CERTIFICADO DE CALIDAD MATERIA PRIMA

CC FOR 21 Ver 05 09 22

Matriz:
Km. 10.5 vía Daule, Guayaquil. Ecuador
Teléfono: 593-4-2110260 Fax: 593-4-2110951
www.ipac-acero.com
Sistema de Gestión Certificado bajo normas ISO 9001:2000 e ISO 14001:2004

N° Certificado: 100000000015039
Documento #: 8500000471
Cliente: AGOFER SAS
Dirección: Calle 12A N 38 - 45 BOGOTA - COLOMBIA
Observación: ODC 81537-79879-7958
Código interno: AGOF C710 07 23

N° Factura E.: 001002000026795
Pedido: 1300001301
Fecha: 03/07/2023

P. NANDINA: 7306.61.00.000000;7306.30.99.000000;

Descripción de producto	Unidades/ Peso	Lote	Norma tolerancia	Calidad de material	Tipo material	No pedido interno	Colada Acero MP	Esf. Ts Ft (Mpa)	Esf. Ys Fy (Mpa)	% Elong
TUB. ESTRUCT. CUADRADA LC										
T.C. 100X100X6.00X6000 MM GR.50	25.000	9001979-01	NTE INEN 2415, NTC 4526,	A1011 GR 50	LC.	4800000257	ZB2669	503.45	413.79	32
T.C. 135X135X5.00X6000 MM GR.50	128.000	9002084-01	NTE INEN 2415, NTC 4526,	A 572 GR 50	LC.	4800000175	SQ15589	501	424	29
T.C. 135X135X6.00X6000 MM GR.50	48.000	9002085-01	NTE INEN 2415, NTC 4526,	A1018 GR50	LC.	4800000257	ZB2701	517.24	462.07	33
T.C. 150X150X3.00X6000 MM GR.50	64.000	9001820-01	NTE INEN 2415, NTC 4526,	A 572 GR 50	LC.	4800000327	SQ20571	529	447	24
TUB. ESTRUCT. RECTANGULAR GB										
T.T. 100X50X2.00X6000 MM GB.	160.000	9002015-01	NTE INEN 2415, ASTM A500,	3302 SGCC G90	GB.	4800000192	945799	492	334	37
T.T. 200X70X4.00X6000 MM GR.50	36.000	9002083-01	NTE INEN 2415, NTC 4526,	A 572 GR 50	LC.	4800000328	SQ20571	511	473	26

Descripción de producto	COMPOSICIÓN QUÍMICA %								TOLERANCIAS DIMENSIONALES mm				ATRIBUTOS/ENSAYOS					
	C	Mn	Si	S	P	Fe	Si eq	Ceq	Espesor (mm)	Medida A	Medida B	Longitud	Escuadra	Flecha	Torcedura	Prueba Preece	Asp. Superficial	Rotulado
TUB. ESTRUCT. CUADRADA LC																		
T.C. 100X100X6.00X6000 MM GR.50	0.08	0.74	0	0.005	0.012	99.163	0.03	0.21	-0.60+ 0.60	-0.80+ 0.80	-0.80+ 0.80	-6.00+ 13.0	-2.00+ 2.00	+ 12.0	+ 11.4	N/A	N/A	N/A
T.C. 135X135X5.00X6000 MM GR.50	0.134	0.833	0.009	0.003	0.0118	99.0092	0.04	0.28	-0.50+ 0.50	-0.80+ 0.80	-0.80+ 0.80	-6.00+ 13.0	-2.00+ 2.00	+ 12.0	+ 13.1	N/A	N/A	N/A
T.C. 135X135X6.00X6000 MM GR.50	0.08	0.74	0	0.004	0.015	99.161	0.04	0.21	-0.60+ 0.60	-0.80+ 0.80	-0.80+ 0.80	-6.00+ 13.0	-2.00+ 2.00	+ 12.0	+ 13.1	N/A	N/A	N/A
T.C. 150X150X3.00X6000 MM GR.50	0.129	0.838	0.007	0.0029	0.0106	99.0125	0.03	0.27	-0.30+ 0.30	-1.50+ 1.50	-1.50+ 1.50	-6.00+ 13.0	-2.00+ 2.00	+ 12.0	+ 13.1	N/A	N/A	N/A
TUB. ESTRUCT. RECTANGULAR GB																		
T.T. 100X50X2.00X6000 MM GB.	0.2	0.74	0.01	0.003	0.021	99.026	0.0625	0.33	-0.20+ 0.20	-0.80+ 0.80	-0.50+ 0.50	-6.00+ 13.0	-2.00+ 2.00	+ 12.0	+ 11.4	N/A	N/A	N/A
T.T. 200X70X4.00X6000 MM GR.50	0.129	0.838	0.007	0.0029	0.0106	99.0125	0.03	0.27	-0.40+ 0.40	-2.00+ 2.00	-0.60+ 0.60	-6.00+ 13.0	-2.00+ 2.00	+ 12.0	+ 15.0	N/A	N/A	N/A

