



INSPECTION AND TEST REPORT

DOC NO. : JES-030-150307-QA1

REV.NO. :

PAGE : OF

PO.NO : 145-548

ITEM : R-501A

CLIENT :

DATE : 2015.03.07

PREPARED BY	REVIEWED BY	APPROVED BY
		



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I N D E X

NO.	ITEM	NAME	REPORT NO.	PAGE	REMARK
1	MILL TEST CERTIFICATE	STEEL MATERIAL			
		LINING MATERIAL			
2	TANK INSPECTION REPORT (STEEL)	HEAD FORMING INSPECTION REPORT			
		DIMENSIONAL INSPECTION REPORT			
		NOZZLE ORIENTATION REPORT			
		PRESSURE TEST REPORT			
		REPORT OF RADIOGRAPHIC EXAMINATION			
		REPORT OF MAGNETIC PARTICLE EXAMINATION			
		REPORT OF ULTRASONIC EXAMINATION			
		SURFACE PROFILE TEST REPORT			
		PAINT INSPECTION REPORT			
3	LINING INSPECTION REPORT	LINING INSPECTION REPORT			
		CUTTING PLAN SHEET			
		MEGGER TEST			
4	INSPECTION CERTIFICATE	VISUAL, PINHOLE TEST MEGGER(INSULATION RESISTANCE) TEST			
5	PROCESS PHOTO	PHOTO			
6	DRAWING	-			



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1. MILL TEST CERTIFICATE

- 1) TANK MATERIAL
- 2) LINING MATERIAL



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2. TANK INSPECTION REPORT

- 1) HEAD FORMING INSPECTION REPORT
- 2) DIMENSIONAL INSPECTION REPORT
- 3) NOZZLE ORIENTATION REPORT
- 4) PRESSURE TEST REPORT
- 5) REPORT OF RADIOGRAPHIC EXAMINATIC
- 6) REPORT OF MAGNETIC PARTICLE EXAMINATION
- 7) REPORT OF ULTRASONIC EXAMINATION
- 8) SURFACE PROFILE TEST REPORT
- 9) PAINT INSPECTION REPORT



