

# **MTEC Mechanical Testing Services**

A metallurgical testing facility established in 1984

ISO 9001-2008

ISO/IEC 17025:2005

Price List

Effective October 1, 2011

When we test your product, you can feel confident that the results certified represent a true picture of the material tested

## **Quality Policy**

MTEC will provide clients with efficient and expedient service, will accompany that service with accurate reporting, and will continually strive to improve.

If we do not test your product, then we both lose money

#### LOW ALLOYS, ALUMINUM, AND CARBON STEELS

Tensile (room temp) to ASTM A370 and E8	0.250", 0.350", and 0.500" dia	\$44
Tensile (room temp) to ASTM A370 and E8	0.125" and 0.160" dia	\$55
Slow strain rate 0.001 in/in /min	add	\$10
Reduced section tensile - thickness up to 1 inch		\$50
Reduced section tensile - thickness greater than 1 inch		\$55
Elevated temperature tensile up to 1400°F per ASTM E21		\$90
Slow strain rate 0.0005 in/in /min	add	\$15
Charpy Impacts to E23 Full size 10x10mm (set of 3)	Room temperature to -100°F	\$77
Charpy Impacts to E23 Full size 10x10mm (set of 3)	-100°F to -320°F	\$95
Subsize charpy impacts	add	\$10

#### MARTENSITIC AND DUPLEX STAINLESS STEELS

Tensile (room temp) to ASTM A370 and E8	0.250", 0.350", and 0.500" dia	\$55
Tensile (room temp) to ASTM A370 and E8	0.125" and 0.160" dia	\$67
Slow strain rate 0.001 in/in /min	add	\$10
Reduced section tensile - thickness up to 1 inch		\$55
Reduced section tensile - thickness greater than 1 inch		\$63
Elevated temperature tensile up to 1400°F per ASTM E21		\$94
Slow strain rate 0.005 in/in /min	add	\$10
Charpy Impacts to E23 Full size 10x10mm (set of 3)	Room temperature to -100°F	\$85
Charpy Impacts to E23 Full size 10x10mm (set of 3)	-100°F to -320°F	\$105
Subsize charpy impacts	add	\$10

#### AUSTENITIC STAINLESS STEELS

Tensile (room temp) to ASTM A370 and E8	0.250", 0.350", and 0.500" dia	\$61
Tensile (room temp) to ASTM A370 and E 8	0.125" and 0.160" dia	\$74
Slow strain rate 0.001 in/in /min	add	\$10
Reduced section tensile - thickness up to 1 inch		\$61
Reduced section tensile - thickness greater than 1 inch		\$70
Elevated temperature tensile up to 1400°F per ASTM E21		\$100
Slow strain rate 0.005 in/in /min	add	\$15
Charpy Impacts to E23 Full size 10x10mm (set of 3)	Room temperature to -100°F	\$105
Charpy Impacts to E23 Full size 10x10mm (set of 3)	-100°F to -320°F	\$122
Subsize charpy impacts	add	\$12

#### NICKEL BASE ALLOYS, TITANIUM ALLOYS, AND BeCu

Tensile (room temp) to ASTM A370 and E8	0.250", 0.350", and 0.500" dia	\$75
Tensile (room temp) to ASTM A370 and E 8	0.125" and 0.160" dia	\$90
Slow strain rate 0.001 in/in /min	add	\$10
Reduced section tensile - thickness up to 1 inch		\$72
Reduced section tensile - thickness greater than 1 inch		\$85
Elevated temperature tensile up to 1400°F per ASTM E21		\$105
Slow strain rate 0.005 in/in /min	add	\$15
Charpy Impacts to E23 Full size 10x10mm (set of 3)	Room temperature to -100°F	\$154
Charpy Impacts to E23 Full size 10x10mm (set of 3)	-100°F to -320°F	\$170
Subsize charpy impacts	add	\$12

