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METALFAR
PRODOTTI INDUSTRIALI S.P.A.

SEDE AMMINISTRATIVA E STABILIMENTO

23861 CESANA BRIANZA (LC) - Italy

Via G. Pardini, 2

Fax +39 031.655149

quality.mtbfarmas.com

SALA PROVE E ANALISI MATERIAL / MATERIAL TEST DEPARTMENT

COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV
= ISO 9001 =

= ISO 9001 =

CERTIFICATO DI COLLAUDO SECONDO EN 10204 - 3.1 INSPECTION CERTIFICATE					
Certif. N. 953		Del/Dated 20.02.2014	Fattura / Invoice N. 671		Del/Dated 19.02.2014
DOT / Del Note N. 953		Del/Dated 19.02.2014	Ns. Ord. / Our Ref. N. 0		Del/Dated
TRANS AM PIPING PRODUCTS LTD			Dest.: TRANS AM PIPING PRODUCTS LTD		
9335 ENDEAVOR DRIVE S.E.			9335 - Endeavor Drive S.E.		
T3S 0A1 CALGARY, ALBERTA		CA	T3S 0A1 CALGARY, ALBERTA		CA

Pag. 7 - 8

CERTIFICATO DI COLLAUDO SECONDO EN 10204 - 3.1 INSPECTION CERTIFICATE

[illegible][illegible]

NOTE 100% MANUFACTURED IN ITALY
NOTES MANUFACTURING IN ACCORDANCE WITH ORDER AND SPECIFICATION

MATERIAL IN ACCORDANCE WITH NACE MR-0175/2009 ISO 15156 - SOUR SERVICE
MATERIAL IN ACCORDANCE WITH NACE MR-0103/2012 - SOUR SERVICE

UFFICIO CONTROLLO QUALITÀ
QUALITY CONTROL DEPARTMENT

INSPECTION AUTHORITY

MANUFACTURER'S SYMBOL

Ph.D. Engineer





SAN ENG STEEL FORGING CO. LTD
311, Jen Hsin Road, Jen Wu District
Kaohsiung, Taiwan, R.O.C
TEL: 07-3724249, FAX: 07-3712923
URL: www.saneng.com.tw
e-mail: saneng@kts.seed.net.tw

MILL TEST CERTIFICATE

EN10204-3.1 B10IN500493.1 B)
Customer: TRANS AM PIPING PRODUCTS LTD
Order No.: 70084541117A

Certificate No.: SE-84544

Date: 06/04/2014

Page: 1 OF 1

FORGED CARBON STEEL FLANGES

ASTM A105-13/ASME SA-105-13

ASME B16.5-13
CSA Z245.12

PRODUCT

MATERIAL SPECIFICATIONS

DIMENSIONAL SPECIFICATIONS

Item No.	CODE NO	DESCRIPTION	QUANTITY		CHEMICAL COMPOSITION														CE(%)
			C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	N					
			Min	Max															
1		900 WNRF XXS 3" A105N	0.350	0.350	0.220	0.100	0.500	0.035	0.040	0.400	0.300	0.450	0.120	0.080	0.020	-	-	0.417	
2		150 BLRF 10" A105N	0.200	0.210	0.220	0.160	0.006	0.007	0.006	0.007	0.020	0.010	0.002	0.004	0.001	0.007	-	0.400	
3		150 BLRF 6" A105N	0.220	0.250	0.220	0.250	1.170	0.017	0.005	0.007	0.030	0.010	0.004	0.003	0.002	0.007	-	0.424	
4		900/1500 WNRTJ XS 2" A105N	0.200	0.220	0.200	0.100	1.100	0.016	0.006	0.190	0.090	0.070	0.017	0.010	0.001	0.008	-	0.422	
5		900 WNRTJ XS 3" A105N	0.190	0.210	0.190	0.100	1.070	0.015	0.006	0.130	0.090	0.050	0.020	0.009	0.002	0.009	-	0.402	
6		900 WNRTJ XS3(SIC) 3" A105N	0.210	0.160	0.210	0.130	1.130	0.007	0.010	0.050	0.060	0.050	0.005	0.003	0.005	0.009	-	0.419	
7		1500 WNRTJ XS3(SIC) 3" A105N	0.190	0.200	0.190	0.060	1.050	0.017	0.003	0.180	0.090	0.070	0.014	0.001	0.002	0.009	-	0.404	
8		2500 WNRTJ XS3(SIC) 3" A105N	0.200	0.170	0.200	0.110	1.110	0.017	0.014	0.100	0.070	0.050	0.005	0.003	0.005	0.009	-	0.411	