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3. LINING INSPECTION REPORT

- 1) LINING INSPECTION REPORT
- 2) CUTTING PLAN SHEET
- 3) MEGGER TEST REPORT



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4. INSPCETION CERTIFICATE



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5. PROCESS PHOTO



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6. DRAWING

LINING INSPECTION REPORT


(라이닝 검사 보고서) / PFA

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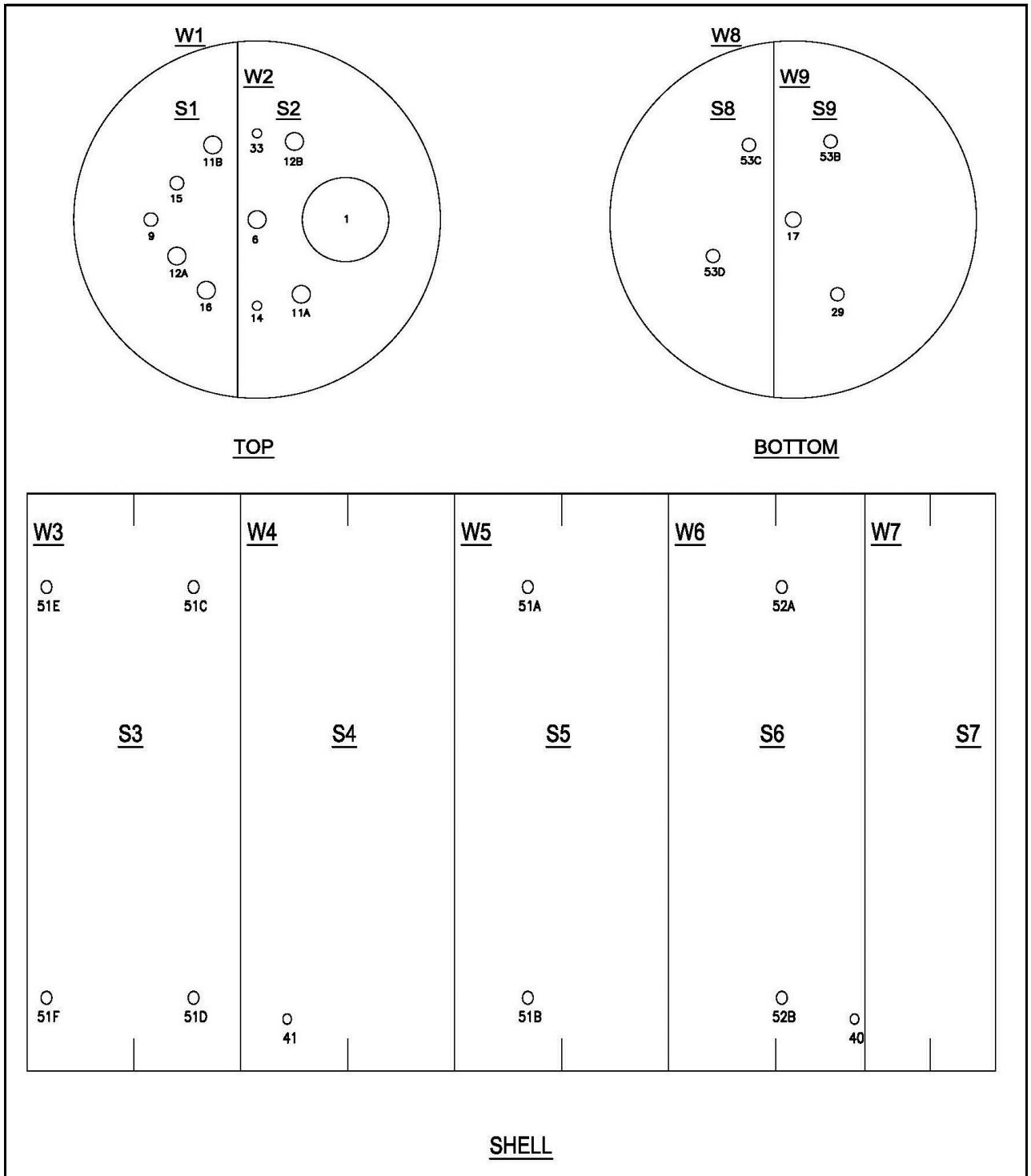
고객 (CUSTOMER)	광영E&C	P/O No.	145-548	도면번호 (DWG.NO)		
공정표 번호 (T.S No.)	150226-01	관련규격 (REF.SPEC)	TS-F104	검사자 (INSPECTOR)	S.K.LEE	
품명 ITEM	R-501A	검사일자 (DATE)	2015.03.05	외주업체 (VENDOR)	ANSWER	
PFA LINING 검사 결과						
검사항목 INSPECTION ITEMS	적용범위 및 검사 대상 APPLICATE RANGE & CHECK POINTS	판정기준 INSPECTION STANDARDS		합.부 판정 Accpet/Reject		비 고 Remark
				Accept	Reject	
Pin Hole	용접선 Lining 면 Lining status of welding seam Pin Hole (DC 20kV)	Pin Hole이 없을 것 No Pin Hole				
점 착 Bonding Status	Lining 면 단, 하기부분은 제외 / Lining face except following Loose Lining part, · 용접선 2회 10mm / Welding Double seams					
	들뜸 유 무 Loose lining check	이상음이 없을 것 No abnormal sound				
Sheet 면 (외관) Sheet (Visual)	Lining 면 / Lining Surface					
	Cutter 등에 의한 손상 Defect by cutter	예리한 손상이 없을 것 No sharp defect				
	낙하에 의한 손상 Defect by falling	Sheet 두께의 10%이상의 날카로운 손상이 없을 것 No serious defect below 10% of sheet thickness				
	접착 Sheet간의 이물 혼입 Alien matter between bonded sheets	접착제를 제외한 이물의 혼입이 없을 것 No alien matter except bonding agent				
	오염 Contamination	표면층에 오염물질이 없을 것 No contamination matter in surface				
	변색 Discoloration	Hair Crack, 분해에 의한 변색이 없을 것 Neither hair crack nor discoloration				
Sealing면 마감 Finishing of sealing face	Seal 성능을 잃어버리는 유해한 요철이 없을 것 No serious ruggedness to influence the sealing performance					

