

CLEANING AND PAINTING SHALL BE SCHEDULED SO THAT DUST OR OTHER CONTAMINANTS DO NOT FALL ON WET, NEWLY-PAINTED SURFACES. SURFACES NOT INTENDED TO BE PAINTED SHALL BE SUITABLY PROTECTED FROM THE EFFECTS OF CLEANING AND PAINTING OPERATIONS. OVERSPRAY SHALL BE REMOVED WITH A STIFF BRISTLE BRUSH, WIRE SCREEN, OR A WATER WASH WITH SUFFICIENT PRESSURE TO REMOVE OVERSPRAY WITHOUT DAMAGING THE PAINT. THE OVERSPRAY MUST BE REMOVED BEFORE APPLYING THE NEXT COAT. ALL ABRASIVES AND RESIDUE SHALL BE REMOVED FROM PAINTED SURFACES BEFORE RECOATING, WITH A VACUUM SYSTEM EQUIPPED WITH A BRUSH-TYPE CLEANING TOOL.

NO VISIBLE ABRASIVES FROM ADJACENT WORK SHALL BE LEFT ON ANY COAT. ABRASIVES SHALL BE REMOVED.

SPRAY APPLICATION FOR THE INTERMEDIATE COAT (EPOXY) SHALL NOT BE USED WHERE TRAFFIC (INCLUDING RAILROAD, HIGHWAY AND RIVER TRAFFIC, PUBLIC AND PRIVATE PROPERTY) IS AFFECTED UNLESS THE OPERATION IS TOTALLY CONTAINED TO PREVENT OVERSPRAY. IF BRUSHED, MORE THAN ONE COAT MAY BE NECESSARY TO PRODUCE THE REQUIRED MILLAGE.

SPRAY APPLICATION (GENERAL)

ALL SPRAY APPLICATION OF PAINT SHALL BE IN ACCORDANCE WITH THE FOLLOWING:

PRIMER INGREDIENTS SHALL BE KEPT UNIFORMLY MIXED IN THE SPRAY EQUIPMENT SHALL BE KEPT CLEAN SO THAT DIRT, DRIED PAINT AND OTHER FOREIGN MATERIALS ARE NOT DEPOSITED IN THE PAINT FILM. ANY SOLVENT LEFT IN THE EQUIPMENT SHALL BE COMPLETELY REMOVED BEFORE USING.

PAINT SHALL BE APPLIED IN A UNIFORM LAYER WITH OVERLAPPING AT THE EDGES OF THE SPRAY PATTERN. THE BORDER OF THE SPRAY PATTERN SHALL BE PAINTED FIRST, WITH THE PAINTING OF THE INTERIOR OF THE SPRAY PATTERN TO FOLLOW, BEFORE MOVING TO THE NEXT SPRAY PATTERN AREA. A SPRAY PATTERN AREA IS SUCH THAT THE GUN SHALL BE HELD PERPENDICULAR TO THE SURFACE AND AT A DISTANCE WHICH WILL ENSURE THAT A WET LAYER OF PAINT IS DEPOSITED ON THE SURFACE. THE TRIGGER OF THE GUN SHOULD BE RELEASED AT THE END OF EACH STROKE. ALL BOLTS AND RIVET HEADS SHALL BE SPRAYED FROM AT LEAST TWO (2) DIRECTIONS OR BRUSHED TO INSURE COVERAGE.

EACH SPRAY OPERATOR SHALL DEMONSTRATE TO THE ENGINEER HIS ABILITY TO APPLY THE PAINT AS SPECIFIED. ANY OPERATOR WHO DOES NOT DEMONSTRATE THIS ABILITY SHALL NOT SPRAY.

IF MUD CRACKING OCCURS, THE AFFECTED AREA SHALL BE CLEANED TO BARE METAL IN ACCORDANCE WITH SURFACE PREPARATION ABOVE AND REPAINTED.

ALL SPRAY EQUIPMENT USED SHALL BE SUITABLE FOR USE WITH THE SPECIFIED PAINT. PAINT MANUFACTURER'S EQUIPMENT RECOMMENDATIONS SHALL BE CONSULTED IN THE EVENT OF PAINT APPLICATION PROBLEMS.

