



Triangle Engineering, Inc.

6 Industrial Way – Hanover, MA 02339-2425

Phone 781-878-1500 Fax 781-878-2547

SERVICES FOR THE WELDING INDUSTRY

PRICING GUIDE FOR DESTRUCTIVE TESTING

Triangle Engineering, Inc. offers complete Welding Engineering Services, Inspection and Procedural Review. We also provide the materials and services to perform complete Weld Procedure and Welder Performance Qualifications. All testing is supervised by a CWI in strict accordance with the latest code editions.

| <u>Material size</u> | <u>ASME IX, AWS D1.1* & B2.1</u> | | <u>AWS D1.5*</u> |
|---|--------------------------------------|--------------------|-----------------------------------|
| | <u>PROCEDURE</u> | <u>PERFORMANCE</u> | <u>PROCEDURE</u> |
| Pipe & plate 2" to 10" NPS | | | |
| 1" Thickness & less | \$410.00 | \$120.00 | \$1250.00** |
| > 1" to 1-1/2" | \$540.00 | \$120.00 | \$1,600.00** (Includes Macros) |
| Any P23 or P35 material requiring 1/8" bend thickness add | | | \$75.00 |
| Fillet Welds | \$320.00 | \$150.00 | |
| <u>AWS D1.4</u> Rebar up to #11 Gr. 60 | \$435.00 | \$120.00 | |
| <u>AWS D17.1</u> Fillet or Groove | -- | \$155.00 | |
| <u>API 1104</u> | <u>PROCEDURE</u> | <u>PERFORMANCE</u> | |
| 2" NPS TO 4" | \$250.00 | \$250.00 | |
| Greater than 4" to 10" | \$430.00 | \$430.00 | |
| Greater than 10" to 12" | \$500.00 | \$500.00 | |
| Greater than 12" to 20" | \$820.00 | \$820.00 | |
| 12" Branch | \$430.00 | \$430.00 | |
| <u>MISCELLANEOUS:</u> | | | |
| AWS requires x-ray prior to destructive testing | | \$250.00 | |
| Procedure/Performance visual exam failure | | \$ 60.00 | |
| Procedure bend failure-tensile not completed | | 70% of base cost | |
| Retesting of failed bend specimens, when allowed | | \$35 per bend | |
| Above prices include TEI mechanical test report | | | |
| ASME (QW484), AWS (E4), 1595A, D17.1 or other form | | \$ 50.00 | |

Weldments for testing must be 8-10" long. Other sizes may incur additional charges.

Normal turn-around time for the above destructive testing is 3 to 5 business days

24-hour expedited testing is available, please call us for pricing



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Charpy Impacts (3 Impacts minimum)

10mm x 10mm to 5mm x 10mm Vee Notch @ 212°F to -100°F
 @ -325°F

\$135.00ea.

\$165.00ea.

Note: Less than 5mm and/or other temperatures quoted upon request

Post Weld Heat Treatment up to 2000°F

6 hour minimum (Includes strip chart)

\$ 30.00/hr.

Round Tensile Remove, prepare and test

\$150.00ea.

Flat Tensile Prepare and test

\$125.00ea.

Corrosion Resistant Overlay

Sample removal, preparation, PT exam & side bends

\$330.00 Proc.

Sample removal, preparation, side bends

\$120.00 Perf.

Chemical analysis when required (Provide wire spec. for quotation)

Hardfacing Overlay

Sample removal, preparation, PT exam, macro & hardness

\$410.00 Proc.

Sample removal, preparation, PT exam & macro

\$320.00 Perf.

Chemical analysis when required (Provide wire spec. for quotation)

Macros

Remove, prepare, etch and examine

1@ \$95.00

2-4@ \$80.00ea

5+@ \$60.00ea.

Tensile testing of pre-machined samples

Within our testing capacity 120,000#

\$60.00ea.

\$150.00 min.

Length of specimen must be 10"-12" OAL

Minimum charges to prepare and type ASME

WPS Welding Procedure Specification (QW482)

\$350.00

PQR Procedure Qualification Record (QW483)

\$250.00

Prequalified WPS

\$250.00

Welding Booth Rental

\$50.00/hr.

Welding Supervision, CWI Services

\$100.00/hr.

Consulting Weld Engineering

\$150.00/hr.

Welder Qualification: Facility, Materials, Testing & Reports

1" Plate 3G & 4G position MA Highway Department or D1.1

\$450.00

3/8" Plate 3G & 4G position MA Highway Department or D1.1

\$350.00

3/8" or 1" Plate single position. MA Highway Department or D1.1

\$300.00

2/80 or 6/80 6G Position ASME Section IX or AWS D1.1

\$400.00

2XXH or 6XXH 6G Position ASME Section IX or AWS D1.1

\$450.00

AWS QC-7: Supplement G \$30.00 application fee required

AWS QC7 add \$75.00 to above pricing

\$75.00