

HENGYANG VALIN STEEL
TUBE CO.,LTD

MILL TEST CERTIFICATE

(ACCORDING TO EN10204 3.1)

Add.: 10 Dalixincun, Hengyang City, Hunan, P.R.China P.C.:421001

Tel and Fax : +86 734 8873739

E-mail : hysicc@hysteeltube.com

CUSTOMER		BHD TUBULAR LIMITED		CERTIFICATE NO.		C201138573-1	
CONTRACT-ITEM NO.		2110002284-04	P.O.NO.	109999	DATE:		2011-12-23
PRODUCT		SEAMLESS STEEL LINE PIPE		DELIVERY CONDITION		N	
SPECIFICATION		SEE SPECIFICATION NOTE		HEAT TREATMENT			
GRADE		GR6,B/X42 PSL2,CSA Z245.1 GR390		DIMENSIONS(INCH)		2"SCH 40"20 FT	
TOTAL BUNDLES:		TOTAL PIECES:		TOTAL LENGTH:		TOTAL WEIGHT:	
				FT		MT	

NO.	LOT No.	HEAT No.	BUNDLES	PIECES	LENGTH FT	WEIGHT MT	TENSILE TEST ASTM A370						FLATTENING TEST
							SAMPLE TYPE/ ORIENTATION / SIZE(mm)/GAUGE LENGTH(mm):SL11950						
							TS(Psi)	YS(Psi)	Rt0.5	EL(%)	R.A. (%)	YS/TS	
1	91Z100106	1115809					66410/68150	50460/52200	36.0/36.0		0.76/0.77	ACCEPTABLE	
2	91Z100107	1115810					68585/69455	49590/50750	36.0/36.0		0.72/0.73	ACCEPTABLE	
3	91Z100108	1115811					68150/69600	48730/49300	36.0/36.0		0.71/0.71	ACCEPTABLE	
4	91Z100109	1127580					62930/65395	48285/49010	41.0/39.0		0.77/0.75	ACCEPTABLE	
5	91Z100110	1115812					69455/67570	54520/52345	39.0/40.0		0.78/0.77	ACCEPTABLE	

NO.	IMPACT TEST								NON METALIC INCLUSION	GRAIN SIZE	HARDNESS TEST	
	NOTCH TYPE/ORIENTATION/TEMPERATURE/SIZE (mm) :										NACE MR0175/0103/ISO 15156-2(REGION 3)	HRC
	V8/L-55/3.33				V8/T/0/3.33							
	AK1 (J)	Av.(J)	% SHEAR AREA	LE	AK2 (J)	Av.(J)	% SHEAR AREA	LE				
1	38.0/44.0/45.0	42	70/65/75		48.0/50.0/51.0					/1.0/		
2	60.0/62.0/68.0	63	70/70/70		49.0/52.0/53.0					/1.0/		
3	62.0/64.0/68.0	64	75/75/70		48.0/51.0/55.0					/1.0/		
4	68.0/62.0/63.0	64	70/65/65		51.0/48.0/44.0					/1.0/		
5	62.0/65.0/68.0	65	70/70/72		53.0/55.0/58.0					/1.0/		

NOTES:			SAMPLE ORIENTATION : L--LONGITUDINAL T--TRANSVERSE			N--NORMALIZING			HE--HOT EXPANDED		
W1--THEORETICAL WEIGHT			SAMPLE TYPE: S--STRIP C-- CLUBBED F--FULL-SECTION			A--ANNEALING			HR--HOT ROLLED		
W2--ACTUAL WEIGHT			Q&T--QUENCHING AND TEMPERING			Av.--AVERAGE			N&T--NORMALIZING AND TEMPERING		
NR--NORMALIZING ROLLED			AK1--ABSORB ENERGY FOR THE FIRST SET			AK2--ABSORB ENERGY FOR THE SECOND SET			LE--SIDE EXPANSION		

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SPECIFICATION		SEE SPECIFICATION NOTE										HEAT TREATMENT																													
GRADE		GR6,B/X42 PSL2,CSA Z245.1 GR290										DIMENSIONS(INCH)										2"*SCH XH*20FT																			
TOTAL BUNDLES:		TOTAL PIECES:										TOTAL LENGTH:										FT										TOTAL WEIGHT: MT									