IF AIR SPRAY IS USED, TRAPS OR SEPARATORS SHALL BE PROVIDED TO REMOVE OIL AND CONDENSED WATER FROM THE AIR. THE TRAPS OR SEPARATORS MUST BE OF ADEQUATE SIZE AND MUST BE DRAINED PERIODICALLY DURING OPERATIONS. THE FOLLOWING TEST SHALL BE DONE BY THE CONTRACTOR AND VERIFIED BY THE ENGINEER TO INSURE THAT THE TRAPS OR SEPARATORS ARE WORKING PROPERLY. BLOW AIR FROM THE SPRAY GUN FOR THIRTY (30) SECONDS ONTO A WHITE CLOTH OR BLOTTER HELD IN A RIGID FRAME. IF ANY OIL, WATER OR OTHER CONTAMINANTS ARE PRESENT ON THE CLOTH OR BLOTTER, PAINTING 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 (4) HOUR INTERVALS. THIS IS NOT REQUIRED FOR AND AIRLESS SPRAYER.

APPLICATION APPROVAL

THE BEGINNING OF THE APPLICATION OF EACH OF THE THREE DIFFERENT COATS SHALL BE SUBJECT TO INSPECTION AND APPROVAL. THE PURPOSE OF THIS INSPECTION IS TO DETECT ANY DEFECTS WHICH MIGHT RESULT FROM THE CONTRACTOR'S METHOD OF APPLICATION. IF ANY DEFECTS ARE DISCOVERED, THE CONTRACTOR SHALL MAKE ALL NECESSARY ADJUSTMENTS TO HIS METHOD OF APPLICATION TO ELIMINATE THESE DEFECTS BEFORE PROCEEDING WITH APPLICATION.

TEMPERATURE

PAINT SHALL NOT BE APPLIED WHEN THE TEMPERATURE OF THE AIR, STEEL, OR PAINT IS BELOW 50 DEGREES F. PAINT SHALL NOT BE APPLIED WHEN THE STEEL SURFACE TEMPERATURE IS EXPECTED TO DROP BELOW 50 DEGREES F BEFORE THE PAINT HAS CURED FOR THE MINIMUM TIMES SPECIFIED BELOW:

	50°F	60°F	70°F
PRIMER	4 HRS.	3 HRS.	2 HRS.
INTERMEDIATE	6 HRS.	5 HRS.	4 HRS.
FINISH	8 HRS.	6 HRS.	4 HRS.

THE ABOVE TEMPERATURES AND TIMES SHALL BE MONITORED WITH THE RECORDING THERMOMETER.

MOISTURE

PAINT SHALL NOT BE APPLIED WHEN THE STEEL SURFACE TEMPERATURE IS LESS THAN 5 DEGREES F ABOVE THE DEW POINT. PAINT SHALL NOT BE APPLIED TO WET OR DAMP SURFACES OR ON FROSTED OR ICE-COATED SURFACES. PAINT SHALL NOT BE APPLIED WHEN THE RELATIVE HUMIDITY IS GREATER THAN 85%. PAINT SHALL NOT BE APPLIED DURING RAIN, FOG OR MIST UNLESS THE ABOVE MOISTURE CRITERIA IS MET.

CONTINUITY

EACH COAT OF PAINT SHALL BE APPLIED AS A CONTINUOUS FILM OF UNIFORM THICKNESS FREE OF ALL DEFECTS SUCH AS HOLIDAYS, RUNS, SAGS, ETC. ALL THIN SPOTS OR AREAS MISSED SHALL BE REPAINTED AND PERMITTED TO DRY BEFORE THE NEXT COAT OF PAINT IS APPLIED.

