MILL TEST CERTIFICATE

CERTIFICATE NO : HIE2006-157 PAGE : 1

DATE OF ISSUE : May. 24, 2006

L/C NO (P/O NO) :

COMMODITY : ERW STEEL STRUCTURAL TUBING

SPECIFICATION : ASTM A500 GR. B

ORIGINAL

CUSTOMER : DUFERCO

HISTEEL CO. , LTD.

405-300

HEAD OFFICE : 89BLOCK 4LOT, SOZAMDONG, NAMDONG-KU, INCHON, KOREA
& INCHON PLANT
TEL : (032)815-8386-8
FAX : (032)815-8389

100-032

SEOUL OFFICE : 57-6, CHUNGMU-RO 3-GA, JUNG-KU , SEOUL, KOREA
TEL : (02)2273-2141-3
FAX : (02)2273-2157

ORIGINAL

TYPE OF PIPE END	DIMENSION (OUTDIA. × THICK. × LENGTH)			QUAN-TITY	WEIGHT	HYDRO-STATIC TEST		HEAT-NO.	TENSILE TEST			CHEMICAL COMPOSITION																IMPACT TEST (0 ℃)		REMARK
									YIELD STRENGTH	TENSILE STRENGTH		(EL)																ENERGY	SHEAR-VALUE	
										B	※6 W ※7																		
※1	※2	※3	※4	(PCS)	(KG)	Kg/㎠ PSI	※5		Kg/㎟			%	※5	C ×100	Si ×100	Mn ×1000	P ×1000	S ×1000	Cu ×100	Ni ×100	Cr ×100	Mo ×100	Nb ×1000	V ×1000	Ti ×1000	B ×1000	HARDNESS	Ceq	JOULE	%	(HARDNESS)
BPE	NB	10"X10" X 0.250" X 40'		116	68,504			IN1060301	36.1	43.2		26	H	7	2	76	7	6												
BPE	NB	10"X10" X 0.313" X 40'		48	35,122			IN1060302	37.8	43.3		26	H	6	3	77	11	2												
BPE	NB	10"X10" X 0.375" X 40'		130	113,044			IN1060304	35.6	43.3		24	H	6	2	79	9	6												
BPE	NB	4"X4" X 0.313" X 40'		63	17,027			SP19345	34.1	50.9		27	H	18	1	75	12	5												
BPE	NB	4"X4" X 0.313" X 40'		118	31,892			SR09741	38.9	46.5		26	H	8	1	53	9	4												
BPE	NB	4"X4" X 0.375" X 40'		162	50,625			SR09744	37.0	46.2		25	H	5	1	57	10	5												
BPE	NB	6"X6" X 0.313" X 40'		18	7,606			IN1060303	35.5	44.6		25	H	5	3	79	9	5												
BPE	NB	8"X8" X 0.313" X 40'		60	34,615			IN1060303	35.5	44.6		25	H	5	3	79	9	5												
BPE	NB	12"X8" X 0.375" X 40'		60	50,000			IN1060304	35.6	43.3		24	H	5	2	79	9	6												
		TOTAL		775	408,435																									

※9 P. 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 :Enamaled Threaded & Coupled	

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

SUPERVISOR

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

INSPECTION MANAGER