Control No.	OCR)	CRYOLOR ASIA PACIFIC			WE	WELDING CATALOGUE	LALO						Jated:U	Dated: 08.09.2014
Protection of Wheld Protect Pr	PROJECT NO VESSEL TYPE DRAWING NO:		: C290222 : RVTA 19 : HC002573	Rev.A						9	: WC-	C290222	-REV 0	=
Long Seam Welding (Shell to Shell) WPSCAP-006 Rev SAW SAW 120 (Welve) LeC / 150°C 67mm C / 100°C 67mm C / 100	Weld No	Location of Weld	WPS No. 8: Dow. No.	Welding		Preheat temperature	Impact test		netal thickness range		Q	E Requi	rements	
Cir Seam Welding (Shell to Shel) WPSCAP-0406 Rev SAW RR 308L-54W 120 (Whee) 16°C / 150°C 6.7mm Cir Sham Welding (Shell to Shel) WPSCAP-0406 Rev SAW RR 308L-54W 120 (Whee) 16°C / 150°C 6.7mm Cir Sham Welding (Shell to Dhis) WPSCAP-040 Rev SAW RR 1200 (Whee) 16°C / 150°C 6.7mm S. 60mm 100% Nij			WED INOUS WEY IND	Process		(min) / Inter pass	Temperature	_	(d.1)		BCS	1		ACS
Cut-Seam Welding (Shell to Shel) WYSCAP-400 Rev SAW Phe. 1986 SAW Phe. 1986 GTAW RFS 2044-500 Rev SAW Phe. 1986 GTAW					4	Competence (Mass) (C)	3	(I)	(77)	RT	(Root)		RT	PT (Final)
Cir Seam Welding (Shell to Shal) WPSCAP-070 Rev CAPA	A1,A2 A3 & A4	Long Seam Welding	WPS/CAP-006 Rev 1	SAW	ER 308L -SAW 120 (Wire) + SAW Flux 120S	16°C/150°C	-196°C	6.7mm	1	100%	ij	Ï	E	100% (Note-9)
Circ Seam Welding (Sterli to Dish) WPSCAP-077 Rev SAW SAW SAW SAW SAW Mark	B2, B3, B4	Cir Seam Wolding (Shell to Shell)	WPS/CAP-006 Rev 1	SAW	ER 308L -SAW 120 (Wire) + SAW Flux 120S	16°C/150°C	-196°C	6.7mm	,	100%	li N	Z	EZ	100% (Note-10)
Nozzle to by Disk ead WPSCAP-017 Rev GTAW ER 308L/TIG-120) 16°C / 150°C 8.0mm 2.77mm, 3.68mm Nil 1810 N	B1 & B5	Cir Seam Welding (Shell to Dish)	WPS/CAP-007 Rev 1	GTAW + SAW	ER 308L (GTAW & SAW) TIG 120 for GTAW & SAW 120 (wire) + SAW 1208 (Flux) for SAW	16°C/150°C	J.961-	6.7mm	8.6mm	100%	Ī	īž	Nii.	100% (Note-10)
Main support plate to Boltom Dish ead WPS/CAP-017 Rev GTAW EB 308L (TIG-120) 15C / 150C -196°C 6.7mm 6mm Nil	D1, D2, D3, D4 & D5	Nozzle to top Dish end	WPS/CAP-017 Rev 0	GTAW	ER 308L (TIG-120)	16°C/150°C	-196°C	8.0mm	2.77mm, 3.68mm	ž	100%	Z	Z	100%
Main support plate to Shell WPSCAP-017 Rev GTAW ER 308L (TIG-120) 16 C / 150°C 67mm 6mm 6mm Nil	D7, D8, D9,D10, D11 & D12	Nozzle to Bottom Dish end	WPS/CAP-017 Rev 0	GTAW	ER 308L (TIG-120)	16°C / 150°C	J.961-	8.0mm	2.77mm, 3.68mm	īž	(BG)	EN	Ī	100%
Lifting lug to Dish coad WPS/CAP-017 Rev o GTAW ER 3081 (TIG-120) 16 C/150°C -196°C 6.7mm 6mm Nii Ni	Mla & Mib	Main support plate to Shell	WPS/CAP-017 Rev 0	GTAW	ER 308L (TIG-120)	16°C / 150°C	-196°C	6.7mm	фш ф	ž	N.	ž	ž	100%
Support food in Shell WPS/CAP-017 Rev O GTAW ER 308L (TIG-120) 16°C / 150°C -1'96°C 8.0mm 6mm Nii Ni	M2a, M2b & M2c	Lifting lug to Dish end	WPS/CAP-017 Rev 0	GTAW	ER 308L (TIG-120)	16°C/150°C	-196°C	8.0mm	12mm	E	Ϊ́Ζ	ž	Z	100%
Support for absorbant bag to Disk end WPS/CAP-017 Rev 0 GTAW ER 308L (TIG-120) 16°C / 150°C -196°C 8.0mm 6mm Nii	M4a to M4f	Pipe support rod to Shell	WPS/CAP-017 Rev 0	GTAW	ER 308L (TIG-120)	16°C/150°C	-196°C	6.7mm	6mm	īž	Z	Z	ž	100%
Name Place Support rod to WPS/CAP-017 Rev O GTAW ER 308L (TIG-120) I-G^*C/150^*C I-G^*C G0mm G0mm Nil	M5a to M5h	Support for absorbant bag to Dish end	WPS/CAP-017 Rev 0	GTAW	ER 308L (TIG-120)	16°C/150°C	-196°C	8.0mm	ęmw ę	EN	Z	Z	ž	100%