Item No.	Heat No.	T.S.(*)		Y.S.(*)		E.L.(*)	Hardness	R.A.(*)	Impact Test			Material Supplier	REMARKS
		(MPa)	(MPa)	(MPa)	(MPa)	(%)	(HB)	(%)	Temp	Minimum	Maximum		
1	4625136	539.0	383.0	35.2	154/152	68.6	187	71.3	1	2	3	ACOMINAS	380°C X4HRS
2	4677184	516.0	364.0	35.2	153/151	71.3	187	71.3	1	2	3	ACOMINAS	CONFORMS WITH NACE MR0103-12 AND NACE
3	4609485	543.0	372.0	34.4	154/152	67.7	187	70.4	1	2	3	ACOMINAS	MR0175/ISO15156-2:09 CLAUSE 7.2.1.4 REGION 3
4	93714	531.0	368.0	33.5	154/152	70.4	187	70.4	1	2	3	WEI CHIH STEEL	AND ANNEX A
5	94412	520.0	364.0	37.2	153/150	70.4	187	70.4	1	2	3	WEI CHIH STEEL	CONFORMS WITH Z245.12 CAT1 GR248 SOUR
6	21530	519.8	335.4	36.0	154/151	66.8	187	71.3	1	2	3	OEMK	SERVICE 08/FOR USE AS WELDING NECK AND
7	95736	512.0	358.0	35.9	152/150	71.3	187	71.3	1	2	3	WEI CHIH STEEL	BLIND FLANGES ONLY
8	17833	503.1	304.0	36.6	148/151	66.8	187	66.8	1	2	3	OEMK	MIN TO C RATIO IS GREATER THAN 3.0"

1. T.S. = Tensile Strength, Y.S. = Yield Strength, E.L. = Elongation, R.A. = Reduction of Area
2. N=Normalized, A=Annealed, Q=Quenched, T=Tempered, S=Solution Treated, S.R.=Stress Relieved
A=C-Air Cooled, F=C-Furnace Cooled, W=C-Water Cooled, O=C-Oil Cooled
3. CE Value = C + (Mn/5) + (Cr + Mo + V) / 5 + (Ni + Cu) / 15
We hereby certify that the material has been tested in accordance with the above specification and
also with the requirements called for by the above order



Manager of Quality Assurance Dept



COMPANY WITH QUALITY MANAGEMENT
SYSTEM CERTIFIED BY DNV
= ISO 9001:2008 =

TRANS AM PIPING PRODUCTS LTD	
9335 ENDEAVOR DRIVE S E T3S 0A1 CALGARY, ALBERTA	CA

SALA PROVE E ANALISI MATERIALI / MATERIAL TEST DEPARTMENT

[illegible]



SAN ENG STEEL FORGING CO LTD
 311, Jen Hen Road, Jen Wu District
 Kaohsiung, Taiwan, R.O.C.
 TEL: 07-3724249, FAX: 07-3712923
 URL: www.saneng.com.tw
 e-mail: saneng@kssis.seed.net.tw

MILL TEST CERTIFICATE

EN10204-3.1 BIDIN50049/3.1 B)
 Customer: TRANS AM PIPING PRODUCTS LTD.
 Order No. Z004727(3)-T/A