Observaciones:

LOS VALORES INDICADOS EN ESTE DOCUMENTO FUERON VALIDADOS POR EL DEPARTAMENTO DE CONTROL DE CALIDAD Y LOS MISMOS SE GUARDAN EN LOS REGISTROS DE LA COMPAÑÍA.

MEDIDA A= Ancho de perfil
MEDIDA B= Altura de Perfil

1Mpa.= 10.2 Kg./Cm2
G 40 = 16.8 Micras ambas caras recubrimiento
G 60 = 25.2 Micras ambas caras recubrimiento
G 90 = 38.5 Micras ambas caras recubrimiento

Jonathan Campoverde
Responsable de calidad

TIANJIN YUANTAI INDUSTRIAL TRADE CO. LTD

MILL'S TEST CERTIFICATE

CERTIFICATE NO:	202301101883162	DESTINATION:	BUENAVENTURA PORT, COLOMBIA
DESCRIPTION OF GOODS:	STRUCTURAL TUBES	QUALITY OF GOODS:	ASTM A500 GR.C.
TOTAL:	88 BUNDLES, 146.875 MT	---	---

THIS IS TO CERTIFY THAT THE PRODUCTS HAVE BEEN INSPECTED AS PER RELEVANT SPECIFICATION AS STIPULATED IN THE ORDER AND QUALIFIED WITH ALL THE DATA IN COMPLIANCE WITH SPECIFICATION.

HEAT NUMBER	SIZES (MM/INCH)	L.(M)	QUANTITY			CHEMICAL COMPOSITION %					MECHANICAL PROPERTIES			Cold Bend
			NO. OF PCS PER BUNDLE	NUMBER OF BUNDLES	WEIGHT (MT)	C	Si	Mn	P	S	Y.S (Mpa)	T.S (Mpa)	EL. (%)	
G2311060	250X150X5MM	6	6	10	11.087	0.13	0.19	0.61	0.019	0.022	372	480	26	OK
G2311060	250X150X5MM	12	6	5	11.087	0.13	0.19	0.61	0.019	0.022	376	486	25	OK
G2311067	300X100X5MM	6	8	18	26.609	0.14	0.19	0.67	0.011	0.020	375	472	26	OK
G2310158	8.5/8"(OD219.1MM)X5.5MM	12	7	4	9.734	0.15	0.18	0.67	0.021	0.016	371	474	25	OK
G2311071	200X200X7MM	12	4	9	18.477	0.15	0.16	0.67	0.021	0.016	378	474	25	OK
			1	1	0.513	0.15	0.16	0.67	0.021	0.016	381	474	26	OK
G2311075	220X220X7MM	6	4	14	15.849	0.18	0.21	0.73	0.015	0.022	380	480	25	OK
G2311082	300X100X7MM	6	8	11	22.583	0.18	0.21	0.73	0.015	0.022	376	480	25	OK
G2311077	220X220X9MM	6	4	7	10.114	0.18	0.21	0.73	0.015	0.022	376	480	25	OK
G2311080	250X250X9MM	12	4	3	9.890	0.17	0.16	0.69	0.017	0.020	374	476	25	OK
G2311085	300X300X9MM	6	4	5	9.938	0.17	0.18	0.69	0.017	0.020	384	470	25	OK
			2	1	0.994	0.17	0.18	0.69	0.017	0.020	384	475	25	OK

BY THE MILL: TIANJIN YUANTAI INDUSTRIAL TRADE CO. LTD

INSPECTOR: MA

DATE: MAY 30, 2023

天津源泰工贸有限公司
AS THE MILL
TIANJIN YUANTAI INDUSTRIAL TRADE CO., LTD.

