

MATERIAL TEST REPORTS

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

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Order No.	242	Dated: FEB.4,2010	Works No.2010-005-1
Material:	ASTM A105	Standard :ANSI B16.5	Invoice No.: GL09B145-1

A.Content of the delivery

Items No.	Quantity	Description	Heat No
38	10	150-RF-BLIND 24"	6131A21
20	54	150-RF-WN-STD 10"	2285
19	336	150-RF-WN-STD 6"	2285
10	510	150-RF-SO 8"	2003
7	1120	150-RF-SO 4"	2003
4	1800	150-RF-SO 2"	2004

B.Chemical analysis

Heat No	C %	Mn %	P %	S %	Si %	Cr %	Ni %	Mo %
6131A21	0.17	0.68	0.016	0.004	0.24	0.012	0.024	0.005
2285	0.18	0.62	0.014	0.006	0.18	0.016	0.020	0.001
2285	0.18	0.62	0.014	0.006	0.18	0.016	0.020	0.001
2003	0.18	0.63	0.012	0.007	0.28	0.025	0.019	0.007
2003	0.18	0.63	0.012	0.007	0.28	0.025	0.019	0.007
2004	0.19	0.66	0.012	0.005	0.19	0.010	0.019	0.006
Heat No	V %	Cu %	Nb %	Ti %				
6131A21	0.001	0.005	0.001	0.001				
2285	0.001	0.007	0.001	0.002				
2285	0.001	0.007	0.001	0.002				
2003	0.002	0.007	0.001	0.002				
2003	0.002	0.007	0.001	0.002				
2004	0.001	0.004	0.001	0.002				

C.Mechanical properties tests

Heat No	Yield Strength (N/mm ²)	Tensile Strength (N/mm ²)	Elongation (%)	Reduction (%)	Hardness (HB)
6131A21	315	530	33	61	145
2285	325	505	34	60	144
2285	325	505	34	60	144
2003	320	510	36	64	142
2003	320	510	36	64	142
2004	310	520	32	66	141

D. Visual and dimensional inspection: without complaint

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

Place

inspection Date Feb,4,2010

Work inspector