Name Plate to Support Rod WPS/CAP-017 Rev 0 GTAW Back strip to shell (Top and Bottom) WPS/CAP-017 Rev 0 J) For SAW Processes: The following Pre use tested consumables shall be used. For 2.5mm Wire Batch No. 21121704 + Flux Batch No. 211117003 (Brand. Ador Pontech Limited) J) For SAW Processes: The following Pre use tested consumables shall be used. For 2.5mm Wire Batch No. 2121704 + Flux Batch No. 211117003 (Brand. Ador Pontech Limited) J) For all Category A joints, the reinforcement shall not exceed 10% of the plate thickness or 3 mm, whichever is less. For all category B joints, the reinforcement shall not exceed 10% of the plate thickness or 3 mm, whichever is less. For all category B joints, the reinforcement shall not exceed 4.0mm, weld edges shall be merged smoothly in to the base of the plate thickness or 3 mm, whichever is less. For all category B joints, the reinforcement shall not be done without AI concurrence. J) For tack welding use WPS No. WPS/CAP-017 (Rev 00) S) For repair welding use WPS No. WPS/CAP-017 (Rev 00) S) Repair on base meterial shall not be done without AI concurrence. J) All temporary attachment removal area shall be PT examined ACS - After Cold Stretch ACS - After Cold Stretch BG - After backgrinding to sound weld metal ENGINEER WELDING WPREPARED BY REVIEWBD & APPROVED BY	M7a to M7d	Name Plate Support rod to Top Dish end	WPS/CAP-017 Rev 0	GTAW	ER 308L (TIG-120)	16°C/150°C	-196°C	8.0mm	6.0mm	Z	īž	i.	ž	100%
Back strip to shell (Top and Bottom) WPS/CAP-017 Rev O GTAW ER 308L (TIG-120) IG*C / 150*C 100mm 6.7nmm Nil Ni	M7e to M7h	Name Plate to Support Rod	WPS/CAP-017 Rev 0	GTAW	ER 308L (TIG-120)	16°C/150°C	3,961-	6.0тт	LOmm	ž	ž	12	2	NEI
1) For SAW Processes: The following Pre use tested consumables shall be used. For 2.5mm Wire Batch No: 21117044 + Flux Batch No: 21117003 (Brand: Ador Fontech Limited) 2) For all Category A joints, the reinforcement shall not exceed 4.0mm, weld edges shall be merged smoothly in to the barnels. 3) For GTAW Process, use Filler Wire Brand: Ador Fontech Limited 4) For take welding use WPS No: WPS/CAP-017 (Rev 00) 5) For take welding use WPS No: WPS/CAP-017 (Rev 00) 5) For take welding use WPS No: WPS/CAP-017 (Rev 00) 5) For take welding use wPS No: WPS/CAP-017 (Rev 00) 5) For take welding use wPPS No: WPS/CAP-017 (Rev 00) 5) For take weld weld metal attachment welds then, all take the take well to the take well	M3a & M3b	Back strip to shell (Top and Bottom)	WPS/CAP-017 Rev 0	GTAW	ER 308L (TIG-120)	16°C / 150°C	-196°C	10.0mm		Z	Ē	Z	E	Ē 5
8) Production Test Coupon not required as per UHA 51 (h) (2) & Mandatory Appendix 44-6.1 (g) (3) 9) If the Head contain long seam, (Seam less) (Cat - 'A') welds and all attachments including head to nozzle welds sha PT examined after Cold Stretch process. 10) If any rejectable defects are detected in the PT Examination of Category A joints and attachment welds then, all category B weld joints shall be examined. ACS - After Cold Stretch BG - After backgrinding to sound weld metal MANAGER OC TIV SUD REVIEWED & APPROVED BY	Note:	For SAW Processes: The following P For all Category A joints, the reinford metals.	re use tested consumables ement shall not exceed 10	shall be use % of the pla	1. For 2.5mm Wire Batch No: 2121704- te thickness or 3 mm, whichever is less.	4 + Flux Batch No: 21117003 (For all category B joints, the re	Brand: Ador Fo	ntech Limi Il not exce	ted) ed 4.0mm, weld eds	ges shall b	be merge	d smooth	ly in to fi	le base