PFA LINING 검사 결과							
검사항목 INSPECTION ITEMS	적용범위 및 검사 대상 APPLICATE RANGE & CHECK POINTS		판정기준 INSPECTION STANDARDS		합.부 판정 Accpet/Reject		비 고 Remark
					Accept	Reject	
용접선 (외관) Welding Seam (Visual)	용접선 Welding seam ※ Tape 용접유효범위 Valid welding range of tape : 폭방향 양단 3mm 유지할 것 within 3mm of both width (thickness to be over 1.5mm)						
	PFA 분해에 의한 기포 존재 Bubble by PFA decomposition		기포가 없을 것 No bubble				
	Air (개면반사)	Ø4, Ø5 Rod	Air층이 없을 것 No air layer				
		t2.4*W16mm tape	유효범위내 : Air층이 없을 것 Valid range : No air layer 기타범위 : 0.2mm 20이상의 Air층이 없을 것 Other range : No air layer of 0.2mm^2				
	오염 Contami- -nation	Ø4, Ø5 Rod	0.2mm 20이상의 Air층이 없을 것 No alien matter of 0.2mm^2				
		t2.4*W16mm tape	유효범위내 : 오염이 없을 것 Valid range : No alien matter 기타범위 : 0.2mm 20이상의 오염이 없을 것 Other range : No alien matter of 0.2mm^2				
	Tape 용접 Center를 벗어남 Welding deviation from tape center		적어도 Tape의 유효범위가 Lining면상에 있을 것 Valid range of tape within lining face				
	2번양생 지나치게 제거된 경우 Treatment of V' groove		폭 3mm 그리고 깊이가 Sheet 두께의 10% 범위내 일것 Within the width of 3mm and 10% of sheet thickness				
	바리, 단차 Burr, Dislocation	T자의 단차 Dislocation of "T"	바리, 단차가 없을 것 Neither Burr, nor Dislocation				
		T Corner의 바리 Burr of "T" Corner					
Corner Nozzle 바리 Burr of Nozzle Corner							
평면의 바리 Burr of flat face							
Sheet간 절개폭 Cutting width of sheet		0.5mm 이상 2.5mm 이내의 범위내일 것 0.5mm ~ 2.5mm					
Sealing면 마감 Finishing of sealing face		Seal 성능을 잃어버리는 유해한 요철이 없을 것 No serious ruggedness to inflience sealing performance					

Prepard By		Reviewed By		Approved By	
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JEIL E & S CO.,LTD.	CUTTING PLAN CHECK SHEET			DOC NO	JES-030-150305-QA1
				PAGE NO	1 OF 2
1	P/O NO	145-548	5	VOLUME	8m3
2	CUSTOMER		6	QUANTITY	1 SET
3	ITEM	R-501A	7	CHEMICAL	-
4	DWG NO.	HW141222-R501A-DWG-000 REV.0	8	SUBJECT	PFA LINED TANK

1. CUTTING PLAN










JEIL E & S CO.,LTD.		CUTTING PLAN CHECK SHEET			DOC NO	JES-030-150305-QA1
					PAGE NO	2 OF 2
1	P/O NO	145-548	5	VOLUME	8m3	
2	CUSTOMER		6	QUANTITY	1 SET	
3	ITEM	R-501A	7	CHEMICAL	-	
4	DWG NO.	HW141222-R501A-DWG-000 REV.0	8	SUBJECT	PFA LINED TANK	