Certificate No: SE-472C
 Date: 12/12/2011
 Page: 1 OF 1

FORGED CARBON STEEL FLANGES				MATERIAL SPECIFICATIONS				DIMENSIONAL SPECIFICATIONS															
ASTM A105-105/ASME SA105-10a				ASTM A105-105/ASME SA105-10a				ASME B16.5-09 CSA Z245.12															
Item No.	CODE NO	DESCRIPTION	QUANTITY	CHEMICAL COMPOSITION (%)																			
				C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	N	CE(*)							
1		150 BLRF 10" A105N	Min Max	0.350 0.210	0.100 0.210	0.600 1.130	0.035 0.021	0.040 0.008	0.400 0.006	0.300 0.010	0.400 0.010	0.120 0.001	0.080 0.004	0.020 0.002	- 0.006	0.402							
Heat No.				T.S. (MPa) Min Max				Y.S. (MPa) Min Max				E.L. (%) Min Max				Hardness (HB) Min Max				R.A. (%) Min Max			
1	4443545			517.8 485.0				365.8 250.0				36.0 22.0				152/150 187				71.3 30.0			
				Impact Test												Material Supplier				REMARKS			
				1 Minimum Joule												ACOMINAS				880 C X3HRS CONFORMS WITH NACE MR0103-07 AND NACE MR0175/ISO15156 2 CONFORMS WITH Z245.12 CAT I GR.248 SOUR SERVICE-05 TEST SPECIMEN ORIENTATION TRANSVERSE			

*1. T.S. = Tensile Strength, Y.S. = Yield Strength, E.L. = Elongation, R.A. = Reduction of Area
 *2. N=Normalized, A=Annealed, Q=Quenched, T=Tempered, S T=Solution Treated, S R=Stress Relieved,
 A.C=Air Cooled, F.C=Furnace Cooled, W.C=Water Cooled, O.C=Oil Cooled
 *3. C.E. Value = C + (Mn/6) + (Cr + Mo + V) / 5 + (Ni + Cu) / 15

We hereby certify that the material has been tested in accordance with the above specification and also with the requirements called for by the above order



Manager of Quality Assurance Dept.



SAN ENG STEEL FORGING CO. LTD.
 311, Jen Hsin Road, Jen Wu District
 Kaohsiung, Taiwan, R.O.C.
 TEL: 07-3724249 ; FAX: 07-3712923
 URL: www.saneng.com.tw
 e-mail: saneng@kts.seed.net.tw

MILL TEST CERTIFICATE

EN10204-3.1 (B01N50049/3.1 B)
 Customer: TRANS AM PIPING PRODUCTS LTD.
 Order No.: 70075903.17A

