LTV

MATERIAL TEST CERTIFICATE

Dimension Standard: ASME B16.9-01

Material Standard: ASTM A234-02a WPB NACE MR 0175-03

ITEM	DESCRIPTION	SIZE	QTY (PCS)	HEAT NO.	CHEMICAL COMPOSITION (%)											
					C	Si	Mn	P	S	Cr	Ni	Mo	Cu	V	Nb	CE
					0.30 Max.	0.10 Min.	0.29-1.06	0.050 Max.	0.058 Max.	0.40 Max	0.40 Max.	0.15 Max.	0.40 Max.	0.08 Max.	0.02 Max:	.50 Max.
1	CAP SCH40 WPB	12	50	123	0.240	0.310	0.410	0.010	0.017	0.040	0.070	0.030	0.090	0.008	0.002	0.33
2	CAP SCH40 WPB	14	20	124	0.210	0.300	0.430	0.009	0.015	0.040	0.060	0.040	0.080	0.004	0.003	0.31
3	CAP SCH40 WPB	16	20	125	0.200	0.280	0.440	0.008	0.012	0.020	0.050	0.040	0.070	0.002	0.002	0.29
4	CAP SCH80 WPB	10	50	118	0.240	0.290	0.450	0.011	0.013	0.050	0.030	0.050	0.050	0.010	0.004	0.34
5	CAP SCH80 WPB	12	50	123	0.240	0.310	0.410	0.010	0.017	0.040	0.070	0.030	0.090	0.008	0.002	0.33
6	CAP SCH80 WPB	14	20	124	0.210	0.300	0.430	0.009	0.015	0.040	0.060	0.040	0.080	0.004	0.003	0.31
7	CAP SCH80 WPB	16	20	125	0.200	0.280	0.440	0.008	0.012	0.020	0.050	0.040	0.070	0.002	0.002	0.29

MECHANICAL PROPERTIES

ITEM	DESCRIPTION	SIZE	QTY (PCS)	HEAT NO.	TENSILE STRENGTH Min. 415 Mpa	YIELD STRENGTH Min. 240 Mpa	EL2IN (%) Min. 30%	HARDNESS (HB)	NOTES
1	CAP SCH40 WPB	12	50	123	487	374	35	197 Max.	HOT FORMED 620-980°C AND COOLED
2	CAP SCH40 WPB	14	20	124	450	378	36	< OR =197	IN STILL AIR
3	CAP SCH40 WPB	16	20	125	486	372	31	< OR =197	
4	CAP SCH80 WPB	10	50	118	486	372	33	< OR =197	Cu+Ni+Cr+Mo = <OR =1.00%
5	CAP SCH80 WPB	12	50	123	487	374	35	< OR =197	
6	CAP SCH80 WPB	14	20	124	450	378	36	< OR =197	Cr+Mo = < OR =0.32%
7	CAP SCH80 WPB	16	20	125	486	372	31		

We hereby certify that the products descrbed herein has been manufactured in compliance with ASTM A234 WPB and ANSI B16.9 and that the test results shown herein are correct.

QUALITY MANAGER