NO	HEAT No. LOT No.	Type	CHEMICAL COMPOSITION (%)																															
			C	Si	Mn	Cr	Mo	W	Cu	Ni	P	Al	Sn	As	Pb	Sb	Nb	Ti	Zr	N	Bi	S	V	B	Ca	CEIIV	CEPCM	SUM	SUM	SUM	R1	R2	R3	
		P	*100																															
		P	*1000																															
		P	*10000																															
		P	*100																															
		P	*1000																															
1	1115809	H	12	24	104	5	1		5	2	12	23					28	26					14	27	2		19		30.7	56.7				
	91Z100106	P	12	24	104	5	1		5	2	12	23					28	26					14	27	2		19		30.7	56.7				
	91Z100106	P	11	25	103	5	1		5	2	12	23					28	26					14	27	2		18		30.7	56.7				
2	1127588	H	12	21	102	5	1		6	2	11	26					25	28					32	29	1		19		27.9	55.9				
	91Z100107	P	11	22	103	5	1		6	2	11	26					25	28					32	29	1		18		27.9	55.9				
	91Z100107	P	12	21	102	5	1		6	2	11	26					25	28					32	29	1		19		27.9	55.9				
3	1115811	H	12	25	105	5	2		5	2	12	26					28	28					19	27	2		19		30.7	58.7				
	91Z100108	P	11	24	104	5	2		5	2	12	26					28	28					19	27	2		18		30.7	58.7				
	91Z100108	P	12	25	105	5	2		5	2	12	26					28	28					19	27	2		19		30.7	58.7				
4	1127580	H	11	24	107	5	1		6	2	13	23					28	24					21	30	2		18		31	55				
	91Z100109	P	11	23	103	4	1		5	2	10	27					26	26					14	27	2		18		28.7	54.7				
	91Z100109	P	10	22	102	4	1		5	2	10	27					26	26					14	27	2		17		28.7	54.7				
5	1115812	H	11	23	104	5	1		4	1	11	24					27	26					14	31	2		18		30.1	56.1				
	91Z100110	P	12	24	102	4	1		5	2	11	29					26	25					13	28	2		19		28.8	53.8				
	91Z100110	P	11	23	103	4	1		5	2	11	29					26	25					13	28	2		18		28.8	53.8				

NON-DESTRUCTIVE TEST		
POSITION	PIPE BODY	PIPE END
NDT Type(Level)	EMI	MPI
LAMINAR	N/A	
TEST RESULT	ACCEPTABLE	ACCEPTABLE
RESIDUAL MAGNETISM		ACCEPTABLE
UT THICKNESS MEASUREMENT (50%)		N/A
HYDROSTATIC TEST	Min(psi/s)	3000/6
		ACCEPTABLE

NOTES:	H--HEAT ANALYSIS	P--PRODUCT ANALYSIS	CE--EQUIVALENT CARON	R--RATIO	R1=Ca /S	R2=A1/N	R3=Mn /C
	CEIIV=C+Mn/6+(Cr+Mo+V)/5+(Cu+Ni)/15		CEPCM=C+Si/30+(Mn+Cr+Cu)/20+Ni/60+Mo/15+V/10+5*B				
	SUM1=Cr+Cu+Mo+Ni+V		SUM2=Nb+V		SUM3=Nb+V+Ti		
	L4--ACCEPT LEVEL L4,NOTCH DEPTH IS 12.5% THE SPECIFIED WALL THICKNESS.		L2--ACCEPT LEVEL L2,NOTCH DEPTH IS 5% THE SPECIFIED WALL THICKNESS.				

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SPECIFICATION	SEE SPECIFICATION NOTE	HEAT TREATMENT			
GRADE	GR6.B/X42 PSL2, CSA Z245.1 GR290		DIMENSIONS(INCH)	2" SCH XH 20FT	
TOTAL BUNDLES:		TOTAL PIECES:		TOTAL LENGTH:	FT
				TOTAL WEIGHT:	MT
HIC TEST SSC TEST	SEE THE ORIGINAL INSPECTION REPORTS		REMARK :		

SPECIFICATION NOTE	ASTM/ASME A/SA 333/API 5L/ISO15156-2/MR 0103/CSA Z245.1 /SS	
We hereby certify that material herein described has been manufactured in accordance with the standards and specifications required in your order and satisfies the corresponding requirements. This certificate is issued by a computerized system and it is valid with electroic signature. On the original certificate the trade-mark JOINTIME light-green coloured at the bottom of the page is stamped. In case the owner of the certificate would release a copy of it, he must attest its conformity to the original one taking upon himself the responsibility for any unlawful or not allowed use. Any alteration and/or falsification will be subject to the law. If you need to assure the authenticity of this certificate, please do not hesitate to contact Hengyang Valin Steel Tube CO.,LTD, E-mail : hseic@hysteeltube.com CUSTOMER THIRD PARTY		
		Quality Manager: 胡双开 Certificate-maker: 唐娅娜