Certificate No.: SE-7530C

Date: 01/13/2014

Page: 1 OF 4

PRODUCT		MATERIAL SPECIFICATIONS		DIMENSIONAL SPECIFICATIONS														
FORGED CARBON STEEL FLANGES		ASTM A105-13/ASME SA-105-13		ASME B16.5-13 CSA Z245.12														
Item No.	CODE NO	DESCRIPTION	QUANTITY	CHEMICAL COMPOSITION (%)														
				C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Nb	N	CE(%)		
1		300 WNRF XS 12" A105N	20 PCE	0.350	0.100	0.600	0.350	1.050	0.035	0.040	0.400	0.300	0.400	0.120	0.080	0.020	-	0.401
2		600 WNRF XS 12" A105N	10 PCE	0.200	0.230	1.120	0.012	0.002	0.080	0.120	0.120	0.020	0.004	0.001	0.006	-	0.429	
3		900/1500 WNRF S160 3/4" A105N	10 PCE	0.230	0.120	1.020	0.008	0.009	0.070	0.040	0.040	0.005	0.003	0.005	0.010	-	0.417	
4		900/1500 WNRF S160 1" A105N	25 PCE	0.222	0.320	1.040	0.012	0.017	0.005	0.016	0.053	0.002	0.006	0.005	0.006	-	0.404	
5		900/1500 WNRF S160 1 1/2" A105N	30 PCE	0.211	0.240	1.000	0.013	0.014	0.006	0.019	0.054	0.002	0.007	0.005	0.004	-	0.387	
6		500/1500 WNRF S160 2" A105N	75 PCE	0.180	0.210	1.070	0.012	0.002	0.180	0.080	0.070	0.014	0.001	0.001	0.008	-	0.394	
7		1500 WNRF S160 3" A105N	50 PCE	0.190	0.200	1.060	0.017	0.003	0.180	0.090	0.070	0.014	0.001	0.002	0.005	-	0.404	
8		150 BLRF 14" A105N	10 PCE	0.190	0.210	1.100	0.016	0.005	0.130	0.100	0.060	0.020	0.010	0.001	0.006	-	0.412	
9		150 BLRF 16" A105N	30 PCE	0.210	0.170	1.040	0.018	0.007	0.180	0.110	0.080	0.030	0.005	0.002	0.007	-	0.430	
10		150 BLRF 20" A105N	39 PCE	0.190	0.180	1.010	0.016	0.008	0.170	0.100	0.100	0.030	0.005	0.002	0.007	-	0.403	
Item No.	Heat No.	T.S.(*) (MPa)	Y.S.(*) (MPa)	E.L.(*) (%)	Hardness (HBS)	R.A.(*) (%)	Impact Test			Material Supplier	REMARKS							
							Temp.	Minimum	Joule									
1	Y300286	524.0	364.0	34.0	153/151	71.3		1		KOTOBUKI	880°Cx4HRS							
2	652897	531.0	374.0	34.6	154/152	71.3		2		GODO STEEL	CONFORMS WITH NACE MR0103-12 AND NACE							
3	49187	513.9	296.2	33.4	162/158	67.7		3		OEMK	MR0175/ISO15156 2-09 CLAUSE 7.2.1.4 REGION 3							
4	931233	515.8	333.4	34.0	153/152	66.0				NTMK	AND ANNEX A							
5	931272	509.9	319.7	35.2	154/151	66.0				WEI CHIH STEEL	CONFORMS WITH Z245.12 CAT 1 GR248 SOUR							
6	95742	524.0	380.0	33.8	153/150	71.3				WEI CHIH STEEL	SERVICE-09(FOR USE AS WELDING NECK AND							
7	95736	512.0	358.0	35.8	152/150	71.3				SEAH BESTEEL	BLIND FLANGES ONLY)							
8	292448	525.6	377.6	36.2	154/152	71.3				GODO STEEL	MN TO C RATIO IS GREATER THAN 3.0"							
9	751677	499.0	335.0	36.8	150/147	71.3				GODO STEEL								
10	751676	503.0	343.0	38.0	150/148	70.4				GODO STEEL								
T.S. = Tensile Strength, Y.S.=Yield Strength, E.L.=Elongation, R.A.=Reduction of Area																		
N=Normalized, A=Annealed, Q=Quenched, T=Tempered, S T=Solution Treated, S R=Stress Relieved,																		
A=C-Air Cooled, F=C-Fluance Cooled, W C=Water Cooled, O C=Oil Cooled.																		
*3. C E Value = C + (Mn /6) + (Cr + Mo +V) / 5 + (Ni + Cu) / 15																		
We hereby certify that the material has been tested in accordance with the above specification and also with the requirements called for by the above order.												Manager of Quality Assurance Dept						

*1: T.S. = Tensile Strength, Y.S. = Yield Strength, E.L. = Elongation, R.A. = Reduction of Area

*2: N=Normalized, A=Annealed, Q=Quenched, T=Tempered, S=Solution Treated, S-R=Stress Relieved,
 A.C=Air Cooled, F.C=Fluence Cooled, W.C=Water Cooled, O.C=Oil Cooled.

*3: C.E. Value = C + (Mn/5) + (Cr + Mo + V) / 5 + (Ni + Cu) / 15



Manager of Quality Assurance Dept



METALFAR
PRODOTTI INDUSTRIALI S.P.A.

SEDE AMMINISTRATIVA E STABILIMENTO:

23861 CESANA BRIANZA (L.C.) - Italy
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quality.mifarmas.com

SALA PROVE E ANALISI MATERIALI / MATERIAL TEST DEPARTMENT

COMPANY WITH
QUALITY SYSTEM
CERTIFIED BY DNV
= ISO 9001 =

CERTIFICATO DI COLLAUDO SECONDO EN 10204 - 3.1 INSPECTION CERTIFICATE			
Certif. N.°	Del/Dated	Fattura/Invoice N.°	Del/Dated
DDT / Del Note N.° 915	Del/Dated 27/02/2014	Nb. Ord. / Our ref. N.° 0	Del/Dated
TRANS AM PIPING PRODUCTS LTD		Dest.: TRANS AM PIPING PRODUCTS LTD	

