

MATERIAL TEST REPORT

B I L L C O P	ORDER NUMBER	
	PONUMBER	113613
	ORDER DATE	8/29/2007
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ITEMS

Ln#	Qty	Description	Eng. Spec	Matl Spec	Heat Code	Lot Number
1	2			ASMEASTM SA350LF2CL1	L0732BV	L0732BY
2	3			ASME ASTM SA105	D889	D889
3	3			ASME ASTM SA105	C272	C272
4	9			ASME ASTM SA105N	R7A	R7A
5						
6						

CHEMICAL PROPERTIES

Ln#	Heat Code	C %	Si %	Mn %	S %	P %	Cr %	Ni %	Mo %	Ti %	Cu %	V %	Co %	N %	Al %	CE %
1	L0732BV	0.16	0.17	1.12	0.007	0.004	0.15	0.2	0.08	0	0.23	0.001	0	0	0	0.422
2	D889	0.21	0.21	0.84	0.012	0.009	0.08	0.08	0.019	0	0.23	0.002	0.001	0	0	0.361
3	C272	0.2	0.24	0.89	0.03	0.01	0.15	0.01	0.03	0	0.35	0	0	0	0	0.368
4	R7A	0.18	0.19	1.18	0.014	0.011	0.09	0	0.01	0	0.24	0.001	0.003	0	0	0.413
5																
6																

PHYSICAL PROPERTIES

Ln#	Heat Code	Yield	Tensile	%Elong	%R.A.	Hardness	Bend Test	Type	Impact Test (ftlbs)			Lat. Expansion			Shear Fract.			
									Temp	1	2	3	1	2	3	1	2	3
1	L0732BV	50360	77720	28.4	52.8	157 - 165	0	V-NOTCH	-50 F	75.2	72.3	70.8	0	0	0	0	0	0
2	D889	45793	60361	26	43.1	163 - 163	0		0	0	0	0	0	0	0	0	0	0
3	C272	45698	76700	0.22	38.4	163 - 163	0		0	0	0	0	0	0	0	0	0	0
4	R7A	51910	73515	27.4	50.44	154 - 154	0		0	0	0	0	0	0	0	0	0	0
5																		
6																		

NOTES

Ln#	Heat Code		
1	L0732BV	NOMR, 0.00000 F... TAG:	We certify that our Flanges are capable of passing a hydrostatic test compatible with their rating and all test results and process information contained herein are correct and true as contained in company records. All Flanges meet NACE MRO-175 and/or MRO-103 Latest Revision. Notwithstanding the absence of a signature, the organization submitting either a printed certificate or an EDI transmitted certificate is responsible for the content of the report. (ASTM A601/A 951-04a Section 16.4)
2	D889	AS FORGED, 0.00000 F...	
3	C272	AS FORGED, 0.00000 F...	
4	R7A	NORM, 0.00000 F...	
5			
6			