



MILL TEST REPORT

PRODUCT: 3X2 BLANCO ASTM A-500-A / NMX B-199
FINISHING: PERFIL ESTRUCTURAL RECTANGULAR (PERT)

CUSTOMER: CS ESPUELA

SHIPPING DATE: 10/10/12

TRANSPORT PLATAFORM: VZZ. RDZ. JUAN

INVOICE: 4841T
ORDER: N/A

TRANSPORT/ TRANSPORTE:
MANUFACTURER/ PLANTA: LAMINA Y PLACA COMERCIAL S.A DE C.V.
 DIEGO DIAZ DE BERLANGA, NO. 1002 SUR
 SAN NICOLAS DE LOS GARZA, NUEVO LEON, MEXICO

I HEREBY CERTIFY THAT THE PRODUCT ACCOMPLISHED WITH THE SPECIFICATION TO THE INVOICE AND/ OR REMISSION (DATABASE OF SYSTEM).
 ESTE PRODUCTO FUE FABRICADO BAJO LA NORMA QUE SE DESCRIBE HACIENDO CUMPLIR LOS REQUERIMIENTOS DE LA ESPECIFICACION (BASE DE DATOS DEL SISTEMA).

PROCESS: HFW

| MANUFACTURING INFORMATION/ INFORMACION DE MANUFACTURA | | | | | | | DIMENSIONS (DIMENSIONES) | | |
|---|-------|------|------------|-------|------------------|----------------|--------------------------|----------------|-------------|
| DATE | SHIFT | OPER | ORDER OP # | GRADE | MANUFACT PROCESS | HEAT TREATMENT | OUTSIDE DIAMETER (In) | Thickness (In) | LENGT (Mts) |
| 13/07/12 | 1 | COM | 438 | A | HFW | NO | 3X2" | 0.125" | 6.00 |

| ONLINE TESTS (PRUEBAS DE CAMPO) | | | | | | | | | |
|---------------------------------|------------------------|--------------------|-------------|----------------------------|--------------------|--------------|-----------------|-------------------|--|
| HEAT NUMBER (COLADA) | HYDROSTATIC TEST (PSI) | DELIVERY CONDITION | TIME (Sec.) | NON-DESTRUCTIVE TEST (PND) | METALLOGRAPHY TEST | BENDING TEST | FLATTENING TEST | VISUAL INSPECTION | |
| 253497011 | 1000 | AS ROLLED | 5 | OK | OK | OK | OK | OK | |

| CHEMICAL ANALYSYS (ANALISIS QUIMICOS)/ MECHANICAL PROPERTIES (PROPIEDADES MECANICAS) | | | | | | | | | |
|--|--------|--------|--------|--------|----------------|----------|---------|----------------|---------------------|
| HEAT NUMBER (COLADA) | %C | %Mn | %P | %S | %Si | %Cr | %Mo | %Ni | %Cu |
| 253497011 | 0.0890 | 0.3470 | 0.0080 | 0.0130 | 0.0000 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| %Nb | %Sn | %Ti | %V | | YIELD ST (PSI) | UT (PSI) | % ELONG | HARDNESS (HRb) | CARBON EQUIVALENT % |
| 0.0000 | 0.0000 | 0.0000 | 0.0000 | | 44.789 | 57.1960 | 50.000 | 74 | N/A |

| CHARPY TEST (PRUEBA CHARPY) | | | | | |
|-----------------------------|-------------------------|-----|-----|---------|---------------------|
| HEAT IDENT NUM | ABSORBED ENERGY (FT-LB) | | | AVERAGE | TEMPERATURE TEST °C |
| | 1 | 2 | 3 | | |
| 253497011 | N/A | N/A | N/A | N/A | N/A |

NOTE: THE SUM OF THE NIOBIUM, VANADIUM AND TITANIUM CONCENTRATIONS SHALL BE $\leq 0.15\%$
 NOTA: LA SUMA DE LA CONCENTRACION DE NIOBIO, VANADIO Y TITANIO NO DEBE SER $\leq 0.15\%$

I HAVE PERSONAL KNOWLEDGE AS TO ACCURACY OF THE ABOVE INFORMATION, AND HAVE AUTHORITY TO SIGN ON BEHALF OF THE COMPANY.
 TENGO EL CONOCIMIENTO Y AUTORIZACION EN NOMBRE DE LA COMPAÑIA PARA AVALAR ESTA INFORMACION.

SINCERELY

ING. DIONISIO CHIHUAHUA PEREZ
QUALITY ASSURANCE MANAGER