Pag. 6 - 12

CERTIFICATO DI COLLAUDO SECONDO EN 10204 - 3.1 INSPECTION CERTIFICATE

DIM IN ACC. A DM ACCORDANCE TO ASME/ANSI B16.5 - 2013																	VISIVO E DIMENS VIS & DIMENS. SATISFACTORY		
COD. COL.	COLATA	POS	Q.TA.	DESCRIZIONE															
HEAT CODE	HEAT	ITEM	YOUR REFERENCE	Q.TY	DESCRIPTION														
1330304	045	CI-14-138	80.00	BLIND 300 RF 4"	A105N														
MATERIALE / MATERIAL	C%	S%	Mn%	S%	P%	Cr%	Ni%	Mo%	Ti%	Cu%	V%	Nb%	N%	Al%	C.E.%				
ASTM A105 (LADLE)	0,180	0,230	0,950	0,006	0,007	0,100	0,060	0,010	0,018	0,140	0,002	0,001	0,009	0,028	0,374				
PROVETTA / TEST SPECIMEN	FORMA	SVERNAMENTO	ROTTURA	ALLUNGAMENTO	CONTRAZIONE	DUREZZA	RESISTENZA / IMPACT TEST - JOULE/ft ²				SVERNAMENTO								
SECT mm	1-Ø 2-Ø	TENSILE mm ² ±2%	TENACITÀ MPa ±1	ELONGATION % ±1	REDUCTION OF AREA % ±1	HARDNESS HBW	TEMPERATURE / °C				TPO / TYPE		TPO / TYPE		TPO / TYPE				
126.60	50.80	1	337.0	502.0	33.0	61.0	154.0 - 158.0				KV		20		86 82 90				
MATERIALE IN ACCORDO A / MATERIAL IN ACC. TO																			
ASTM/A5M A 105/SA 105 M - 13 ASME CODE SECT. II, PART A, ED. 2013																			
NACE MR-0175/2009 ISO 15156 - SOUR SERVICE																			
NACE MR-0103/2012 - SOUR SERVICE																			
Q.A.S. IN ACCORD WITH PRESS.EQUIP.DIRECT.97/23(CEPED), ANNEX																			
I/PARAGRAF 4.3 CERT.M.L.N 0531016/01																			
CSA Z245.12 GRADE 248 CAT.1 SOUR SERVICE																			
TRATTAMENTO TERMICO / HEAT TREATMENT																			
NORMALIZED AT 920 C - COOLED IN STILL AIR																			
FORNO / FURNACE																			
ELECTRIC FURNACE																			
ORIGINE / ORIGIN OF STEEL																			
EUROPEAN UNION																			

[illegible]

NOTE 100% MANUFACTURED IN ITALY
NOTES MANUFACTURING IN ACCORDANCE WITH ORDER AND SPECIFICATION

UFFICIO CONTROLLO QUALITA'
QUALITY CONTROL DEPARTMENT

ENTE UFFICIALE DI COLLAUDO
INSPECTION AUTHORITY

MARCHIO PRODUZIONE
MANUFACTURER'S SYMBO

H. S. Engstrom

MAFF

MILL TEST & INSPECTION CERTIFICATE

ACCORDING TO EN 10204 : 2004 3.1

CUSTOMER : SEYBOLD INTERNATIONAL CORP.

CERT. NO : 133838

L/C NO :

ORDER NO : 7007535

DATE : 12/11/2013

INVOICE NO : BW01310210044A

PAGE : 6 ORIGIN : TAIWAN



拍緯鐵工股份有限公司
BOTHWELL STEEL FITTINGS CO., LTD.
高雄 市 仁 武 區 林 里 仁 心 路 303 號
NO.303, REN-SIN ROAD, REN-WU DISTRICT, KAOHSIUNG CITY, TAIWAN R.O.C.(81460)
TEL: +886-7-3711536, 3710497, 3720260 FAX: +886-7-3713864, 3713882
Web site: <http://www.bothwell.com.tw> e-mail: box@bothwell.com.tw