2. PINHOLE TEST (SHEET & ROD & BAND WELDING)

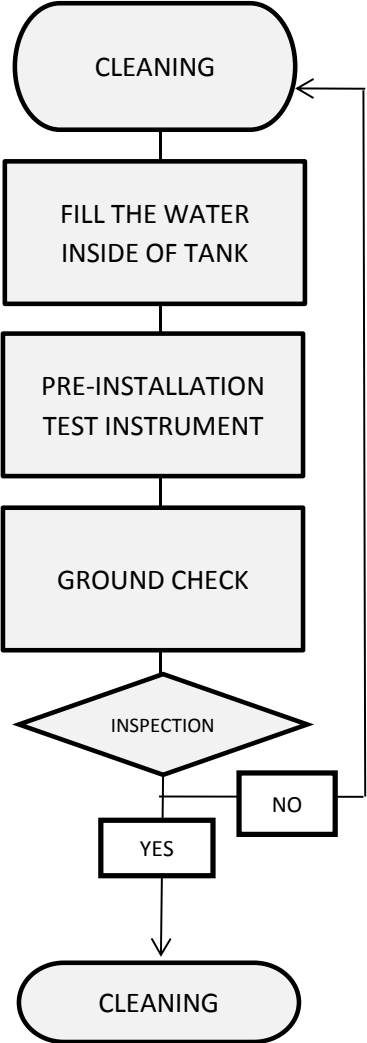
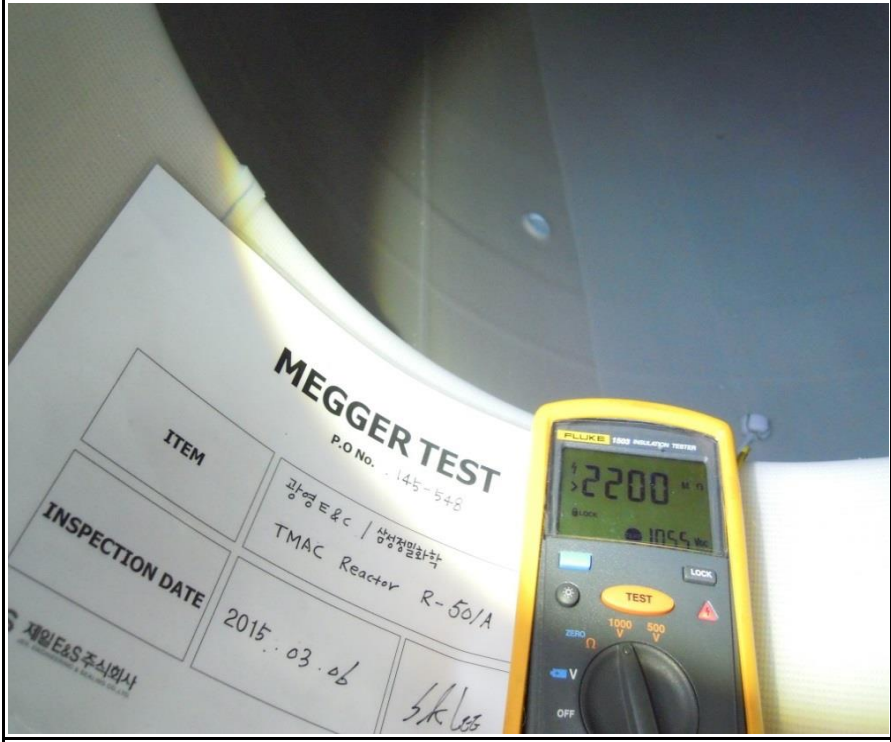
DIVISION	TEST POINT		RESULT	DIVISION	TEST POINT		RESULT
LINING SHEET	SHELL	S1	ACCEPT	FLARING	NOZZLE	1	ACCEPT
		S2	ACCEPT			9	ACCEPT
		S3	ACCEPT			11A	ACCEPT
		S4	ACCEPT			11B	ACCEPT
		S5	ACCEPT			12A	ACCEPT
		S6	ACCEPT			12B	ACCEPT
		S7	ACCEPT			14	ACCEPT
		S8	ACCEPT			33	ACCEPT
		S9	ACCEPT			17	ACCEPT
		W1	ACCEPT			29	ACCEPT
		W2	ACCEPT			30	ACCEPT
		W3	ACCEPT			15	ACCEPT
		W4	ACCEPT			41	ACCEPT
		W5	ACCEPT			51A	ACCEPT
		W6	ACCEPT			51B	ACCEPT
		W7	ACCEPT			51C	ACCEPT
		W8	ACCEPT			51D	ACCEPT
		W9	ACCEPT			51E	ACCEPT
		-	-			51F	ACCEPT
		-	-			52A	ACCEPT
		-	-			52B	ACCEPT
		-	-			53A	ACCEPT
		-	-			53B	ACCEPT
-	-	53C	ACCEPT				
-	-	53D	ACCEPT				
-	-	40	ACCEPT				
-	-	16	ACCEPT				
-	-	6	ACCEPT				
REMARK				REMARK			

