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**MODERNIZACION REFINERIA de TALARA
PETROPERU, S.A.;**



PROJECT: MODERNIZACION REFINERIA DE TALARA	CONTRAC T.R PROJECT N°: 02070									
PURCHASE ORDER No. 020700342-I213	EQUIPMENTS / TAGS No. FCK-R-103									
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REVIEW RESPONSE BY PURCHASER: <table><tr><td>☐ REJECTED</td><td>☐ REVIEWED WITH COMMENTS</td><td>☒ REVIEWED WITHOUT COMMENTS</td></tr><tr><td>☐ COMMENTS AS NOTED</td><td>☐ REVIEWED AS BUILT</td><td>☐ FOR INFORMATION</td></tr><tr><td>☐ VOID</td><td colspan="2"></td></tr></table> DATE: 01/03/18		☐ REJECTED	☐ REVIEWED WITH COMMENTS	☒ REVIEWED WITHOUT COMMENTS	☐ COMMENTS AS NOTED	☐ REVIEWED AS BUILT	☐ FOR INFORMATION	☐ VOID		
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VENDOR IDENTIFICATION: IDESA										
DOCUMENT TITLE BILL OF MATERIALS										
VENDOR DOCUMENT NUMBER BOM 2/982-308 Rev. 8										

Rev. N°	Fecha / Date	Descripción / Description	Emitido por/ Issued By:	Revisado por: Revised by:
4	13/03/2016	FOURTH EDITION	Alfredo	Soledad M.
5	31/03/2015	FIRTH EDITION	Alfredo	Soledad M.
6	13/05/2016	SIXTH EDITION	Mario	Soledad M.
7	26/09/2016	UPDATED	Alejandra	Soledad M.
8	28/02/2018	CHANGE DWG. ISSUE	Jesús	Soledad M.

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			LISTA DE MATERIALES				ORDEN N°: Order n°: 2/982			HOJA N° DE Sheet n° Of	
Bill of materials											
CLIENTE / Client: TECNICAS REUNIDAS, S.A.							PLANO / DWG. REFRACTORY SUPPORTS				
OBRA / Job: FLEXICOKER							N°: 2/982-308			Rev. 8	
Rev.	Pos. Item.	Cant. Qty.	Designación Designation	Material		Cert.	Peso / Weight (Kg.)		M ^a .A°	Observaciones Remarks	
				Calidad Specific.	Norma Code		Unit.	Total			
	1	300	V-ANCHOR Rod.ø6 FOR REFRACTORY Thk.229	A-276 Tp.310S	ASTM	2,2	0,1	30		STUD WELDED. SOLUTION - ANNEALED AFTER FORMING	
	1	35	(Rep.) (I) - V-ANCHOR Rod.ø6 FOR REFRACTORY Thk.229	A-276 Tp.310S	ASTM	2,2	0,1	3,5		STUD WELDED. SOLUTION - ANNEALED AFTER FORMING	
	1	15	(Rep.) (C) - V-ANCHOR Rod.ø6 FOR REFRACTORY Thk.229	A-276 Tp.310S	ASTM	2,2	0,1	1,5		STUD WELDED. SOLUTION - ANNEALED AFTER FORMING	
3	2	7900	V-ANCHOR Rod.ø6 FOR REFRACTORY Thk.203	A-276 Tp.310S	ASTM	2,2	0,1	790		STICK WELDED. SOLUTION - ANNEALED AFTER FORMING	
3	2	205	(Rep.) (I) - V-ANCHOR Rod.ø6 FOR REFRACTORY Thk.203	A-276 Tp.310S	ASTM	2,2	0,1	20,5		STICK WELDED. SOLUTION - ANNEALED AFTER FORMING	
3	2	395	(Rep.) (C) - V-ANCHOR Rod.ø6 FOR REFRACTORY Thk.203	A-276 Tp.310S	ASTM	2,2	0,1	39,5		STICK WELDED. SOLUTION - ANNEALED AFTER FORMING	
	3	650	V- ANCHOR Rdo.ø6 FOR REFRACTORY Thk.125	A-276 Tp.310S	ASTM	2,2	0,05	32,5		STICK WELDED. SOLUTION - ANNEALED AFTER FORMING	