ACS - After Cold Stretch AANAGER OC REVIEWED & APPROVED BY		3) For GTAW Process, use Filler Wire F 4) For tack welding use WPS No: WPS/ 5) For repair welding use WPS No: WPS 6) Repair on base meterial shall not be do	Brand: Ador Fontech Limi CAP-017 (Rev 00) S/CAP-017 (Rev 00) lone without AI concurren	ited		8) Production Test Coupon no 9) If the Head contain long sea PT examined after Cold Streto	t required as per im, (Seam less) (h process.	UHA 51 (ı) (2) & Mandatory velds and all attachı	Appendiz nents incl	x 44-6.1	(g) (3) ead to noz	zle weld	s shall be
ACS - After Cold Stretch MANAGER CC MANAGER CC TIVSUD NA REVIEWED & APPROVED BY		7) All temporary attachment removal are	ea shall be PT examined			10) It any rejectable defects ar category B weld joints shall be	e detected in the examined	PT Exami	nation of Category	A joints a	and attac	chment w	elds then	, all
MANAGER OC REVIEWED & APPROVED BY		BCS - Before Cold Stretch			ACS - After Cold Stretch	BG - After hac	korindino to sou	nd weld m	lo la	(
MANAGER OC TUY SUD REVIEWED & APPROVED BY		AIR			42		2 1 1 0		7	8	000		`	
REVIEWED & APPROVED BY		ENGINEER WELDING			MANAGE		9		2000	\$		1	X	ASIA ASIA
THE PART OF THE PA		PREPARED BY			REVIEWED & AP	PROVED BY			16	A Land	and and	T	4	-

Preferent temperature (Max) (C) COTALOGUE NO CATALOGUE NO	CATALOGUE NO CATA	
Preheat temperature (Max) (C) COTALOGUE NO : WC-C290222-REV 90	Preheat temperature (Max) / Inter pass Preheat temperature (Max) / Inter pass Preheat temperature (Max) / Inter pass (mila) / Inter pass Preheat temperature (Max) / Inter pass Preheat tempe	
Preheat temperature (including brand name)	Filler Metal AWS Specification Comparature (Max) (C) COmparature (: C290222 : RVTA 19 : HC002573 Rev.A
Fig. 17 Fig. 17 Fig. 18 Fig.	Circle (Notes)	
FR 308L (TIG-120)	The color of the	WPS No.& Rev No Proc
ER 308L (TIG-120)	FR 308L (TIG-120) 16°C / 150°C -196°C 8.0mm 2.77nm, 3.68nm Nij 100% Nij	
ER 308L (TIG-120)	W	WPS/CAP-017 Rev 0 GTAW
ER 308L (TIG-120)	W	WPS/CAP-017 Rev 0 GTAW
ER 308L (TIG-120) Ann,whichever is less.	V	WPS/CAP-017 Rev 0 GTAW
ER 308L (TIG-120) ate thickness or 3 mm, whichever is less.	V	WPS/CAP-017 Rev 0 GTAW
ER 308L (TIG-120) ER 308L (TIG-120) ER 308L (TIG-120) ER 308L (TIG-120) ate thickness or 3 mm, whichever is less.	V ER 308L (TIG-120) V ER 308L (TIG-120) V ER 308L (TIG-120) Plate thickness or 3 mm, whichever is less. ACS - After Cold Stretch MANAGE REVIEWED & A.I.	WPS/CAP-017 Rev 0 GTAW
ER 308L (TIG-120) ER 308L (TIG-120) ER 308L (TIG-120) ate thickness or 3 mm, whichever is less.	V ER 308L (TIG-120) V ER 308L (TIG-120) Plate thickness or 3 mm, whichever is less. ACS - After Cold Stretch MANNAGE REVIEWED & AI	WPS/CAP-017 Rev 0 GTAW
