

## MATERIAL TEST REPORTS

Customer: PROVEEDORA DE MATERIALES ANGER SA DE C.V.  
 ALFONSO REYES 4030 NTE COL.DEL NORTE 64500  
 MONTERREY NUEVO LEON

Order No.	239	Dated: SEP.25.2009	Works No.2009-224-3
Material:	ASTM A105	Standard :ANSI B16.5	Invoice No.: GL09B090-3

### A.Content of the delivery

Items No.	Quantity	Description	Heat No
17	300	150-RF-WN-STD 1"	523
18	1000	150-RF-WN-STD 2"	523
19	800	150-RF-WN-STD 3"	523
20	1000	150-RF-WN-STD 4"	523
21	200	150-RF-WN-STD 5"	523

### B.Chemical analysis

Heat No	C %	Mn %	P %	S %	Si %	Cr %	Ni %	Mo %
523	0.17	1.01	0.021	0.004	0.27	0.028	0.02	0.004
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Heat No	V %	Cu %	Nb %	Ti %
523	0.001	0.013	0.001	0.014
523	0.001	0.013	0.001	0.014
523	0.001	0.013	0.001	0.014
523	0.001	0.013	0.001	0.014
523	0.001	0.013	0.001	0.014

### C.Mechanical properties tests

Heat No	Yield Strength (N/mm <sup>2</sup> )	Tensile Strength (N/mm <sup>2</sup> )	Elongation (%)	Reduction (%)	Hardness (HB)
523	325	525	32	67	143
523	325	525	32	67	143
523	325	525	32	67	143
523	325	525	32	67	143
523	325	525	32	67	143

**D. Visual and dimensional inspection: without complaint**

**E. The goods are manufactured according to a quality management system approved and registered to ISO 9001**

Inspection Date SEP,25,2009

Work inspector