3. VISUAL (SHEET, WELDING)

SHEET DIVISION			WELDING ROD/BAND				REMARK	
NO	DAMAGE	PINHOLE	POLLUTION	NO	DAMAGE	FOREIGN		POLLUTION
								
S1	O.K	O.K	O.K	W1	O.K	O.K	O.K	
S2	O.K	O.K	O.K	W2	O.K	O.K	O.K	
S3	O.K	O.K	O.K	W3	O.K	O.K	O.K	
S4	O.K	O.K	O.K	W4	O.K	O.K	O.K	
S5	O.K	O.K	O.K	W5	O.K	O.K	O.K	
S6	O.K	O.K	O.K	W6	O.K	O.K	O.K	
S7	O.K	O.K	O.K	W7	O.K	O.K	O.K	
S8	O.K	O.K	O.K	W8	O.K	O.K	O.K	
S9	O.K	O.K	O.K	W9	O.K	O.K	O.K	
ACCEPT			REJECT			INSPECTED BY		
						CHECKED BY		
						APPROVED BY		

JEIL E&S CO.,LTD.

	절연저항 검사보고서 MEGGER TEST PROCEDURE & REPORT		PREPARED	REVIEWED	APPROVED
					<i>Engle</i>
고객명 CUSTOMER		MFG No.	145-548		
제품명 ITEM	R-501A	PROJECT NAME.	-		
REPORT NO.	JES-030-150306-QA1	INSPECTION DATE	2015.03.06		

INSPECTION FLOW	PHOTO			
 <pre> graph TD A([CLEANING]) --> B[FILL THE WATER INSIDE OF TANK] B --> C[PRE-INSTALLATION TEST INSTRUMENT] C --> D[GROUND CHECK] D --> E{INSPECTION} E -- YES --> F([CLEANING]) E -- NO --> A </pre>				
TEST DETAILS				
TEST VOLTAGE	1000V	DIGITAL MΩ HITESTER		
INSTRUMENT READING	1ST	2ND	3RD	
	∞	∞	∞	
INSPECTOR	S.K.LEE	RESULT		

*** NOTE**

- ① ∞ OR OVER 1,000MΩ : PASS
- ② 750MΩ TO UNDER 1,000MΩ : OUTSIDE WATER OR ETC
- ③ 500MΩ TO UNDER 750MΩ : LEAK FROM GASKET SEALING
- ④ 50MΩ TO UNDER 500MΩ : LEAK FROM FLANGE BOLTING
- ⑤ 0MΩ TO UNDER 50MΩ : PINHOLE OR LINING DAMAGE



PROCESS PHOTO

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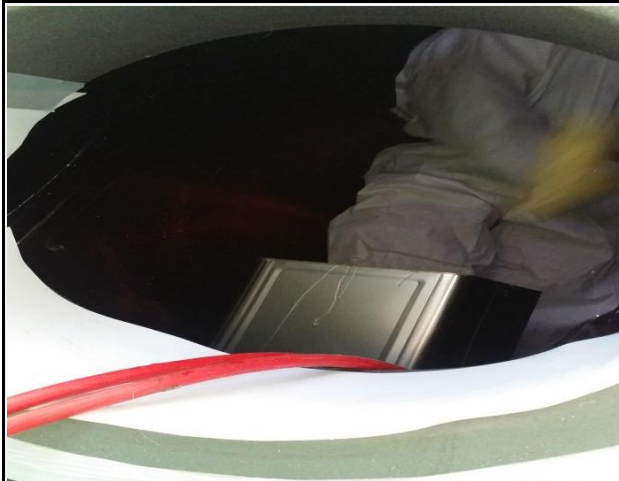
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TANK RECEIVING