ITEM	BW HT. CD.	RAW MATERIAL HEAT NO.	DESCRIPTION	QUANTITY	SPECIFICATION FOR				INSPECTION SURFACE	DIM.								
					MATERIAL	FITTING												
030	4148	336791	90D ELBOW 1" 6000# NPT	27 PC	ASTM A105N -12													
030	4151	336789	90D ELBOW 1" 6000# NPT	353 PC				ASME B16.11 - 2011										
032	4153	0093862	FULL CPLG 3/4" 6000# NPT	400 PC	ASME SA105N-2013ED				GOOD	GOOD								
034	3885	330361	HALF CPLG 1" 6000# NPT	50 PC														
037	4182	337342	HEX PLUG 3/4" NPT	7500 PC														
ITEM	BW HT. CD.	CHEMICAL COMPOSITION (%)																MATERIAL SUPPLIER
		C	Si	Mn	P	S	Cu	Cr	Ni	Mo	V	Co(Nb)	N	Al	Ti	Zr	CE	
Min		0.35	0.10	0.60	-	-	-	0.30	0.40	0.12	0.08	-	-	-	-	-	0.43	
Max			0.35	1.05	0.035	0.040	0.40											
030	4148	0.20	0.19	0.84	0.018	0.008	0.16	0.10	0.06	0.02	0.003	0.001	-	-	-	-	0.379	
030	4151	0.20	0.20	0.86	0.021	0.010	0.20	0.10	0.07	0.02	0.003	0.002	-	-	-	-	0.386	
032	4153	0.19	0.19	0.91	0.013	0.006	0.20	0.08	0.06	0.01	0.001	0.000	-	-	-	-	0.377	
034	3885	0.21	0.20	0.84	0.011	0.011	0.09	0.06	0.04	0.01	0.002	0.001	-	-	-	-	0.373	
037	4182	0.20	0.19	0.85	0.018	0.015	0.15	0.07	0.07	0.02	0.002	0.002	-	-	-	-	0.375	
ITEM	BW HT. CD.	MECHANICAL PROPERTIES										HEAT TREATMENT	ADDITIONAL TEST /REMARKS					
		T. S. (KSI)	Y. S. (KSI)	EL. (%)	R of A (%)	Hardness (HBW)(AVG)	Charpy Impact F / 0 °C (Joule)											
Min		70	36	22	30	187	1	2	3	AVG.	NORMALIZED							
Max		-	-	-	-	-												
030	4148	76.8	51.9	33.2	64.5	143	145				900°C A.C.							
030	4151	76.3	57.9	35.0	65.5	144	146											
032	4153	76.3	55.2	35.8	64.5	144	145											
034	3885	76.5	54.3	35.0	61.4	142	144											
037	4182	79.0	46.0	32.0	66.0	145	146											
WE HEREBY CERTIFY, THAT THE MATERIAL DESCRIBED ABOVE HAS BEEN TESTED AND COMPLIES WITH THE TERMS OF THE ORDER CONTRACT.													C.C. Huang		Y.Y. Chang			
													Q. C. MANAGER		INSPECTOR			
													CHEN CHI HUANG		YUAN YAO CHANG			

WE HEREBY CERTIFY, THAT THE MATERIAL DESCRIBED ABOVE HAS BEEN TESTED AND COMPLIES WITH THE TERMS OF THE ORDER CONTRACT.

BW-DO839 REV: 2

C.C. Huang
Q.C. MANAGER
CHEN CHI HUANG
INSPECTOR
YUAN YAO CHANG

CLIENTE / Customer / Client

CERTIFICADO DE INSPECCION

Inspection Certificate - Certificat de Réception

ISO 10074 / 3.1

FECHA:

12/10/2015

Nº

175588

HOJA:

5



PRODUCTO

FITTING

SU PEDIDO Nº

11415AES

Votre Cde. N°

DE

de - de 15/01/2015

Certified acc. PED 97/23/EC-AD2000-W9
by TÜV Rheinland
Nº 01 202 EIO 02 7443

20560 ONATI (Gipuzkoa) SPAIN
Tel: 34 - 943 789552
Fax: 34 - 943 781808
E-mail: ulma@ulmapiping.com

NORMAS APLICABLES

ASME B16.11-2013

MATERIAL CORRESPONDIENTE

ASME SA350LF2CL-15, ASTM A350LF2CL-15

MODO DE FUSION (*)

Steel Making - Elaboration de l'acier

NACE MR0175ISO15155-02-09 & MR0103-12

E = Elec.