DRY FILM THICKNESS

PRIME THICKNESS, CUMULATIVE PRIME AND INTERMEDIATE THICKNESS AND CUMULATIVE PRIME, INTERMEDIATE AND FINISH THICKNESS SHALL BE DETERMINED BY USE OF A TYPE 2 MAGNETIC GAGE IN ACCORDANCE WITH THE FOLLOWING:

FIVE (5) SEPARATE SPOT MEASUREMENT SPACED EVENLY OVER EACH 100 SQUARE FEET OF AREA TO BE MEASURED. FOR FIELD MEASUREMENTS THESE MEASUREMENTS SHALL BE TAKEN ON FLANGES, WEBS, CROSS BRACING, STIFFENERS, ETC. THREE (3) GAGE READINGS SHALL BE MADE FOR EACH SPOT MEASUREMENT OF EITHER THE SUBSTRATE OR THE PAINT. MOVE THE PROBE A DISTANCE OF ONE TO THREE INCHES FOR EACH NEW GAGE READING. DISCARD ANY UNUSUALLY HIGH OR LOW GAGE READING THAT CANNOT BE REPEATED CONSISTENTLY. TAKE THE AVERAGE (MEAN) OF THE THREE GAGE READINGS AS THE SPOT MEASUREMENT. THE AVERAGE OF FIVE SPOT MEASUREMENTS FOR EACH SUCH 100 SQUARE FOOT AREA SHALL NOT BE LESS THAN THE SPECIFIED THICKNESS. NO SINGLE SPOT MEASUREMENT IN ANY 100 SQUARE FOOT AREA SHALL BE LESS THAN 80% OF THE SPECIFIED THICKNESS. ANY ONE OF THREE READINGS WHICH ARE AVERAGE TO PRODUCE EACH SPOT MEASUREMENT, MAY UNDER-RUN BY A GREATER AMOUNT. THE FIVE SPOT MEASUREMENTS SHALL BE MADE FOR EACH 100 SQUARE FEET OF AREA AS FOLLOWS:

- FOR STRUCTURES OR BATCH OF STRUCTURAL STEEL NOT EXCEEDING 300 SQUARE FEET IN AREA, EACH 100 SQUARE FOOT AREA SHALL BE MEASURED.
- FOR STRUCTURES OR BATCH OF STRUCTURAL STEEL NOT EXCEEDING 1000 SQUARE FEET IN AREA, THREE 100 SQUARE FOOT AREAS SHALL BE RANDOMLY SELECTED AND MEASURED.
- FOR STRUCTURES OR BATCH OF STRUCTURAL STEEL EXCEEDING 1000 SQUARE FEET IN AREA, THE FIRST 1000 SQUARE FEET SHALL BE MEASURED AS STATED IN SECTION 2 AND FOR EACH ADDITIONAL 1000 SQUARE FEET, OR INCREMENT THEREOF, ONE 100 SQUARE FOOT AREA SHALL BE RANDOMLY SELECTED AND MEASURED.
- IF THE DRY FILM THICKNESS FOR ANY 100 SQUARE FOOT AREA (SECTIONS 2 & 3 IS NOT IN COMPLIANCE WITH THE REQUIREMENTS OF PARAGRAPH 1 ON THIS SECTION, THEN EACH 100 SQUARE FOOT AREA SHALL BE MEASURED.
- OTHER SIZE AREAS OR NUMBER OF SPOT MEASUREMENTS MAY BE SPECIFIED IN THE CONTRACT PLANS AS APPROPRIATE FOR THE SIZE AND SHAPE OF THE STRUCTURE TO BE MEASURED.

EACH COAT OF PAINT SHALL HAVE THE FOLLOWING MIL THICKNESS MEASURED ABOVE THE PEAKS:

	MIN. SPEC. THICKNESS	MAX. SPEC. THICKNESS	MIN. SPOT	MAX. SPOT
PRIME	3.0	5.0	2.5	7.5
INTERMEDIATE	5.0	7.0	4.0	10.5
SUB TOTAL	8.0	12.0	6.4	18.0
FINISH	2.0	4.0	1.6	6.0
TOTAL	10.0	16.0	8.0	24.0

FILM THICKNESSES GREATER THAN THE MAXIMUM SPECIFIED THICKNESSES THAT DO NOT EXHIBIT DEFECTS (SUCH AS RUNS, SAGS, BUBBLES, MUDCRACKING, ETC.) AND FOR WHICH THE CONTRACTOR HAS RECEIVED A WRITTEN STATEMENT FROM THE COATING MANUFACTURER STATING THAT THIS EXCESSIVE THICKNESS IS NOT DETRIMENTAL, MAY REMAIN IN PLACE AT THE DISCRETION OF THE DIRECTOR.

