FABRICATOR'S PRODUCTION STAFF (I.E. HE WILL NOT ABRASIVE BLAST, PAINT, RECOVER SPENT ABRASIVES, ETC.). HE WILL NOT BE INVOLVED IN ANY OTHER MISCELLANEOUS TASK (I.E. MIXING PAINT, RUNNING ERRANDS, RUNNING OR WORKING ON EQUIPMENT, ETC.). DOCUMENTATION THAT PERSONNEL PERFORMING QUALITY CONTROL RELATED FUNCTIONS ARE QUALIFIED SHALL BE SUBMITTED TO THE ENGINEER PRIOR TO ALLOWING THE QUALITY CONTROL SPECIALIST (QCS) TO BEGIN WORK. DOCUMENTATION/VERIFICATION SHALL BE PROVIDED TO THE ENGINEER THAT THE QCS HAS RECEIVED FORMAL TRAINING FROM ONE OF THE FOLLOWING: KTA IATOR, S.G. PINNEY, OR CORROSION CONTROL CONSULTANTS. HE SHALL BE EQUIPPED WITH MATERIAL SAFETY DATA SHEETS, TOOLS AND EQUIPMENT TO PROVIDE QUALITY CONTROL ON ALL FACETS OF THE WORK AND SHALL HAVE A THOROUGH UNDERSTANDING OF THE PLANS AND SPECIFICATIONS PERTAINING TO THIS PROJECT. HE SHALL BE RESPONSIBLE FOR VERIFYING THAT ALL WORK IS DONE WITHIN THE SPECIFIED WORK LIMITATION. HE SHALL COOPERATE WITH THE INSPECTOR AND COMPARE AND DOCUMENT QUALITY CONTROL READINGS. HE SHALL HAVE THE AUTHORITY TO STOP WORK AND THE RESPONSIBILITY TO INFORM THE CONTRACTOR'S OR FABRICATOR'S FOREMAN OF NON-CONFORMING WORK.

QUALITY CONTROL SPECIALISTS WILL BE REQUIRED IN THE SHOP AND IN THE FIELD, BEFORE FABRICATION THE FABRICATOR SHALL DESIGNATE ONE INDIVIDUAL FOR EACH SHOP AS A QUALITY CONTROL SPECIALIST.

AT THE PRE-CONSTRUCTION OR PRE-PAINT MEETING, THE CONTRACTOR SHALL ALSO DESIGNATE ONE INDIVIDUAL ON EACH PROJECT AS A QUALITY CONTROL SPECIALIST (ONLY ONE PERSON PER PROJECT WILL BE NECESSARY UNLESS THE CONTRACTOR IS WORKING AT MORE THAN THREE (3) SITES SIMULTANEOUSLY). IT WILL THEN BE NECESSARY TO PROVIDE AN ADDITIONAL QUALITY CONTROL SPECIALIST AND A SET OF TESTING EQUIPMENT AS DESCRIBED IN THE EQUIPMENT SECTION FOR EACH ADDITIONAL THREE (3) SITES BEING PAINTED SIMULTANEOUSLY.

QUALITY CONTROL POINTS

QUALITY CONTROL POINTS (QCP) ARE POINTS IN TIME WHEN ONE PHASE OF THE WORK IS COMPLETE AND READY FOR INSPECTION BY THE CONTRACTOR OR FABRICATOR AND THE STRUCTURAL STEEL ENGINEER OR THE ENGINEER PRIOR TO CONTINUING WITH THE NEXT OPERATIONAL STEP. AT THESE POINTS: THE CONTRACTOR OR FABRICATOR SHALL AFFORD ACCESS TO INSPECT ALL AFFECTED SURFACES. IF INSPECTION INDICATES A DEFICIENCY, THAT PHASE OF THE WORK SHALL BE CORRECTED IN ACCORDANCE WITH THESE SPECIFICATIONS PRIOR TO BEGINNING THE NEXT PHASE OF WORK. DISCOVERY OF DEFECTIVE WORK OR MATERIAL AFTER A QUALITY CONTROL POINT IS PAST OR FAILURE OF THE FINAL PRODUCT BEFORE FINAL ACCEPTANCE, SHALL NOT IN ANY WAY PREVENT REJECTION OR OBLIGATE THE STATE OF OHIO TO FINAL ACCEPTANCE.

QUALITY CONTROL POINTS (QCP) (PURPOSE)

- | | |
|-----------------------------|---|
| 1.) WASHING | REMOVE WATER SOLUBLE OIL, GREASE, SALT, DIRT, ETC. |
| 2.) SOLVENT CLEANING | REMOVE ASPHALTIC CEMENT, OIL, GREASE, SALT, DIRT, ETC., NOT REMOVED DURING WASHING |
| 3.) GRINDING EDGES | GRINDING EDGES REQUIRED. |
| 4.) ABRASIVE BLASTING | BLAST SURFACE TO RECEIVE PAINT |
| 5.) PRIME COAT APPLICATION | CHECK SURFACE CLEANLINESS, APPLY PRIME COAT, CHECK COATING THICKNESS |
| 6.) INTERMEDIATE COAT | CHECK SURFACE CLEANLINESS, APPLY INTERMEDIATE COAT, CHECK COATING THICKNESS |
| 7.) FINISH COAT APPLICATION | CHECK SURFACE CLEANLINESS, APPLY FINISH COAT, CHECK COATING THICKNESS |
| 8.) VISUAL INSPECTION | VISUALLY INSPECT PAINT BEFORE SHIPMENT OF STEEL AND CHECK TOTAL SYSTEM THICKNESS |
| 9.) REPAIR OF DAMAGED AREAS | CHECK FOR DAMAGED AREAS AFTER COMPLETION OF STRUCTURE AND REPEAT QCP 1-7 FOR DAMAGED AREAS |
| 10.) FINAL REVIEW | WASH STRUCTURE AS PER QCP #1, VISUALLY INSPECT SYSTEM FOR ACCEPTANCE AND CHECK TOTAL SYSTEM THICKNESS |

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 1000 PSI AND A DELIVERY RATE OF NOT LESS THAN 4 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 2 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 (12) 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 REWASHED AND RINSED AS NECESSARY TO REMOVE ALL REMAINING DIRT. THE FINISH COAT SHALL BE APPLIED WITHIN THREE (3) 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 REWASHED 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 TOUCH-UP, 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 EACH 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 (1) MILS AND A MAXIMUM OF THREE AND ONE-HALF (3.5) 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 (5) DEGREES ABOVE THE DEW POINT SHALL BE REBLASTED WHEN THE STEEL TEMPERATURE IS FIVE (5) 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 REBLASTED.

ALL ABRASIVES AND RESIDUE SHALL BE REMOVED FROM SURFACES TO BE PAINTED WITH 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 REBLASTING BEFORE PRIME COATING. NO DUST OR ABRASIVES FROM ADJACENT WORK SHALL BE LEFT ON THE FINISH COAT.

REVISION HISTORY
Baker
 2002 EAST NORTH STREET, SUITE 1220
 CLEVELAND, OHIO 44115
 DATE: 8-29-02
 REVIEWED: RBP
 DRAWN: VLC
 DESIGNED: SCT
 CHECKED: SCT
 STRUCTURE FILE NUMBER: 4302303
 STRUCTURE NOTES 3 OF 7
 BRIDGE NO. LAK-20-1807
 NORFOLK SOUTHERN FAIRPORT LINE
 OVER
 LAK-20-18.07
 4 / 22
 45
 72