

280.49-50M

# SB0776-20W



## GLORIA MATERIAL TECHNOLOGY CORP.

1FL., NO. 35, HSIN CHUNG RD., HSIN YING,  
TAINAN, TAIWAN

### INSPECTION CERTIFICATE

TEL: (06) 6520031  
FAX: (06) 6520088

Messrs: ENERGY STEEL PRODUCTS INC.  
Order No: 2011002387  
FILE NO: 2011003878-A  
Grade: AISI 304/304L  
Size: 9"  
HEAT-Lot No: SB0776-20W  
Condition: HF-Solution Annealed-Turned

P.O.NO.: P01245  
Date: 06/15/2011  
Weight: 2148.0KG 4735.00LB  
P'cs: 2

Chemical Composition (wt%)							
	C	Si	Mn	P	S	Ni	Cr
Min.					0.020	8.0	18.0
Max.	0.030	1.00	2.00	0.040	0.030	10.5	20.0
Result	0.014	0.28	1.74	0.038	0.026	9.2	18.1
	Mo	Cu	Co	N			
Min.							
Max.	0.75	0.75		0.10			
Result	0.68	0.21	0.084	0.08			

#### Mechanical Properties Spec.

	Hardness	Grain Size
		ASTM E112
Spec.Min.	1/2R	T
Spec.Max.	223HBW	
Result	142HBW	4

Corrosion Test  
ASTM A262 Practice A

Spec.Min.	
Spec.Max.	
Result	OK

#### Tensile Test

	Elongation(A)	Tensile Strength(Rm)	Yield Strength(0.2% Rp)	Reduction of Area(Z)
	1/2R L	1/2R L	1/2R L	1/2R L
	(Ave)	(Ave)	(Ave)	(Ave)
Unit	%	KSI	KSI	%
Min.	40	75	30	50
Max.				
Result	65.5	81	35.7	81



Mars Wang
QA SECTION
Mars Wang

Our quality and environment management systems have been certified by AS9100, ISO9001 QMS, 14001 EMS and NADCAP. We hereby certify that the material described herein has been manufactured and tested with satisfactory results in accordance with the requirement of the above material specification. We hereby the Inspection Certificate comply with EN 10204 3.1.

MAC-311082

C + B  
PO 76293  
WD 5514  
CPA 6/40 Nozzles

SB0776-20W



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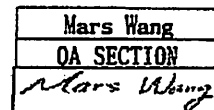
P.O.NO.: P01245  
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Specification:

1. ASTM A182/A182M-05a.
2. ASTM A193/A193M-05 class 1 B8.
3. ASTM A262-02 practice E.
4. ASTM A276-05a.
5. ASTM A314-97 (reapproved 2002).
6. ASTM A320/A320M-04 class 1 B8.
7. ASTM A479/A479M-05.
8. ASTM A484/A484M-05.
9. ASME SA-182 E04.
10. ASME SA-479 E04.
11. ASME SA 193 E04 B8 CL1.
12. ASME SA320 E04 B8 CL1.
13. AMS 5639H.
14. AMS 5647H.
15. AMS QQS 763A condition A.
16. MIL-S-862B.
17. ENERGY SPEC. SS1 REV.4, NOVEMBER 2008.
18. NACE MR0175-2003 (1/2R HARDNESS ONLY)

Remark:

1. MATERIAL IS FREE FROM KNOWN CONTACT WITH MERCURY / LEAD / BISMUTH / TELLURIUM AND RADIUM.
2. MELTING PROCESS: EAF+LHF+VOD.
3. MATERIAL IS FREE FROM WELDS AND WELD REPAIRS.
4. MATERIAL IS FREE FROM CONTINUOUS CARBIDE NETWORK.
5. INTERGRANULAR CORROSION TEST: PASSED ASTM A262 PRACTICE A&E.
6. MACRO AND MICRO STRUCTURE: GOOD.
7. MATERIAL IS FREE FROM DECARBURIZATION.
8. AVERAGE GRAIN SIZE PER ASTM E112.
9. SOLUTION TREATMENT: 1900 DEGREE F X 30 MIN / INCH, WATER COOLED.
10. HOT WORKING PROCESS :  $\Phi \geq 90$  MM FOR FORGED ;  $\Phi < 90$  MM FOR ROLLED..



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