

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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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-002397**Date Inspected:** 18-Mar-2010**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:** Don Walton**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:** Coating Inspection**Bridge No:** 34-0006**Component:** Office, Cross Beam 5 & 6, Sub-Assemblies, L**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**

Sort and organize project documentation and files.

**Cross Beam #6**

Final inspection requested by ZPMC on external top-coated surfaces. Surfaces exhibited visible contaminants in applied Interfine 979 finish as well as overspray and runs and sags, repairs required and upon completion of repair work ZPMC to re-submit notification. Caltrans Engineer Aaron Prchlik performed Final inspection.

**Cross Beam #5**

External "Final" inspection of top-coated surfaces were determined to be in general compliance with the contract documents. Caltrans Engineer Aaron Prchlik performed Final inspection.

**Sub-Assemblies**

ZPMC requested a "Final" inspection of the top-coated surfaces of approximately 24 Traveler Rail Brackets, coated surfaces exhibited contaminants present in the dried film and were non-compliant with the contract documents as determined by Caltrans Engineer Aaron Prchlik. ZPMC to amend and resubmit notification upon completion of repair work.

**Cross Beam #6**

Internal undercoated surfaces of the top plate and side plates were inspected and determined to be in general compliance with the contract documents. The bottom plate internal surfaces were specifically exempt from

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inspection as the access scaffolding support areas had not been addressed. ZPMC wished to remove the access scaffolding after the inspection had concluded and commence repairs to the undercoated areas of the bottom plate.

### Sub-Assemblies

Splice Plates coded: X202D & X202E for Cross Beams 5 & 6 were checked for Dry Film Thickness (DFT) of undercoat and visually inspected and determined to be in general compliance with the contract documents and subsequently ZPMC was to commence wrapping for shipment and delivery to transport ship#17.

### Lift 6 West

Internal and external surfaces underwent repairs from trial assembly operations and damaged coatings were removed via abrasive blasting to base metal and an SSPC SP-10 condition and Interzinc 22 undercoat re-applied. FL-3 beams and Cross Beam Bottom plate termination were the specific areas of repairs and the profile amplitude was 78-85µm.

### Lift 6 East

ZPMC requested an inspection for final topcoat application on all external surfaces, surfaces to be top-coated exhibited dust and dirt visible on surface and additional cleaning is required. ZPMC to resubmit notification upon completion and amendment of non-compliant issues.

### Lift 5 East

Internal Floor "T" stiffeners and bottom plate areas from panel points 30-31 were visually inspected and deficiencies discovered in applied undercoat which required amendment. ZPMC to resubmit notification upon completion of amendment of deficient areas.

### Cross Beams 5 & 6

Internal undercoated surfaces were tested for adhesion in accordance with the contract documents and the following values were observed: CB#5 9.90 Mpa, CB#6 9.0 Mpa, 12.5Mpa.

### Lift 6 West

ZPMC applied Interfine 979 Finish coating to the external surfaces of the West side Plate including FL-3 Cross Beam terminations and also the East Side Plate and Bottom Plate, Faying surfaces were masked off to prevent overspray damages/contamination and mixing and thinning operations were monitored and directed by International Protective Coatings technical service representative Mr. Zili Peng.

### Sub-Assemblies

Base Metal surfaces of 32 pieces of channel iron code: GGL-MQ-1491 and 32 pieces code: GGL-MQ-1521 and Suspender Brackets: SB36W, SB38W, SB40W, SB36E, SB44E were abrasive blasted to an SSPC SP-10 condition and Interzinc 22 undercoat applied. Profile amplitude was 75-80µm and chloride values were 20µs/cm.

### Lift 6 East

External surfaces were again inspected for cleanliness for the application of Finish coating of Interfine 979 upon the East and West side Plates also ZPMC requested to also finish coat the Bottom Cross Beam/FL-3 areas which had been previously repaired and undercoated on 03-16-2010 Caltrans QA Lumley reminded ZPMC that undercoated areas required a minimum of 72 hours prior to testing and over-coating. ZPMC wished to perform MEK testing on affected areas to ascertain if the undercoat was cured to solvent insolubility, after less than 30 double rubs the applied undercoating had left zinc residues on the white cloth (3 Rating) and subsequently ZPMC masked the areas off to prevent accidental over-coating.

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:

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No relevant conversations on this date.

### **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) 699-9549, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Lumley,James	Quality Assurance Inspector
<b>Reviewed By:</b>	Peterson,Art	QA Reviewer

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