ER 308L (TIG-120) ER 308L (TIG-120) late thickness or 3 mm, whichever is less.	Plate thickness or 3 mm, whichever is less. ACS - After Cold Stretch MANAGE MANAGE REVIEWED & A.F.	WPS/CAP-017 Rev 0 GTAW
ER 308L (TIG-120) ate thickness or 3 mm, whichever is less.	plate thickness or 3 mm, whichever is less. ACS - After Cold Stretch MANAGE REVIEWED & A.	WPS/CAP-017 Rev 0 GTAW
late thickness or 3 mm, whichever is less. For all category B joints, the reinforcement shall not exceed 4.0mm, weld edges shall be merged smoothly in to the base 7) Production Test Coupon not required as per UHA 51 (h) (2) & Mandatory Appendix 44-6.1 (g) (3) 8) If the Head contain long seam, (Seam less) (Cat - 'A') weids and all attachments including head to nozzle welds shall be PT examined after Cold Stretch process. 9) If any rejectable defects are detected in the PT Examination of Category A joints and attachment welds then, all category B weld joints shall be examined.	late thickness or 3 mm, whichever is less. For all category B joints, the reinforcement shall not exceed 4.0mm, weld edges shall be merged smoothly in to the base 7) Production Test Coupon not required as per UHA 51 (th) (2) & Mandatory Appendix 44-6.1 (g) (3) 8) If the Head contain long seam, (Seam less) (Cat - 'A') welds and all attachments including head to nozale welds shall be PT examined after Cold Stretch process. 9) If any rejectable defects are detected in the PT Examination of Category A joints and attachment welds then, all eategory B weld joints shall be examined. ACS - After Cold Stretch BG - After backgrinding to sound weld metal MANAGER QC REVIEWED & APPROVED BY REVIEWED BY	WPS/CAP-017 Rev 0 GTAW
(7) Production Test Coupon not required as per UHA 51 (h) (2) & Mandatory Appendix 44-6.1 (g) (3) 8) If the Head contain long seam, (Seam less) (Cat -'A') welds and all attachments including head to nozzle welds shall be PT examined after Cold Stretch process. 9) If any rejectable defects are detected in the PT Examination of Category A joints and attachment welds then, all category B weld joints shall be examined.	7) Production Test Coupon not required as per UHA 51 (h) (2) & Mandatory Appendix 44-6.1 (g) (3) 8) If the Head contain long seam, (Seam less) (Cat - 'A') welds and all attachments including head to nozzle welds shall be PT examined after Cold Stretch process. 9) If any rejectable defects are detected in the PT Examination of Category A joints and attachment welds then, all category B weld joints shall be examined. ACS - After Cold Stretch BG - After backgrinding to sound weld metal MANAGER OC REVIEWED & APPROVED BY REVIEWED BY	1) For all Category A joints, the reinforcement shall not exceed 10% of the pla
	BG - After backgrinding to sound weld metal MANAGER QC MEWED & APPROVED BY REVIEWED BY	metals. 2) For GTAW Process, use Filler Wire Brand: Ador Fontech Limited. 3) For tack welding use WPS No: WPS/CAP-017 (Rev 00). 4) For repair welding use WPS No: WPS/CAP-017 (Rev 00). 5) Repair on base meterial shall not be done without AI concurrence. 6) All temporary attachment removal area shall be PT examined.
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42	REVIEWED BY	
MANAGER QC		