

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
690 Walnut Ave. St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.15**SOURCE INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** SIR-001320**Date Inspected:** 18-Oct-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island**Location:** Changxing Dao, Shanghai**Quality Control Contact:** William (Bill) Oak**Quality Control Present:** Yes No**Material transfer:** Yes No N/A**Sampled Items:** Yes No N/A**Stock Transfer:** Yes No N/A**OK to Cut:** Yes No N/A**Rebar Test Witness:** Yes No N/A**Delayed/Cancelled:** Yes No N/A**Other:** Coatings Inspection**Bridge No:** 34-0006**Component:** Office, OBG 6BW, Suspender Brackets, Sub-**Bid Item:** 77, 78, 79**Lot No:** B265**Summary of Items Observed:**

On this date Caltrans Office of Structural Materials (OSM) Quality Assurance (QA) NACE III coating inspector, Mr. James Lumley arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island in Shanghai, China. The purpose of the coating inspections are to monitor the surface preparation and coating applications for the SAS Bay Bridge project. This QA NACE III coating inspector observed the following:

Office

Attend to project documentation and report writing.

OBG 6BW

Base metal surfaces were pre-blasted for fabrication and weld VT inspection and amendment. Grinding of gouges and burrs and base metal defects was performed concurrently with inspection process on the internal "U" rib stiffener areas and upper portions of the Floor Beam Diaphragms and Chevron Beam assemblies. Also concurrent with this inspection chloride testing was performed and the following values observed on the blasted surfaces 30us/cm, 30us/cm, 20us/cm.

Suspender Brackets

Brackets were coated with Topcoat Interfine 979 along the bottom surfaces and the top surfaces prior to the sides and the stiffeners, these areas will be coated after ZPMC stands the suspender brackets vertical for ease of application. Applied coating on bottom was still wet at time of inspection and could not be finalized until after all repairs were completed. Repairs consisted of application of additional finish coat on low Dry Film Thickness (DFT) areas. Bracket codes: SB14E, SB16E, SB20E, SB22E, SB26E were previously coated the full application of the coating system on all exposed surfaces.

Sub-Assembly

Base metal Faying surfaces of Upper Corner Unit Assembly unit for 11AE were abrasive blasted to an SSPC

SOURCE INSPECTION REPORT

(Continued Page 2 of 3)

SP-10 condition and Interzinc 22 applied. Profile amplitude was 72-80um.

OBG 6AE

External undercoated surfaces were observed by Caltrans QA Lumley of being sanded down to remove excess DFT of previously applied undercoat of Interzinc 22. Caltrans QA Lumley performed random spot check for DFT compliance and viewed localized areas in excess of 220um and a high DFT of 311um when checked with ZPMC's QC representatives DFT Gage. Caltrans QA Lumley reminded ZPMC QC Don Yao Fei that excessive DFT of inorganic zinc undercoat has previously exhibited a propensity to "Mud-Crack at DFT's in excess of 200 microns despite ZPMC's sanding efforts and after application of "mist" coat, Caltrans QA Lumley further reminded ZPMC QC the repair procedure for "Mud Crack" was to re-abrasive blast the affected area thus removing the applied coating and replace the coating.

Galvanizing Workshop

Tower Ladders and Ladder splice plates were requested for an inspection at the ZPMC Galvanizing facility. Ladder sections totalling 24 sections were dipped and exhibited some minor repairs which were required due to weld slag which was left on the welds of the ladder rungs which later dis-bonded after the pieces were dipped into the molten zinc. These areas were to be touched up with two applications of Interzinc 52, the largest slag inclusion observed was about the size of this small letter "o".

Lift 1 West

Affixed Traveler Rail Bracket Faying surfaces were repaired by removal of all but two(2) of the bracket bolts and allowing the bracket to hang down and expose the faying surfaces of the West Side plate where the faying surfaces were observed to have been over-coated with Finish coat of Interfine 979 and had the Traveler Rail Bracket affixed over the Interfine 979 Finish coat. Faying surface was then re-abrasive blasted to base metal and an SSPC SP-10 condition and to remove the improper coating and re-application of the Specified coating Interzinc 22 inorganic zinc rich coating to the faying surface was performed to amend the outstanding Incident Report for this work.

Lift 2 West

Exposed A325 bolts affixing the Bottom Plate of the Suspender Brackets to the West Side Plate of the Lift were requested to be inspected prior to the application of Interzinc 52. Caltrans QA Lumley observed the majority of the Bolts were installed over the Specified Interzinc 22 inorganic zinc undercoat within the grip of the Bolt. However he also informed ABF QA Zhou Qusong that approximately 16 of the installed Bolts were installed over Interfine 979 Finish coat within the grip of the exposed Bolt and Washer. Caltrans QA Lumley then drew a line along the connection plate thus segregating and identifying the exposed Bolts which required repairs and the exposed Bolts which application of Interzinc 52 organic zinc rich coating could be applied. An Incident Report was generated for this non-compliant work.

OBG 6BW

A series of four (4) abrasive blast inspections was requested and performed for the base metal surfaces of the Internal Ceiling portion of the "U" Rib stiffeners, Upper Chevron Beams and Upper portions of the Floor Beam Diaphragms. Each inspection exhibited that previously identified areas had not been repaired and that the base metal surfaces did not meet the Specified SSPC SP-10 condition until the fourth inspection had concluded. Profile amplitude was 77-84um and Interzinc 22 inorganic zinc undercoat was applied.

East Tower Lift #1

External surfaces were coated this day for "aesthetic" purposes by ZPMC personnel to hide previously applied and damaged coatings from trial assembly operations. This was performed by ZPMC as a leading member of ZPMC Upper management was to arrive. ZPMC understands and informed Caltrans and ABF that the Tower Lifts would be re-abrasive blasted to remove all previously applied coatings to base metal and an SSPC SP-10 condition to

SOURCE INSPECTION REPORT

(Continued Page 3 of 3)

complete repairs and comply with the contract documents at a future date per ZPMC CPM schedule permits.
Note: All inspections were performed jointly with ABF & ZPMC QA/QC representatives and Caltrans QA Lumley when achievable. International Protective Coatings technical service representative were available for inspections and consultation.

Summary of Conversations:

Caltrans QA Lumley was informed by ABF Bill Oak that ABF had generated an NCR for external coating applied to South Tower Lift #1. This coating was applied to enhance the appearance of ZPMC Upper Management personnel due to arrive onsite.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang, (858) 699-7549, who represents the Office of Structural Materials for your project.

Inspected By:	Lumley,James	Quality Assurance Inspector
Reviewed By:	Carreon,Albert	QA Reviewer
