



ALTIOS HORNOS DE MEXICO

CERTIFICADO DE CALIDAD

AHMSA: CALIDAD CON VOLUNTAD DE ACERO

B418785

CLIENTE: FORCACERO, S.A. DE C.V.

FECHA EMISION: 27.03.2004

PAGINA: 1

DIRECCION: B.I.P. CARLOS SALINAS DE G. KM. 8.8 APODACA

A3121

PRODUCTO: LAM/PLACA EN ROLLO ORILLA OM

ING. ENLARGADO MILANUEVA  
GEN. DE DE LABORATORIO METALURGICO  
NUESTROS CERTIFICADOS QUE LOS ANALISIS SON PROYECTOS EN ESTE REPORTE SON REGISTRADOS EN LA COMPANIA.

COMPOSICION QUIMICA		PRUEBAS AL PRODUCTO												
		SI	CU	CR	NI	MO	ALT	V	MB/CB	TI				
COLADA	ESPECIFICACION	C	MN	P	S									
242015	ASTM A36/ASME SA36 ED01 AD03.	0.157	0.406	0.011	0.013	0.018	0.025	0.010	0.028	0.002	0.054	0.002	0.001	0.002
COLADA	NO. ROLLO	PRODUCTO ENBARRCADO												
242015	4115093	PEDIDO												
242015	4115086	PARTIDA												
242015	4115086	ENTREGA												
242015	4115086	PED. CLIENTE												

FIN DE DATOS

62007  
62003

EL COMPROMISO DE AHMSA ES SOLO CON EL CLIENTE MENCIONADO EN ESTE CERTIFICADO, Y SOLO ACEPTAMOS EL DOCUMENTO ORIGINAL.

EMITIDO : 50558151



# APM Division de: IMSA-MEX, SA DE CV

Reference: Mipcert1e.Rpt  
Date: 20 Mar 2004

Page: 1 of 1

## TEST CERTIFICATE No. MTY 559341

Ship from:  
APM Division de: IMSA-MEX, SA DE CV  
Churubusco #1000  
Col. Santa Fé  
Monterrey, Nuevo León 64540  
Tel. 8329-5000 Fax: 8329-5024

P/O No. 4500017357  
S/O No. MTY 55268 / 22  
B/L No. MTY 536936 / 1  
Inv No. MTY

Shp. 20/03/2004

Sold to: (867)  
FORTACERO. S. A. DE C. V.  
BLVD.CARLOS SALINAS DE GORTARI  
KM 8.8  
APODACA. NUEVO LEON  
RFC: FOR-960524-JP8 66600

Ship to:  
FORTACERO. S. A. DE C. V.  
BLVD.CARLOS SALINAS DE GORTARI  
KM 8.8

APODACA. NL 66600

### CERTIFICATE OF ANALYSIS AND TEST Cert. No. MTY 559341

RC0.500X48.00-A36 RCD.5X4  
ROLLO DE AC. ROL. EN CAL.ASTM A36  
GaN 12.70 mm x Ancho 1220 mm (GaN 0.5000 in. x Ancho X48.00-A36 RCD.5X4 in.)

Heat	Properties	Tag	Pcs.	Weight	Width
0344090	PCED=44.5-44.5[PCED=306.93(0.00-0.00)] / RTEN=67.9-67.9[RTEN=468.32(0.00-0.00)] / %ELON=38-38 / APRO=<JAESTRAD> / THICKNESS=12.7210	690130A 85	1	18,445	48.6614

1

18,445

Heat	**** Chemical Analysis ****
0344090	Al=0.0435 C=0.213 Mn=0.534 P=0.008 S=0.004 Si=0.0571

THE MECHANICAL TESTS RESULTS ARE IN KPSI [MPa] AND THE PERCENT OF ELONGATION IS IN 2" OF CALIBRATED LENGTH. .  
FOR ANY QUESTION WE JUST ACCEPT THEM FROM THE CUSTOMER ABOVE MENTIONED AND WITH THE ORIGINAL DOCUMENT.  
WE HEREBY CERTIFY THAT THE INFORMATION HERE REPORTED IS CORRECT AND EXIST IN THE FILES OF THE COMPANY.

The equipment and test methods used for to get the results above described as apply, are as follows:

- Hardness-ASTM E 18-02- Hardness Tester-LA-E-0002.LA-E-0003
- Cup Erichsen Test- ASTM E 643-84(2000)- T.O. Cup Tester-LA-E-0005
- Tensile Test-ASTM E 8-01,ASTM A 370-01, ASTM E-517-01, ASTM E-646-00
- T.O.Tensile Machine-LA-E-0001, LA-E-0083
- Grain Size- ASTM E 112-96,-Metallurgical Microscope Nikon LA-E-0006
- Non Metallic Inclusions-ASTM E 45-97 - Metallurgical Microscope Nikon LA-E-0006
- Magnetic Properties-ASTM A 343-97- Epstein Tester LA-E-0058

  
LABORATORY'S CHIEF