



**TECNO CORPORATIVO INDUSTRIAL SA DE CV**  
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Empresa Certificada Según:  
**NMX-CC-9001-IMNC-2008 / ISO 9001 : 2008**



**REPORTE DE PRUEBAS NUMERO:**  
**TEST REPORT NUMBER:**  
 CERTIFICADO SERIE / CERTIFICATE SERIES:  
**MTR-TCI-AV-01418**

**CERTIFICADO DE INSPECCION / INSPECTION CERTIFICATE / EN 10204: 2004 - 3.1.**

NOMBRE DEL CLIENTE / CLIENT NAME:		ORDEN DE COMPRA / P.O. NUM.:		PED-ORP		REFERENCIA / REFERENCE		FECHA / DATE:		Codigo Formato:																																																																																												
PLESA ANAHUAC Y CIAS, S.A. DE C.V.		11087		2703				jueves, 06 de octubre de 2011		KHTCI-1011																																																																																												
TIPO DE MATERIAL / MATERIAL TYPE :																																																																																																						
CODIGOS y NORMAS APLICABLES / APPLICABLE CODES & NORMS																																																																																																						
ASTM A 105/A105N-10, ASME A/SA105 / NACE-MR-01-75-03 / ISO 15156-03						ASME Boiler & Pressure Vessel Code SECC II , Code Part A 2010 // NRF-096 PEMEX-2010																																																																																																
PROCESOS / PROCESS						TRATAMIENTOS TERMICOS / HEAT TREATMENTS																																																																																																
FORGED / ROLLED 1150°C - 1200°C						NORMALIZED 900°C AND ALLOWED TO COOL IN STILL AIR / NORMALIZADO 900°C Y ENFRIADO AL AIRE CALMADO																																																																																																
DESCRIPCION DEL ARTICULO / DESIGNATION OF ARTICLE :																																																																																																						
P# / ITEM		CANTIDAD / QTY		INFORMACIÓN / INFORMATION				MATERIA PRIMA / BASE MATERIAL				COLADA / HEAT CODE																																																																																										
1		24		6" WNRTJ FLANGE 2500# R-47 SCH 160				ANSI B16.5/ASME B16.5-2003/MSS-SP-6				MILL HEAT SUPPLIER // HEAT: 175821		175821																																																																																								
<table border="1"> <thead> <tr> <th colspan="22">% COMPOSICION QUIMICA / % CHEMICAL COMPOSITION :</th> </tr> <tr> <th>%</th> <th>C</th> <th>Mn</th> <th>Si</th> <th>P</th> <th>S</th> <th>Cr</th> <th>Ni</th> <th>Mo</th> <th>Cu</th> <th>SN</th> <th>AL</th> <th>Nb</th> <th>V</th> <th>Ti</th> <th>Co</th> <th>As</th> <th>Sb</th> <th>H ppm</th> <th>N</th> <th>CEQ</th> <th>Cr+Mo</th> <th>(1*)</th> </tr> </thead> <tbody> <tr> <td>REQUERIDO/ Required MAX</td> <td>≤ 0.35</td> <td>0.60 - 1.05</td> <td>0.10 - 0.35</td> <td>≤ 0.035</td> <td>≤ 0.040</td> <td>≤ 0.30</td> <td>≤ 0.40</td> <td>≤ 0.12</td> <td>≤ 0.40</td> <td></td> <td></td> <td></td> <td>≤ 0.08</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>≤ 0.470</td> <td>≤ 0.320</td> <td>≤ 1.000</td> </tr> <tr> <td>P# / ITEM COLADA / HEAT CODE</td> <td>1</td> <td>175821</td> <td>0.173</td> <td>1.158</td> <td>0.24</td> <td>0.01</td> <td>0.008</td> <td>0.12</td> <td>0.125</td> <td>0.025</td> <td>0.203</td> <td></td> <td>0.002</td> <td>0.001</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>0.417</td> <td>0.145</td> <td>0.474</td> </tr> </tbody> </table>												% COMPOSICION QUIMICA / % CHEMICAL COMPOSITION :																						%	C	Mn	Si	P	S	Cr	Ni	Mo	Cu	SN	AL	Nb	V	Ti	Co	As	Sb	H ppm	N	CEQ	Cr+Mo	(1*)	REQUERIDO/ Required MAX	≤ 0.35	0.60 - 1.05	0.10 - 0.35	≤ 0.035	≤ 0.040	≤ 0.30	≤ 0.40	≤ 0.12	≤ 0.40				≤ 0.08							≤ 0.470	≤ 0.320	≤ 1.000	P# / ITEM COLADA / HEAT CODE	1	175821	0.173	1.158	0.24	0.01	0.008	0.12	0.125	0.025	0.203		0.002	0.001						0.417	0.145	0.474
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PROPIEDADES MECANICAS / MECHANICAL PROPERTIES :																																																																																																						
PRUEBAS DE TENSION / TENSILE TEST						PRUEBAS DE IMPACTO / IMPACT TEST																																																																																																
No. PRUEBA / TEST No.	Dimension del Especimen / Specimen dimension		Dirección	Temperatura	RESISTENCIA Tensile/ Strength (Mpa) /Ksi	LIMITE ELASTICO / Yield Point (Mpa) /Ksi	Elong.-A (%) (Min)	Red. of Area (%) (Min)	No. PRUEBA / Test No.	Temperatura	Dirección	Resiliencia KV Energy J	Promedio / Average	Expansión Lateral / Lateral expansion	Fractura / Fracture	DUREZA / Hardness HB																																																																																						
REQUERIDO/ Required MAX					UTS-Rm (Min)	YS - Rp0.2% (Min)																																																																																																
P# / ITEM COLADA / HEAT CODE					(485) / 70	(250) / 36	22	30								137 - 187																																																																																						
1	175821		LONG.		494	314	37.3	72.1								148																																																																																						

NOTA / NOTE: 1)Cr+Ni+Mo+Cu+V / NO WELDING HAS BEEN PERFORMED // THIS PRODUCT IS FREE FROM MERCURY AND RADIOACTIVE // FOR EACH REDUCTION OF 0.01 % BELOW THE SPECIFIED CARBON MAXIMUM (0.35 %) AND INCREASE OF 0.06 % MANGANESE ABOVE THE SPECIFIED MAXIMUM (1.05 %) WILL BE PERMITTED UP TO A MAXIMUM OF 1.35 %

MARCADO / MARKING : **VX** VX FLANGES & FITTINGS® QA TCI / Inspectores autorizados / Authorized Works Inspector: Ing. Jorge Ortiz / Ing. Andres Lira / Ing. Rafael Eguia Digitalizado / Digitalized: ALG-01418

Certificamos que todos los resultados de pruebas e información de proceso y procedimientos asentados en el presente, son correctos y verdaderos, concordando con los Registros de soporte técnico, Aseguramiento de calidad y Sistema de Gestión de la Calidad. / We here by certify that all test results and process information contained here in, are true and correct in accordance with in all the records of technical support, QA management and the company quality management system. ( EMPRESA CERTIFICADA SEGUN LA NORMA NMX-CC-9001-IMNC-2008/ ISO 9001:2008 para las actividades siguientes: FABRICANTE DE BRIDAS Y CONEXIONES / certified company for the following activities: MANUFACTURING PROCESS OF FLANGES AND FITTINGS.)