	3	17	(Rep.) (I) - V- ANCHOR Rdo.ø6 FOR REFRACTORY Thk.125	A-276 Tp.310S	ASTM	2,2	0,05	0,85		STICK WELDED. SOLUTION - ANNEALED AFTER FORMING	
	3	33	(Rep.) (C) - V- ANCHOR Rdo.ø6 FOR REFRACTORY Thk.125	A-276 Tp.310S	ASTM	2,2	0,05	1,65		STICK WELDED. SOLUTION - ANNEALED AFTER FORMING	
	4	10300	V- ANCHOR Rdo.ø6 FOR REFRACTORY Thk.75	S-275 JR	EN 10025	2,2	0,04	412		STICK WELDED. %C <ó= 0.3	
	4	285	(Rep.) (I) - V- ANCHOR Rdo.ø6 FOR REFRACTORY Thk.75	S-275 JR	EN 10025	2,2	0,04	11,4		STICK WELDED. %C <ó= 0.3	
	4	515	(Rep.) (C) - V- ANCHOR Rdo.ø6 FOR REFRACTORY Thk.75	S-275 JR	EN 10025	2,2	0,04	20,6		STICK WELDED. %C <ó= 0.3	
7	5	108	V- ANCHOR Rdo.ø6 FOR REFRACTORY Thk.158	A-276 Tp.310S	ASTM	2,2	0,06	6,48		STICK WELDED. %C <ó= 0.3	
3	5	13	(Rep.) (I) - V- ANCHOR Rdo.ø6 FOR REFRACTORY Thk.158	A-276 Tp.310S	ASTM	2,2	0,06	0,78		STICK WELDED. %C <ó= 0.3	
7	5	6	(Rep.) (C) - V- ANCHOR Rdo.ø6 FOR REFRACTORY Thk.158	A-276 Tp.310S	ASTM	2,2	0,06	0,36		STICK WELDED. %C <ó= 0.3	
7	6	75546	PLASTIC CAP FOR Rdo.ø6	PLASTIC	--	--		0			
5	6	3000	(Reposicion) - PLASTIC CAP FOR Rdo.ø6	PLASTIC	--	--		0			
3	6	2742	(Rep.) (I) - PLASTIC CAP FOR Rdo.ø6	PLASTIC	--	--		0			
7	6	3776	(Rep.) (C) - PLASTIC CAP FOR Rdo.ø6	PLASTIC	--	--		0			
5	7	12105	V-ANCHOR Rod.ø6 FOR REFRACTORY Thk.203	A-276 Tp.310S	ASTM	2,2	0,1	1210,5		SOLUTION - ANNEALED AFTER FORMING	
5	7	1500	(Reposicion) - V-ANCHOR Rod.ø6 FOR REFRACTORY Thk.203	A-276 Tp.310S	ASTM	2,2	0,1	150		SOLUTION - ANNEALED AFTER FORMING	
5	7	290	(Rep.) (I) - V-ANCHOR Rod.ø6 FOR REFRACTORY Thk.203	A-276 Tp.310S	ASTM	2,2	0,1	29		SOLUTION - ANNEALED AFTER FORMING	

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Bill of materials											
CLIENTE / Client: TECNICAS REUNIDAS, S.A.							PLANO / DWG. REFRACTORY SUPPORTS				
OBRA / Job: FLEXICOKER							N°: 2/982-308			Rev. 8	
Rev.	Pos. Item.	Cant. Qty.	Designación Designation	Material		Cert.	Peso / Weight (Kg.)		M ^a .A°	Observaciones Remarks	
				Calidad Specific.	Norma Code		Unit.	Total			
5	7	605	(Rep.) (C) - V-ANCHOR Rod.ø6 FOR REFRACTORY Thk.203	A-276 Tp.310S	ASTM	2,2	0,1	60,5		SOLUTION - ANNEALED AFTER FORMING	
	8	1350	V- ANCHOR Rdo.ø6 FOR REFRACTORY Thk.75	S-275 JR	EN 10025	2,2	0,04	54		STUD WELDED. %C <ó= 0.3	
4	8	432	(Rep.) (I) - V- ANCHOR Rdo.ø6 FOR REFRACTORY Thk.75	S-275 JR	EN 10025	2,2	0,04	17,28		STUD WELDED. %C <ó= 0.3	
	8	68	(Rep.) (C) - V- ANCHOR Rdo.ø6 FOR REFRACTORY Thk.75	S-275 JR	EN 10025	2,2	0,04	2,72		STUD WELDED. %C <ó= 0.3	
	9	5020	V- ANCHOR Rdo.ø6 FOR REFRACTORY Thk.100	A-479 Tp.304H	ASTM	2,2	0,05	251		SOLUTION - ANNEALED AFTER FORMING	
