MILL'S QUALITY CERTIFICATES

HISTEEL CO. , LTD.

405-310

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CERTIFICATE NO : HIE2007-0014 PAGE : 1

DATE OF ISSUE : Jan. 25, 2007

L/C NO (P/O NO) : 1103044854

COMMODITY : 1,395.71MT OF WELDED STEEL PIPE, ASTM 500GR-B AS PER FOLLOWING B/ DOWN

SPECIFICATION : ASTM 500 GR-B

CUSTOMER : DUFERCO SA

TYPE OF PIPE END	DIMENSION (OUTDIA. × THICK. × LENGTH)			QUAN-TITY	WEIGHT	HYDRO-STATIC TEST		HEAT-NO.	PHYSICAL PROPERTIES				CHEMICAL COMPOSITION																	IMPACT TEST (0 ℃)		REMARK (HARDNESS)
						Kg/㎠ PSI	※5		YIELD STREN-GTH	TENSILE STRENGTH		(EL)		C	Si	Mn	P	S	Cu	Ni	Cr	Mo	Nb	V	Ti	B	HARDNESS	Ceq	ENERGY	SHEAR-VALUE	
										B ※6	W ※7																				
※1	※2	※3	※4	(PCS)	(KG)				PSI			%	※8	× 100			× 1000		× 100				× 1000				HV	× 1000	JOULE	%	
BPE	NB	4"X4" X 0.313" X 40'		81	21,825			SR19191	46,397	68,001		25	H	17	2	34	11	4													
BPE	NB	4"X4" X 0.313" X 40'		124	33,411			SR17790	51,472	71,045		24	H	19	2	38	17	3													
BPE	NB	4"X4" X 0.375" X 40'		91	28,514			SR17844	49,152	69,740		23	H	18	2	40	12	2													
BPE	NB	4"X4" X 0.375" X 40'		234	73,320			SR18899	46,397	69,016		25	H	17	3	32	13	4													
BPE	NB	6"X4" X 0.250" X 40'		21	5,940			A04155	50,602	69,161		25	H	14	2	69	14	8													
BPE	NB	6"X4" X 0.250" X 40'		60	16,971			C0411232	47,122	65,246		32	H	19	5	26	15	4													
BPE	NB	6"X4" X 0.250" X 40'		231	65,340			SR20926	46,397	62,491		25	H	17	1	32	11	6													
BPE	NB	8"X4" X 0.250" X 40'		85	29,328			R061006	47,122	68,146		28	H	16	9	93	16	15													
BPE	NB	8"X4" X 0.375" X 40'		7	3,491			R061011	47,122	69,595		25	H	17	8	98	17	14													
BPE	NB	8"X4" X 0.375" X 40'		95	47,372			SR20637	46,107	66,261		26	H	16	1	32	13	3													
BPE	NB	8"X4" X 0.500" X 40'		35	22,402			C061003	46,107	65,246		33	H	17	1	57	18	15													

※ . . S. A	※10 VISUAL & DIMENSION TEST	※11 FLATTENING (B) TEST	※12 WELD DUCTILITY TEST	※13 NONDESTRUCTIVE TEST (U.T)	※14 DRIFT TEST	※15 FLARING TEST	※16 CRUSH TEST	※17 REVERSE FLATTENING TEST
	GOOD							

NOTE 1 ※1 Type of pipe End

BPE :Black Plain End,Square-cut	GPE :Galvanized Plain End Square-cut
BPEB :Black Plain End Beveled	GPEB :Galvanized Plain End Beveled
BTC :Black Threaded & Coupled	GTC :Galvanized Threaded & Coupled
BVJ :Black Victaulic Joint	GVJ :Galvanized Victaulic Joint
ETC :Enameled Threaded & Coupled	

※ 2 NB:Norminal Bore, OD:Outside Diameter
※ 3 Unit (M:mm, I:Inch)
※ 4 Unit (M:Meter, F:Feet, I:Inch)
※ 5 G:Good
※ 6 Base Metal
※ 7 W : Weld Part
※ 8 H:Heat (Ladle) Analysis , P:Product Analytics
※ 9 POST SEAM ANNEALING
※10 Visual & Dimension Test
※11 Flattening Bending Test
※12 Weld Ductility Test
※13 Nondestructive Test
※14 Drift Test
※15 Flaring Test
※16 Crush Test
※17 Reverse Flattening Test

ORIGINAL

SUPERVISOR

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN ACCEPED IN ACCORDANCE WITH THE PRESCRIBED SPECIFICATION AND ORDER

INSPECTION MANAGER