



ISO Registered

Metallurgical
&
Nondestructive Testing
713-460-3655

Effective Date: November 1, 2011

7821 Pinemont Dr. Houston, Texas 77040

Table of Contents

Tensile Testing	3
Charpy Testing	3
Bend and Nick Break Testing	4
Weld Procedure Services	4
Hardness Testing	4
Metallography	5
Chemical Analysis	5
Corrosion Testing	6
Heat Treating	6
Fracture Mechanics	6
Non Destructive Testing	7
Sawing Charges	7
Miscellaneous	7
Overtime Rates and Definitions	8
Terms	8

Prices are based on testing to the following specifications:

ASTM, API, AWS and ASME

Other specifications may incur Engineering Review Charges. (see page 7)

3rd Party Witness Charges ----- \$35.00

Additional charges may apply based on schedule coordinating and testing time.

Carbon Steel - Low Alloys - Aluminum

Tensile Testing - includes yield, elongation & reduction of area

.500" .350" .250"-----	\$60.00
Under .250"-----	Per Quote
Elevated Temperature – Yield and modulus for information only-----	\$175.00
<i>Charpy Impact Testing - includes lateral expansion & percent shear</i>	
Full Size	
Ambient to –100° F-----	\$95.00
-101° F to –325° F-----	\$110.00
Sub Size - thickness less than .394"	
Ambient to –100° F-----	\$105.00
-101° F to – 325° F-----	\$120.00

Stainless Steels – Duplexes – Brass

Tensile Testing - includes yield, elongation & reduction of area

.500" .350" .250"-----	\$70.00
Under .250"-----	Per Quote
Elevated Temperature - Yield and modulus for information only-----	\$185.00
<i>Charpy Impact Testing - includes lateral expansion & percent shear</i>	
Full Size	
Ambient to –100° F-----	\$115.00
-101° F to –325° F-----	\$130.00
Sub Size - thickness less than .394"	
Ambient to –100° F-----	\$140.00
-101° F to – 325° F-----	\$160.00

Nickel Alloys - Beryllium Copper - Tool Steels - Titanium

Tensile Testing - includes yield, elongation & reduction of area

.500" .350" .250"-----	\$110 .00
Under .250"-----	Per Quote
Elevated Temperature - Yield and modulus for information only-----	\$225.00
<i>Charpy Impact Testing - includes lateral expansion & percent shear</i>	
Full Size	
Ambient to –100° F-----	\$155.00
-101° F to –325° F-----	\$170.00
Sub Size - thickness less than .394"	
Ambient to –100° F-----	\$185.00
-101° F to – 325° F-----	\$200.00

Through Thickness Tensile: Carbon Steel – Low Alloys

Under 6" thick-----	\$250.00
6" thick and over-----	\$60.00
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"	\$60.00	\$70.00	\$100.00
Over 1"	\$75.00	\$85.00	\$150.00

Weld Sample Charpy Impact Testing

See Charpy impact testing on Page 3

Bend and Nick Break Testing

	Carbon & Alloys	Stainless Steels	Nickel Alloys
Bend Test	\$50.00	\$55.00	\$60.00
Nick Break Test	\$55.00	\$60.00	\$65.00

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 materials-----	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)-----	\$225.00
Hardness Survey Additional Points-----	\$3.00/each

Hardness pricing for Non Destructive Testing – See Non Destructive Testing on page 7.

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

Metallography

Failure Analysis----- Price upon Request

***Microstructure Evaluation – Includes 1 sample preparation*

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

***Grain Size per E112 (In conjunction with Micro Evaluation)*

Carbon & Alloys----- \$65.00

Stainless & Nickel Alloys----- \$75.00

***Grain Size per E-112 (Not in conjunction with Micro Evaluation)*

Carbon & Alloys----- \$110.00

Stainless & Nickel Alloys----- \$120.00

***McQuaid-EHN Grain Size with Heat Treatment----- \$275.00*

Grain Direction Only ----- \$50.00

Inclusion Rating per E-45

Method A, B or C----- \$65.00

Method D----- \$250.00

***Macro Cleanliness per E-381 with Evaluation*

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

****Note: Photos will be added to the above prices unless otherwise requested on purchase order.**

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

Oxygen or Nitrogen

Carbon & Low Alloys \$60.00

Stainless Steels \$75.00

Nickel Alloys \$85.00

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 28

Method A-----	\$225.00
---------------	----------

ASTM G 48

Method A or B-----	\$150.00
Method D-----	\$200.00

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
----------------	--------------------

Post Weld - ASME code up & down

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

Heat Treat Charts upon request-----	\$25.00
--	----------------

Fracture Mechanics

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

Non Destructive Testing

3rd Party Witness Charges ----- \$35.00

Additional charges may apply based on schedule coordinating and testing time.

Level III Consulting-----	\$100.00 per hour
Level III Services-----	Per quote
Level II Technician	
Ultrasonic-----	\$65.00/hour
Dye Penetrant-----	\$65.00/hour
Magnetic Particle-----	\$65.00/hour
Field Services -----	\$260.00/minimum
Additional Hours-----	\$65.00/hour
Additional personnel required – per person-----	\$50.00/hour
PMI (Positive Material Identification)-----	\$110.00/hour
PMI Field Services-----	\$440.00 minimum
AMS 2301-----	\$170.00
Tubular over 11" OD-----	\$275.00
Heat Treatment prior 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

Ferrite Measurement by Fischer Scope

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)-----	\$250.00
Flattening – up to 400,000 lbf-----	\$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.