



## *ISO Registered*

Metallurgical  
&  
Nondestructive Testing

Effective Date: October 1, 2008

7821 Pinemont Dr. Houston, Texas 77040

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**Prices are based on testing to the following specifications:**

**ASTM, API, AWS and ASME**

**Other specifications may incur Engineering Review Charges. (see page 8)**

## Contacts

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Philip Kirk -----	Metallurgy
Jasey McKay -----	Metallurgy
Robert Johnston -----	Production Manager
Ashley Ogrodowicz -----	Quality Assurance Manager
Erica Budzisz -----	Report Review / Expediting
Pedro Dioquino -----	ASNT Level III
John Marshall -----	NDE Manager
Tammy Bennett -----	NDE Secretary / Expediting

**Carbon Steel - Low Alloys - Aluminum**

*Tensile Testing - includes yield, elongation & reduction of area*

.500" .350" .250"-----	\$53.00
Under .250" -----	Per Quote
Elevated Temperature – Yield and modulus for information only-----	\$150.00
<i>Charpy Impact Testing - includes lateral expansion &amp; percent shear</i>	
Full Size	
Ambient to –100° F-----	\$90.00
-101° F to –325° F-----	\$105.00
Sub Size - thickness less than .394"	
Ambient to –100° F-----	\$100.00
-101° F to – 325° F-----	\$115.00

**Stainless Steels – Duplexes – Brass**

*Tensile Testing - includes yield, elongation & reduction of area*

.500" .350" .250" -----	\$63.00
Under .250" -----	Per Quote
Elevated Temperature - Yield and modulus for information only-----	\$160.00
<i>Charpy Impact Testing - includes lateral expansion &amp; percent shear</i>	
Full Size	
Ambient to –100° F-----	\$107.00
-101° F to –325° F-----	\$125.00
Sub Size - thickness less than .394"	
Ambient to –100° F-----	\$137.00
-101° F to – 325° F-----	\$155.00

**Nickel Alloys - Beryllium Copper - Tool Steels - Titanium**

*Tensile Testing - includes yield, elongation & reduction of area*

.500" .350" .250" -----	\$ 93.00
Under .250" -----	Per Quote
Elevated Temperature - Yield and modulus for information only-----	\$185.00
<i>Charpy Impact Testing - includes lateral expansion &amp; percent shear</i>	
Full Size	
Ambient to –100° F-----	\$147.00
-101° F to –325° F-----	\$165.00
Sub Size - thickness less than .394"	
Ambient to –100° F-----	\$180.00
-101° F to – 325° F-----	\$195.00

*Through Thickness Tensile: Carbon Steel – Low Alloys*

Under 6" thick-----	\$160.00
6" thick and over-----	\$75.00

Load to Failure (Pull Test)-----	\$70.00
Strain Aged Charpy Impacts-----	\$285.00
Elevated Charpy Impacts-----	Price upon request

**Weld Sample Testing**

*Reduced Section Tensile*

	Carbon & Alloys	Stainless Steels	Nickel Alloys
Up to 1"	\$55.00	\$65.00	\$95.00
Over 1"	\$65.00	\$75.00	\$105.00

**Weld Sample Charpies**

See Charpy pricing on Page 4

**Bend and Nick Break Testing**

	Carbon & Alloys	Stainless Steels	Nickel Alloys
Bend Test	\$35.00	\$40.00	\$45.00
Nick Break Test	\$40.00	\$45.00	\$50.00

**Weld Procedures Services**

Welder Performance Qualification Report-----	\$ 85.00
Weld Procedure Qualification Record-----	\$100.00
Weld Procedure Specification Report-----	\$100.00
Weld Procedure Consultation-----	Price upon request
Qualification material-----	Price upon request

**Hardness Testing**

Minimum Charge - Brinell or Rockwell-----	\$45.00
Brinell - when in conjunction with mechanical testing-----	\$10.00
Rockwell - when in conjunction with mechanical testing-----	\$10.00
Brinell – Large Capacity Equipment – Minimum-----	\$75.00
One (1) Quadrant Survey – Rockwell (9 Readings)-----	\$60.00
Four (4) Quadrant Survey - Rockwell (36 Readings)-----	\$105.00
*Rockwell Hardness Weld Survey (to 18 Points)-----	\$90.00
*Rockwell 15 N Weld Survey per Nace (to 18 points)-----	\$110.00
*Vickers Weld Survey per Nace (up to 19 points)-----	\$125.00
*Micro-Hardness Survey (to 10 Points)-----	\$110.00
*Case Depth – Vickers or Knoop (to 10 Points)-----	\$110.00
Micro Hardness - Wire Products-----	\$45.00
Jominy (End Quench Hardenability)-----	\$150.00
Hardness Survey Additional Points-----	\$3.00/each