TENSILE - WIRE (all materials)	\$52
BEND TEST - FACE, ROOT, AND SIDE	
Low alloy and martensitic stainless steels less than 1" thick	\$33
Austenitic stainless steels	\$40
Nickel base alloys	\$55
FATIGUE TESTING (Rotating Beam at Room Temperature)	
Machine only test specimen	\$90
Testing - up to 12 hours	\$100
Testing - 12 to 24 hours	\$185
Testing - over 24 hours add per hour	\$8
STRESS RUPTURE AND CREEP TESTING (All alloys)	
Machine only Smooth Stress Rupture	\$55
Machine only Combination Stress Rupture	\$95
Testing - 0 to 30 hours	\$50
Testing - 30.1 to 50 hours	\$60
Testing - from 50 to 100 hours, plus add \$.85 per hour	\$60
Testing - from 100 hours to 500 hours, plus add \$.76 per hour	\$102
Testing - from 500 hours to duration, plus add \$.66 per hour	\$406
Machine only Creep	\$95
Creep Testing - 0 to 100 hours	\$105
Creep Testing - over 100 hours	call
DROP WEIGHT	
P3 sample	\$68
HARDNESS	
Minimum charge - Brinell or Rockwell	\$25
Brinell hardness on test blank	\$8
Brinell hardness added after tensile testing	\$10
Rockwell hardness on test blank	\$10
Rockwell hardness added after tensile testing	\$12
Macrohardness survey (weld test) up to 18 readings	\$70
Additional readings each	\$2.50
Microhardness survey (HV10 or HK weld test) - sample preparation	\$50
Each reading (HV10 or HK)	\$3.50
Case depth - sample preparation	\$50
Each reading (HV10, HK, Knoop)	\$3.50
Single quadrant hardness (9 readings Rockwell)	\$50
Four quadrant hardness (36 readings Rockwell) up to 8"OD	\$75
Four quadrant hardness (36 readings Rockwell) over 8" OD	\$100
JOMINY HARDENABILITY TO ASTM A255	
Jominy end quench and test	\$140

## METALLOGRAPHY

Determine decarb depth	\$55
Free ferrite (ferrite content)	\$55
Ferrite by instrument, minimum charge	\$75
Each reading	\$20
Ferrite by point count to ASTM E562 - mount	\$55
Count per point	0.60
Grain size - carbon and low alloys	\$55
Grain size - martensitic and austenitic stainless steels, nickel base alloys	\$60
Grain size - McQuaid Ehn	\$145
Microcleanliness- ASTM E45 Method A, B, or C	\$75
Microcleanliness- ASTM E45 Method A and B	\$115
Microcleanliness- ASTM E45 Method D	\$140
Microstructure	\$55
Determine percentage martensite	\$55
Determine grain direction	\$55
Mount metallographic sample only	\$55
Macro sample (weld) - prepare and polish	\$55
Macro sample (weld) - prepare, polish, and examine	\$60
Macro sample (weld) - prepare, polish, and examine opposing faces	\$115
Photomicrograph only	\$55
Photomicrograph of test	\$12

## FAILURE ANALYSIS

call for quo

## CHEMICAL ANALYSIS (Spectrograph)

Chemical analysis - low alloys	\$70
Chemical analysis - stainless steels and nickel base alloys	\$80
Chemical analysis - brass (wet)	\$120
Chemical analysis - one element with other testing	\$20
Chemical analysis - one element with no testing	\$30
Chemical analysis - wet (each element)	\$40
Remelt	\$25
Nitrogen only	\$60
Nitrogen with full chemical analysis - add	\$25
Hydrogen only	\$110
Oxygen only	\$80
Material identification add	\$10

## CORROSION TESTING

ASTM A262 Practice A Oxalic Acid Test	\$88
ASTM A262 Practice B Ferric Sulfate-Sulfuric Acid Test	\$195
ASTM A262 Practice C Nitric Acid Test	\$245
ASTM A262 Practice E Copper-Copper Sulfate, Sulfuric Acid 24 hrs	\$145
ASTM A262 Practice F Copper-Copper Sulfate, Sulfuric Acid 120 hrs	\$220

## CORROSION TESTING (CONT'D)

ASTM A923 Method A	\$85
ASTM A923 Method C	\$140
Sensitization treatment when required	\$40
ASTM G28 Method A 24 hrs	\$175
ASTM G28 Method A 120 hrs	\$260
ASTM G28 Method B	\$175
ASTM G48 Method A or B	\$140
ASTM G48 Method C	\$170
ASTM G48 Method D	\$180

HYDROGEN INDUCED CRACKING TO TM0284 (Set of 3) \$2,050

## HEAT TREAT

Normalize - First hour	\$40
Each additional hour	\$20
Austenitize - First hour	\$40
Each additional hour	\$20
Temper - first hour	\$40
Each additional hour	\$20
Post Weld Heat Treat to ASME VIII - set up and first hour	\$40
Each additional hour	\$20
Ten-day Step Cooling Post Weld Heat Treat	\$2,075

## NON-DESTRUCTIVE TESTING

Ultrasonic Testing (in house only) per hour	\$65
Liquid Penetrant Testing (in house only) per hour	\$65
Magnetic Particle Testing (in house only) per hour	\$65
Magnetic Cleanliness Step Down Specimen	\$180
Magnetic Cleanliness -turned from oversize quarter	\$112

FLATTENING TEST (up to 10" outside diameter) \$45

## PROOF LOAD

10 Second Hold, up to 60,000 lbs	38
10 Second Hold, 60,000 to 120,000 lbs	44
10 Second Hold, over 120,000 lbs	50

## MISCELLANEOUS

Minimum charge	\$25
Hourly sawing charges	\$35
Witness charge	15%
Overtime charge	2X
Weekend charge	2X

## DISCOUNTS (payment terms met)

>\$10,000/ month sales	5%
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