	9	229	(Rep.) (I) - V- ANCHOR Rdo.ø6 FOR REFRACTORY Thk.100	A-479 Tp.304H	ASTM	2,2	0,05	11,45		SOLUTION - ANNEALED AFTER FORMING	
	9	251	(Rep.) (C) - V- ANCHOR Rdo.ø6 FOR REFRACTORY Thk.100	A-479 Tp.304H	ASTM	2,2	0,05	12,55		SOLUTION - ANNEALED AFTER FORMING	
3	10	32	V-ANCHOR Rod.ø6 FOR REFRACTORY Thk.228	A-276 Tp.310S	ASTM	2,2	0,1	3,2		SOLUTION - ANNEALED AFTER FORMING	
3	10	6	(Rep.) (I) - V-ANCHOR Rod.ø6 FOR REFRACTORY Thk.228	A-276 Tp.310S	ASTM	2,2	0,1	0,6		SOLUTION - ANNEALED AFTER FORMING	
3	10	2	(Rep.) (C) - V-ANCHOR Rod.ø6 FOR REFRACTORY Thk.228	A-276 Tp.310S	ASTM	2,2	0,1	0,2		SOLUTION - ANNEALED AFTER FORMING	
	11	2268	ANCHOR WIRE ø3 TYPE 1	A-479 Tp.304H		--				SOLUTION - ANNEALED AFTER FORMING	
	12	756	ANCHOR WIRE ø3	HAYNESS 556		--				SOLUTION - ANNEALED AFTER FORMING	
	13	6048	ANCHOR WIRE ø3 TYPE 2	A-479 Tp.304H		--				SOLUTION - ANNEALED AFTER FORMING	
3	14	2	Y- ANCHOR Rdo.ø6 FOR REFRACTORY H=539	S 275 JR	--	--				%C <ó= 0.3	
3	15	4	Y- ANCHOR Rdo.ø6 FOR REFRACTORY H=518	S 275 JR	--	--				%C <ó= 0.3	
3	16	6	Y- ANCHOR Rdo.ø6 FOR REFRACTORY H=499	S 275 JR	--	--				%C <ó= 0.3	
3	17	6	Y- ANCHOR Rdo.ø6 FOR REFRACTORY H=481	S 275 JR	--	--				%C <ó= 0.3	
3	18	4	Y- ANCHOR Rdo.ø6 FOR REFRACTORY H=465	S 275 JR	--	--				%C <ó= 0.3	
3	19	2	Y- ANCHOR Rdo.ø6 FOR REFRACTORY H=451	S 275 JR	--	--				%C <ó= 0.3	
	20	1	Thk. 5 x 225 x 5586	A-516 Gr.70	ASTM	3,1	59	59		TERMINATION PLATE	
	21	1	Thk. 5 x 554 x 2777	A-516 Gr.70	ASTM	3,1	62	62			
	22	1	Thk. 6 x 151 x 2743	A-516 Gr.70	ASTM	3,1	20	20			
	23	92	V- ANCHOR Rdo.ø5 x 32	HR-160	--	--		0,5		STICK WELDED	
	23÷ 33		CONFORMADO DE ANCLAJES POS.21÷25	HR-160	--	--					

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Bill of materials											
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OBRA / Job: FLEXICOKER						N°: 2/982-308				Rev. 8	
Rev.	Pos. Item.	Cant. Qty.	Designación Designation	Material		Cert.	Peso / Weight (Kg.)		M ^a .A°	Observaciones Remarks	
				Calidad Specific.	Norma Code		Unit.	Total			
	24	92	V- ANCHOR Rdo.ø5 x 40	HR-160	--	--		0,5		STICK WELDED	
	25	92	V- ANCHOR Rdo.ø5 x 47	HR-160	--	--		0,5		STICK WELDED	
	26	92	V- ANCHOR Rdo.ø5 x 55	HR-160	--	--		0,5		STICK WELDED	
	27	92	V- ANCHOR Rdo.ø5 x 62	HR-160	--	--		0,5		STICK WELDED	
	28	92	V- ANCHOR Rdo.ø5 x 68	HR-160	--	--		0,5		STICK WELDED	
	29	92	V- ANCHOR Rdo.ø5 x 76	HR-160	--	--		0,5		STICK WELDED	
	30	92	V- ANCHOR Rdo.ø5 x 83	HR-160	--	--		0,5		STICK WELDED	
	31	92	V- ANCHOR Rdo.ø5 x 90	HR-160	--	--		0,5		STICK WELDED	
	32	16	V- ANCHOR Rdo.ø5 x 22	HR-160	--	--		0,5		STICK WELDED	
	33	4	V- ANCHOR Rdo.ø5 x 97	HR-160	--	--		0,5		STICK WELDED	