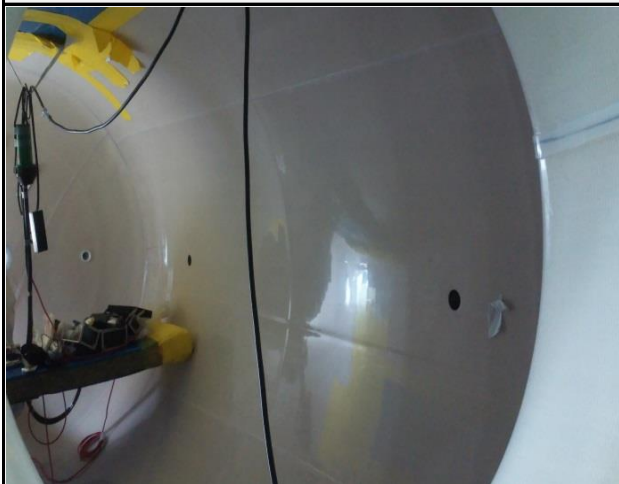
APPLY BOND ON THE SHEET



APPLY BOND INSIDE OF TANK



LINING



LINING COMPLETE



VULCANIZATION



PROCESS PHOTO

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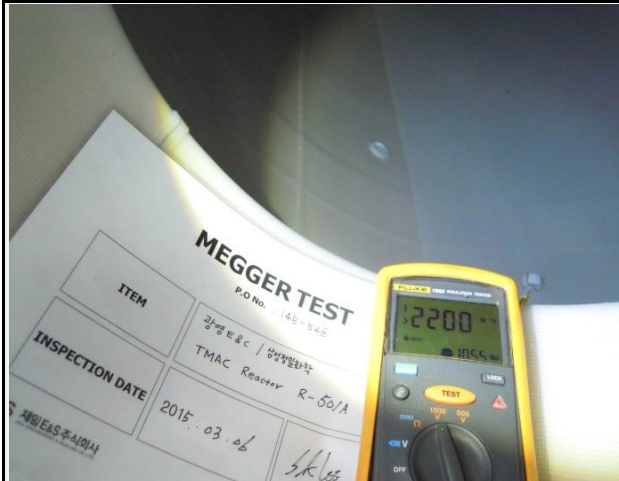
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LINING INSPECTION - VISUAL



PINHOLE TEST



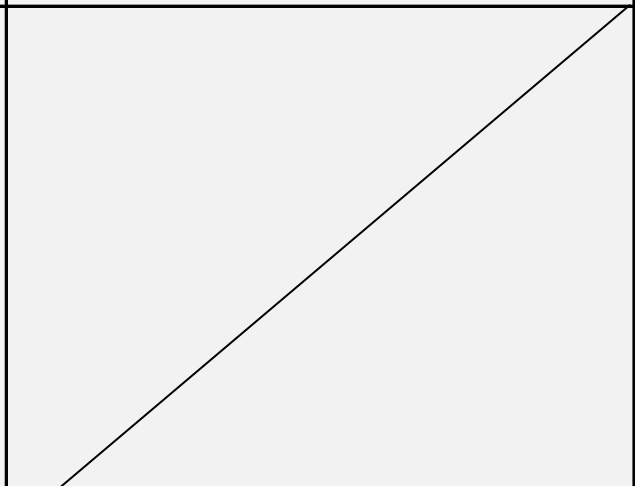
MEGGER TEST



CLEANING



TANK RELEASED





PROCESS PHOTO

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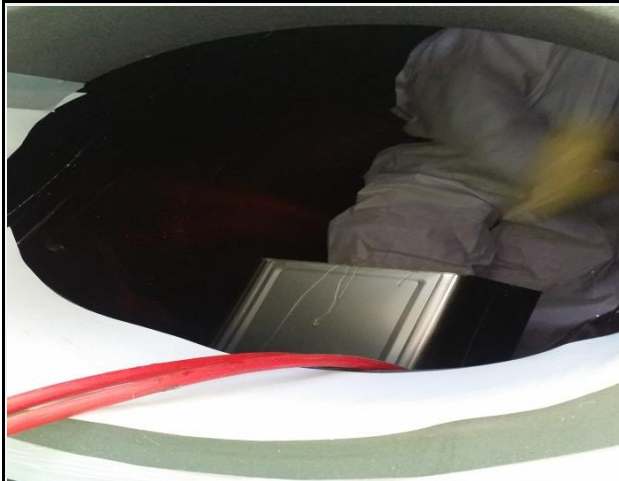
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TANK RECEIVING