Y = Oxígeno básico

DEPARTAMENTO QUALITY ASSURANCE

Section



Packing List: 120213

PARTIDA Item Poste	CANTIDAD Quantity Quantité	DESCRIPCION Description Description	LOTE	OBSERVACIONES Remarks Observations (*)	COLADA Nº Heat No N°Coulée	TENSIL T Strength Tensile Rupt N/mm2	ALARGAM Elongation Elongation to 50mm4d %	ESTRICCION Rivet Area Shear %	RESILIENCIA Impact test Resilience Joules	CHARPY V 10 Joules	TEMPERATURA Temperature Température °C	DUREZA Hardness Dureté HBW
76		HH-PLUG 3/4 NPT A350LF2	NE		482V8	510	312	30.80	50.00	50	58	150
86		TEE 2X3/4 3000LB NPT A350LF2	NE		B3AV5	509	307	30.80	57.80	57	63	153
87		TEE 2X1 3000LB NPT A350LF2	NE		A23V4	500	325	53.80	48	55	63	151
90		ELBOW 90 3/4 3000LB SW A350LF2	NE		B3AV5	509	307	29.30	57.80	57	63	153
99		COUPLING 2X1 3000LB SW A350LF2	NE		B46A4	510	316	29.70	60.30	68	70	165
			NE		A79A5	517	305	31.80	49.80	58	55	153

COLADA Nº Heat No N°Coulée	C %	Si %	Mn %	P %	S %	Cr %	Ni %	Mo %	Nb %	V %	Cu %	Al %	Ti %	Ceq %
482V8	0.200	0.210	0.840	0.011	0.009	0.130	0.090	0.040	0.002	0.001	0.160	0.028	0.000	0.391
A23V4	0.210	0.260	0.950	0.011	0.008	0.081	0.105	0.034	0.000	0.000	0.251	0.027	0.002	0.415
A79A5	0.184	0.277	0.973	0.009	0.010	0.038	0.130	0.023	0.000	0.001	0.139	0.025	0.001	0.377
B3AV5	0.191	0.218	0.994	0.010	0.002	0.071	0.091	0.010	0.010	0.005	0.146	0.034	0.005	0.390
B46A4	0.199	0.205	0.967	0.007	0.015	0.075	0.104	0.027	0.000	0.001	0.169	0.028	0.001	0.399

(*) OBSERVACIONES

Remarks

Observations



EL INSPECTOR
Works Inspector - L'inspecteur

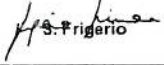
ULMA FORJAS, S.COOP
Dpto de Garantía de calidad
Quality Assurance Dept.

- Les dimensions y la condition superficielle se hallaron satisfactorias
- Dimension and surface condition were found acceptable
- Les dimensions et états de surface sont satisfaisants
- Los materiales citados cumplen las normas aplicables
- Manufacturing requirements are satisfied
- Les normes applicables sont respectées

Heat Number: 14/70479
Trans Am Piping Products Ltd. - Rev'd By: SB
Shipment/Seq #: S 14 - 1373 7

2" CL 150 BLIND FLANGE RF
A105N

 METAFAR PRODOTTI INDUSTRIALI SPA 23861 CESANA BRIANZA (LC) - ITALY VIA G. PARINI, 28 PHONE + 39 031 655441 - FAX +39 031 655149 quality.mff@farmas.com		COMPANY WITH MANAGEMENT SYSTEM CERTIFIED BY DNV = ISO 9001 = = ISO 14001 =																																																									
INSPECTION CERTIFICATE EN 10204:2004 / 3.1		Nr 2014-C MFF-02938	Data / Dated 09.06.2014																																																								
TRANS AM PIPING PRODUCTS LTD 9335 ENDEAVOR DRIVE S.E. T3S 0A1 CALGARY, ALBERTA		Ordine / PO CI-14-267 Item 054 DDT / Delivery note 2014-3E301-0002467 Packing List 2014-3E401-0002199 Fattura / Invoice 2014-3E401-0002199 Ns. rif. / Our ref. 2014-3E201-0001305-0054																																																									
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UFFICIO CONTROLLO QUALITA' QUALITY CONTROL DEPARTMENT 	ENTE UFFICIALE DI COLLAUDO INSPECTION AUTHORITY	MARCHIO PRODUZIONE MANUFACTURER'S SYMBOL 
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