

Port of Salalah, Oman

Crane Structure Cracks

Repair QA Report

Crane No. QC09

Prepared by: Toretto Deng

Approved by: Patrick. Gao

Date: 2018-08-20





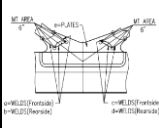


















APM Terminals Crane & Engineering Services (Shanghai) Co., Ltd.
Unit 903, China Fortune Tower, No.1568, Century Avenue,
Shanghai, 200122, China
Telephone: +86 3206 2241 Email: CESinfo@apmterminals.com

1. Introduction

Based on below detects finding list which inspection was drafted and performed by APMT CES team in early August, totally 18 cracks were detected for QC09 in Port of Salah.

As these cracks are quite critical which most of them were remarked as the priority A level, which must to be repaired immediately.

For more details about the inspection guide line and finding list, please refer to the “Appendix 1 - Deficiency Finding List-QC09” and “Appendix 2 – QC09 Structure Inspection official report of Salah port project”

				<h2>QC09# Inspection Finding List</h2>			
S/N	Picture 1	Picture 2	Picture 3	Inspections Performed	Location	Description for the Deficiency Findings	Category of the Findings
1				MT	Gantry	1C=15mm was detected of Gantry equalizer beam of land right side.	A
2				MT	Portal bracing	1C=10mm was detected from the diagonal support bar welds where connected with portal beam and leg in right side	A
3				MT	Portal bracing	3C=120mm were detected from the diagonal support bar welds where connected with portal beam and leg in right side	A
4				MT	Portal bracing	1C=10mm was detected from the diagonal support bar welds where connected with leg and grider in back right hand side	A
5				MT	Portal bracing	1C=220mm was detected from the diagonal support bar welds where connected with leg and grider in front left side	A
6				MT	Portal bracing	1C=15mm was detected from the diagonal support bar welds where connected with leg and grider in front left side	A
7				MT	Portal bracing	1C=20mm was detected from the diagonal support bar welds where connected with leg and grider in front left side under the M-house	A
8				MT	Portal bracing	2C=15mm was detected from the diagonal support bar welds where connected with leg and grider in front left side	A

9				MT	Leg	1C=10mm was detected from the fillet weld of leg where nearby the TGSB in land left side	A
10				MT	Portal bracing	1C=80mm was detected from the diagonal support bar welds where connected with TGSB and grider of land right side	A
11				MT	Portal bracing	1C=60mm was detected from the diagonal support bar welds where connected with TGSB and grider of land right side	A
12				MT	Portal bracing	1C=50mm was detected from the diagonal support bar welds where connected with TGSB and grider of land left upper side	A
13				MT	Back diagonal	1C=80mm was detected from the diagonal support bar welds where connected with TGSB and grider of land left down side	A
14				MT	Back diagonal	1C=30mm was detected from the diagonal support bar welds where connected with TGSB and grider of land left down side	A
15				MT	Portal bracing	1C=5mm was detected from the diagonal support bar welds where connected with leg and grider in front left hand side	B
16				MT	Back diagonal	1C=15mm was detected from the diagonal support bar welds where connected with leg and grider in front left hand side nearby the M-house.	A
17				MT	Gantry	2C=35mm were detected from the adapter support of left landside.	A
18				MT	Sill Beam	1C=300mm was detected from the sill beam inner side of land left side.	A
<p>Remarks code for further actions</p> <p>1 A – Requires immediate attention</p> <p>2 B – Requires urgent attention (within shortest time span)</p> <p>3 C – Requires to be attended at earliest convenience</p>							

2. QA work scope of CES

2.1 Assist review of the welding repair work procedure

- Refer to “*Weld Cracks Repairing Procedures for ZP05-592 Oman Salalah Crane*”

APM TERMINALS Crane & Engineering Services

- Refer to “Structural Parts Weld Cracks Repairing Procedures for ZP08-1146 APMT Salalah STS”
- Refer to “Leg Weld & Parent Metal Cracks Repair & Reinforce Procedures for ZP08-1146 APMT Salalah STS”
- Refer to “Pipe Seal Plate Weld Cracks Repairing Procedures for ZP08-1146 APMT Salalah STS”
- Refer to “WPS-SMAW”
- Refer to “Crane structure crack repair Procedure-suggested”






2.2 Assist to plan the manpower, tools and consumable list based on the work scope.










- Reference to “Crane structure crack repair tool list”

2.3 On site welding repair quality control and NDT double inspection prior and after the repair work

- Crack remove inspection and MT double check after grinding
- Reheating treatment control prior to welding
- Welding quality control (welding rod, welding data monitoring)
- Preheating treatment after welding control
- MT inspection for the final weld
- Painting quality control and inspection during the repair

3. On-site Photos records

		
Crack removal inspection-1	Crack removal inspection-1	Crack removal inspection-3
		
Crack removal DNT inspection-1	Crack removal DNT inspection-2	Crack removal DNT inspection-3

		
<p><i>Crack repair welding QC-1</i></p>	<p><i>Crack repair welding QC-2</i></p>	<p><i>Crack repair welding QC-3</i></p>
		
<p><i>Welding repair heating treatment QC-1</i></p>	<p><i>Welding repair heating treatment QC-2</i></p>	<p><i>Welding repair heating treatment QC-3</i></p>
		
<p><i>NDT inspection after repair-1</i></p>	<p><i>NDT inspection after repair-2</i></p>	<p><i>NDT inspection after repair-3</i></p>
		
<p><i>Cleaning before paint repair-1</i></p>	<p><i>Cleaning before paint repair-2</i></p>	<p><i>Cleaning before paint repair-3</i></p>
		
<p><i>Primer paint repair-1</i></p>	<p><i>Primer paint repair-2</i></p>	<p><i>Primer paint repair-3</i></p>

		
<i>Final paint repair-1</i>	<i>Final paint repair-2</i>	<i>Final paint repair-3</i>

4. Conclusion

By passing above inspection and QA work, here confirm that all these cracks have been repaired properly.

~~ END OF REPORT~~