TIANJIN YUANTAI INDUSTRIAL TRADE CO. LTD

MILL'S TEST CERTIFICATE

CERTIFICATE NO:	202300120221513	DESTINATION:	BUENAVENTURA PORT, COLOMBIA
DESCRIPTION OF GOODS:	STRUCTURAL TUBES	QUALITY OF GOODS:	ASTM A500 GR.C.
TOTAL:	94 BUNDLES, 145.373 MT	---	---

THIS IS TO CERTIFY THAT THE PRODUCTS HAVE BEEN INSPECTED AS PER RELEVANT SPECIFICATION AS STIPULATED IN THE ORDER AND QUALIFIED WITH ALL THE DATA IN COMPLIANCE WITH SPECIFICATION.

HEAT NUMBER	SIZES (MM/INCH)	L.(MM)	QUANTITY			CHEMICAL COMPOSITION %					MECHANICAL PROPERTIES			Cold Bend
			NO. OF PCS PER BUNDLE	NUMBER OF BUNDLES	WEIGHT (MT)	C	Si	Mn	P	S	Y.S (Mpa)	T.S (Mpa)	EL. (%)	
G23101328	200X200X5MM	6	4	14	10.348	0.15	0.18	0.67	0.021	0.022	371	478	26	OK
G23101328	300X100X5MM	6	8	7	10.348	0.15	0.18	0.67	0.021	0.022	377	474	26	OK
G23101535	8.5/8" (OD219MM)X5.5MM	6	7	8	9.73	0.19	0.17	0.66	0.019	0.011	377	470	26	OK
			4	1	0.695	0.19	0.17	0.66	0.019	0.011	374	473	25	OK
G23101385	200X200X7MM	6	4	12	12.318	0.19	0.17	0.66	0.019	0.011	374	473	25	OK
G23101385	200X200X7MM	12	4	5	10.265	0.15	0.17	0.63	0.020	0.021	374	475	25	OK
			2	1	1.027	0.15	0.17	0.63	0.020	0.021	374	475	25	OK
G23101390	300X100X7MM	6	8	5	10.265	0.14	0.18	0.65	0.019	0.022	376	470	28	OK
			3	1	0.77	0.14	0.18	0.65	0.019	0.022	372	480	28	OK
G23101540	10.3/4" (OD273MM)X9MM	12	3	5	10.547	0.17	0.19	0.67	0.011	0.013	376	486	25	OK
G23101396	220X220X9MM	6	4	7	10.114	0.14	0.19	0.67	0.011	0.020	375	472	28	OK
G23101396	220X220X9MM	12	4	4	11.559	0.15	0.18	0.67	0.021	0.016	371	474	28	OK
G23101405	250X250X9MM	6	4	11	18.133	0.15	0.14	0.63	0.021	0.022	378	474	25	OK
			2	1	0.824	0.15	0.14	0.63	0.021	0.022	381	474	26	OK
G23101405	250X250X9MM	12	4	5	16.484	0.18	0.21	0.73	0.015	0.022	380	480	25	OK
			2	1	1.648	0.18	0.21	0.73	0.015	0.022	375	475	26	OK
G23101408	260X260X9MM	6	4	6	10.298	0.15	0.19	0.69	0.022	0.022	374	470	26	OK

BY THE MILL: TIANJIN YUANTAI INDUSTRIAL TRADE CO. LTD

INSPECTOR: MA

天津源泰工贸有限公司
TIANJIN YUANTAI INDUSTRIAL TRADE CO., LTD.

DATE: FEB 15, 2023