	34	2	Thk. 3 x 25 x 25	AISI 310s	--	3,1	1	2		1MA/B	
4	35	12	Thk. 6 x 50 x 400	AISI 310s	--	3,1	1	12		1MA/B	
	36	4	Rod. ø13 x 394	AISI 310s	--	3,1	0,5	2		1MA/B	
	37	8	Thk. 19 x 25 L=545	AISI 310s	--	3,1	2	16		1MA/B	
2	38	2	Thk. 19 x 25 L=1901	AISI 310s	--	3,1	7	14		1MA/B	
	39	1	Y- ANCHOR Rdo.ø6 FOR REFRACTORY H=544	INOX. 310S	--	--	0,06	0,06		SOLUTION - ANNEALED AFTER FORMING	
	40	1	Thk. 6 x 25 x 146	INOX 310S	ASTM	2,2				9N	
	41	2	Thk. 6 x 25 x 70	INOX 310S	ASTM	2,2	1	2		9N	
	42	756	REFRACTORY LINNING FOR GRID CAP TYPE 3F		--	--					
	43	1	REFRACTORY LINNING FOR CENTERWELL (INSIDE NOZZLE 5N) PART TYPE 3F								
	44	1	PACK 15% PRECOMPRESSED W/CERAMIC FIBER	CERAMIC FIBER							
	45	1	CAST PLUG + WRAP PLUG W/ALUMINIUM FOIL	LINING 3F							
	46	1	REFRACTORY LINNING FOR NOZZLE 3N TYPE 3F								
	47	4	REFRACTORY LINNING FOR NOZZLE 1N TYPE 6							DELETED	
	48	1	REFRACTORY LINNING FOR NOZZLE 4N TYPE 3F								
	49	2	FILL ANNULUS L=82 (MAX. COMPRESSION) FOR NOZZLE 7NA/B	FIBER CERAMIC	--	--				7NA/B	
	50	4	Thk.3 x 1211 x 1600	CERAMIC PAPER	--	--				DELETED	
2	51	1	Thk. 5 x ø16011 / ø15861	A-516 Gr.70N	ASTM	--	150	150		EDGING BAR. AUSTENITIC STAINLESS STEEL SHALL HAVE A MINIMUM CARBON CONTENT OF 0.04%C	
	52	1	Thk.3 x 75 x 50300	CERAMIC PAPER	--	--				DELETED	
2	53	1	Thk. 10 x 75 x 628	A-240 TP.321	ASTM	--	42	42		EDGING BAR. AUSTENITIC STAINLESS STEEL SHALL HAVE A MINIMUM CARBON CONTENT OF 0.04%C	

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OBRA / Job:						FLEXICOKER						N°:			2/982-308		Rev. 8	
Rev.	Pos. Item.	Cant. Qty.	Designación Designation	Material		Cert.	Peso / Weight (Kg.)		M ^a .A°	Observaciones Remarks								
				Calidad Specific.	Norma Code		Unit.	Total										
	54	1	Thk.3 x 225 x 5570	CERAMIC PAPER	--	--					DELETED							
	55	1	Thk.3 x 75 x 688	CERAMIC PAPER	--	--					5N							
3	56	1	Thk.16 x 50 x 1452	A-204 Gr.C	ASTM	2,2	9	9										
	57	1	FILL ANNULUS L=71 (MAX. COMPRESSION) FOR NOZZLE 7NC	FIBER CERAMIC	--	--					7NC							
	58	1	FILL ANNULUS L=337 (MAX. COMPRESSION) FOR NOZZLE 10N	FIBER CERAMIC	--	--					10N							
3	59	1	Thk. 6 x 25 x 478	INOX 310S	ASTM	2,2					9N							
7	60	4	PACK - TIGHTLY 50% MAX COMPRESSION	FIBER CERAMIC	--	--					ZONE 13							
					TOTAL WEIGHT 3570,18 KG													
REV.		DESCRIPCION / Description					REALIZO / Prepared		R.& Ap / Rev.& App		FECHA / Date							
7		DONDE SE INDICA / AS INDICATED					ALEJANDRA		SOLEDAD		26/09/2016							
8		CAMBIA REVISION DEL PLANO / CHANGE DWG. ISSUE					JESUS		SOLEDAD		28/02/2018							
5		DONDE SE INDICA / AS INDICATED					Alfredo		SOLEDAD		31/03/2016							