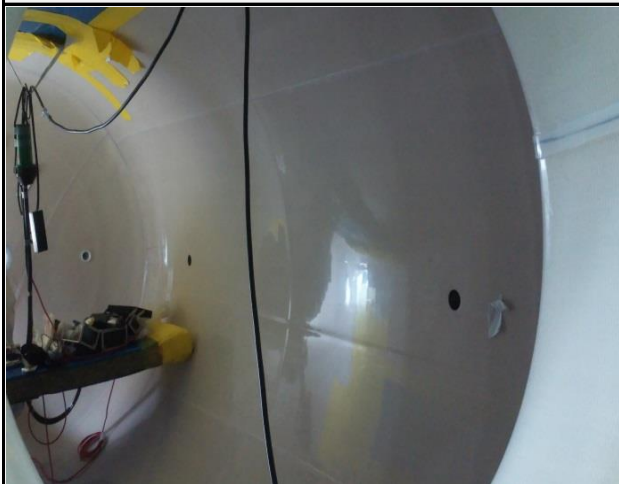
APPLY BOND ON THE SHEET



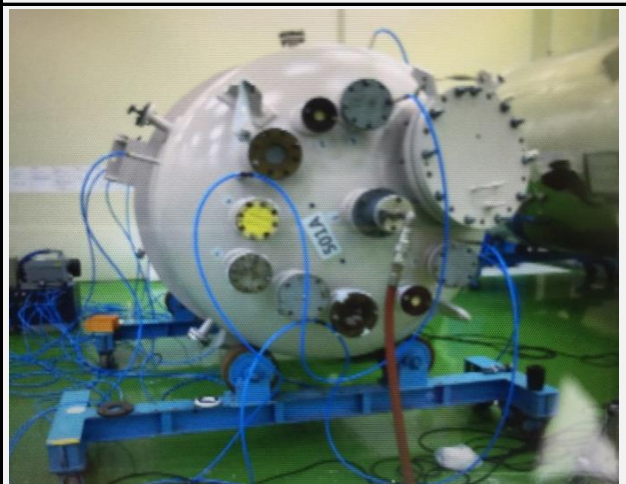
APPLY BOND INSIDE OF TANK



LINING



LINING COMPLETE



VULCANIZATION



PROCESS PHOTO

DOC NO. : JES-030-150307-QA1

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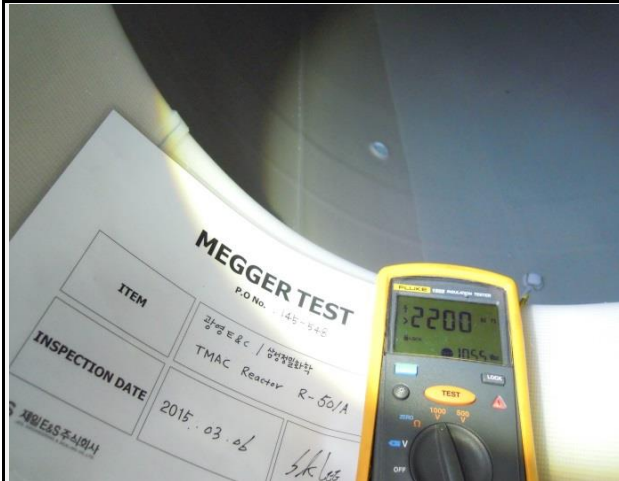
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LINING INSPECTION - VISUAL



PINHOLE TEST



MEGGER TEST



CLEANING



TANK RELEASED