FOR ANY SPOT OR MAXIMUM AVERAGE THICKNESS OVER 24 MILS, IT WILL BE NECESSARY FOR THE CONTRACTOR TO PROVE TO THE DEPARTMENT THAT THE EXCESS THICKNESS WILL NOT BE DETRIMENTAL TO THE COATING SYSTEM. THIS SHALL BE ACCOMPLISHED BY PROVIDING THE DIRECTOR, FOR APPROVAL, CERTIFIED TEST DATA PROVING THAT THE EXCESSIVE THICKNESS WILL ADEQUATELY BOND TO THE STEEL WHEN SUBJECTED TO THERMAL EXPANSION AND CONTRACTION. THIS THERMAL EXPANSION AND CONTRACTION AND EXPANSION CYCLES HAVE TAKEN PLACE, THE TESTED SYSTEM SHALL BE SUBJECTED TO PULL OFF TESTS WHICH HAVE BEEN PERFORMED ON A PAINT SYSTEM WITH THE PROPER THICKNESSES. IN ADDITION TO THE CERTIFIED TEST RESULTS, IT WILL ALSO BE NECESSARY FOR THE CONTRACTOR TO PROVIDE THE DIRECTOR A WRITTEN STATEMENT FROM THE PAINT MANUFACTURER STATING THAT THIS EXCESSIVE THICKNESS IS NOT DETRIMENTAL.

IF THE DIRECTOR DOES NOT APPROVE THE EXCESSIVE COATING THICKNESSES OR THE CONTRACTOR ELECTS NOT TO PROVIDE THE REQUIRED WRITTEN STATEMENT FROM THE PAINT MANUFACTURER AND THE CERTIFIED TEST RESULTS WHEN REQUIRED, THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL REMOVE AND REPLACE THE COATING. THE REMOVAL AND REPLACEMENT OF THE COATING SHALL BE DONE AS SPECIFIED IN THE SECTION OF THIS SPECIFICATION TITLED REPAIR PROCEDURES.

PRIME, INTERMEDIATE AND FINISH COAT APPLICATION (QCP #5, #6 & #7)

EACH COAT OF PAINT SHALL BE IN A PROPER STATE OF CURE OR DRYNESS BEFORE THE APPLICATION OF THE SUCCEEDING COAT. PAINT SHALL BE CONSIDERED READY FOR RECOATING WHEN AN ADDITIONAL COAT CAN BE APPLIED WITHOUT THE DEVELOPMENT OF ANY DETRIMENTAL FILM IRREGULARITIES, SUCH AS LIFTING, WRINKLING OR LOSS OF ADHESION OF THE UNDERCOAT. THE TIME INTERVAL BETWEEN COATING APPLICATIONS SHALL BE IN COMPLIANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS AND NO MORE THAN THIRTY (30) DAYS BETWEEN THE PRIME AND INTERMEDIATE COATS AND THIRTEEN (13) DAYS BETWEEN THE INTERMEDIATE AND FINISH COATS. THESE MAXIMUM RECOAT TIMES INCLUDE WEATHER RELATED DAYS.

NO ADDITIONAL TIME FOR WEATHER DELAYS WILL BE ALLOWED. ANY COAT WHICH HAS CURED MORE THAN THE ABOVE ALLOTTED TIME WITHOUT RECOATING SHALL BE REMOVED AND THE STEEL REBLASTED TO SSPC-SPI0.

THE COMPLETION DATE (MONTH AND YEAR) OF THE FINISH COAT AND THE LETTERS OZEU SHALL BE STENCILED ON THE STEEL IN 4" LETTERS WITH A BLACK URETHANE PAINT. THIS DATE SHALL BE APPLIED AT FOUR (4) LOCATIONS NEAR THE END OF EACH OUTSIDE BEAM ON THE OUTSIDE WEB VISIBLE FROM THE ROAD OR AS DIRECTED BY THE ENGINEER.