Hardness pricing for Non Destructive Testing – See NDE Pricing

**\*Note: Hardness survey may require additional points**

**Metallography**

Failure Analysis-----	Price upon Request
<i>**Microstructure Evaluation – Includes 1 sample preparation</i>	
Carbon and Alloys-----	\$100.00
Stainless and Nickel Alloys-----	\$115.00
Additional Sample Preparation Carbon & Alloys-----	\$55.00
Additional Sample Preparation Stainless & Nickel Alloys-----	\$70.00
<i>**Grain Size per E112 (In conjunction with Micro Evaluation)</i>	
Carbon & Alloys-----	\$65.00
Stainless & Nickel Alloys-----	\$75.00
<i>**Grain Size per E-112 (Not in conjunction with Micro Evaluation)</i>	
Carbon & Alloys-----	\$110.00
Stainless & Nickel Alloys-----	\$120.00
**McQuaid-EHN Grain Size with Heat Treatment-----	\$275.00
Grain Direction Only -----	\$50.00
<i>Inclusion Rating per E-45</i>	
Method A, B or C-----	\$65.00
Method D-----	\$250.00
<i>**Macro Cleanliness per E-381 with Evaluation</i>	
Bar or Forging - up to 9" square-----	\$105.00
Over 9"-----	Price upon request
**Macro Etch per A-604 with Evaluation-----	Price upon request
Point Count per E-562-----	\$160.00
**Decarburization-----	\$65.00
Metallurgical Photos-----	\$30.00/each
<b>**Note: Photos will be added to the above prices unless otherwise requested on purchase order.</b>	

**Chemical Analysis**

*Spectrograph*

Spectrograph Analysis (4 Elements and Under)-----	\$45.00
Carbon and Low Alloys (First 10 Elements)-----	\$60.00
Stainless Steel – Aluminum (First 10 Elements)-----	\$80.00
Nickel Alloys (First 10 Elements) -----	\$90.00
Each additional Element after the First 10-----	\$5.00/each
Hydrogen-----	\$105.00
Re-melt Button – Required for Shavings and Turnings-----	\$45.00
Wet chemistries-----	Price upon request
	Carbon or Sulphur by Combustion      Oxygen or Nitrogen
Carbon & Low Alloys	\$50.00      \$50.00
Stainless Steels	\$50.00      \$50.00
Nickel Alloys	\$50.00      \$75.00
Multiple sample pricing available upon request	

**Corrosion Testing**

*ASTM A 262*

Practice A - Screening-----	\$100.00
Practice B - 5 day test-----	\$225.00
Practice C - 10 day test-----	\$250.00
Practice E - 1 day test-----	\$150.00
Practice F - 5 day test-----	\$225.00
Sensitization required for extra low carbon & stabilized grades: i.e. 304L, 316L, 317L, 321, & 347 -----	\$50.00

*ASTM G 48*

Method A or B-----	\$150.00
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*ASTM A 923*

Method A - Screening-----	\$110.00
Method C-----	\$150.00

**Heat Treatment**

*Normalize or Austenitize and Quench*

First Hour-----	\$40.00
Additional Hours-----	\$25.00

*Temper*

First Hour-----	\$35.00
Additional Hours-----	\$25.00

Annealing-----	Price upon request
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*Post Weld - ASME code up & down*

First Hour-----	\$35.00
Additional Hours-----	\$30.00

**Fracture Mechanics**

CTOD Testing - three specimens----- BS 7448 part 1 & 2, ASTM E-1290	Price upon request
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**Non-Destructive Testing**

Level II Technician	
Ultrasonic-----	\$60.00/hour
Dye Penetrant-----	\$60.00/hour
Magnetic Particle-----	\$60.00/hour
Field Services-----	\$240.00/minimum
Assistant required-----	\$50.00/hour
PMI (Positive Material Identification)-----	\$110.00/hour
PMI Field Services-----	4 hours minimum
AMS 2301-----	\$165.00
Tubular over 11" OD-----	\$275.00
Heat Treatment to AMS 2301-----	\$50.00
Brinell Hardness-----	\$45.00 minimum
Brinell Hardness per reading-----	\$15.00
Rockwell Hardness per reading (HRC)-----	\$15.00
Setup Charge – Large Machine-----	\$75.00

**Sawing Charges**

Oversize test samples – over 6" x 6" x 10" -----	\$55.00/hour
Prolongation-----	Price upon request
Sawing will be charged on hourly rate plus consumables	

**Miscellaneous**

<i>Ferrite Measurement by Fischer Scope</i>	
Per reading-----	\$25.00
Minimum charge-----	\$75.00
Hydrogen Induced Cracking - HIC Testing TMO284-96-----	Price upon request
SSCC Samples - TMO177-96-----	Price upon Request
Drop Weight Testing (Set of Two)-----	\$150.00
Flattening-----	\$65.00
Engineering and Consulting -----	\$85.00/hour
Special Project Review and Layout-----	\$85.00/hour
Documentation Fee – after first revision-----	\$35.00/each

**Overtime Rates**

One and one half times published pricing.

Definition:

- 1) Any work performed outside of what is considered normal and customary turnaround.
- 2) Work performed after normal business hours. Normal business hours are Monday through Friday, 7:00 a.m. to 5:00 p.m.

***Weekends and Holidays***

***Price on request***

**Terms**

3% 10 Days Net 30

Payments not made within terms may be subject to interest at the rate of 1.5% per month.