

SCOPE OF ACCREDITATION

Exova Canada Inc.
BURLINGTON LABORATORY
1440 Grahams Lane, Unit #11
Burlington, ON
L7S 1W3

Accredited Laboratory No. 65
(Conforms with requirements of CAN-P-4E (ISO/IEC 17025:2005))

CONTACT: Mr. Roger Graham
TEL: (905) 631-7785
FAX: (905) 631-7786
EMAIL: roger.graham@exova.com
URL: www.exova.com

CLIENTS SERVED: All interested parties

FIELDS OF TESTING: Chemical/Physical, Mechanical/Physical

ISSUED ON: 2012-01-23

VALID TO: 2013-12-12

METALLIC ORES AND PRODUCTS

Articles of Metal:

All Forms, Articles of Metal

(Chemical Analysis)

ASTM E1019 (CHEM-20,
CHEM-21) Carbon (C), Sulphur (S), Nitrogen (N) and Oxygen (O)
by I.R. Detection in Steel and in Iron, Nickel and Cobalt
Alloys

ASTM E1251; ASTM E1086,
ASTM E415 (CHE-1) Test Method for Optical Emission Vacuum
Spectrometric Analysis
Quantitative Analysis of:
Aluminum Alloys

	Carbon and Low Alloy Steels
	Copper (Modified)
	Nickel Alloys
	Stainless Steels
ASTM E1409, ASTM E 1447, ASTM E1937, CHEM-20	Determination of Oxygen, Nitrogen, Hydrogen in Titanium
CHEM-20	Determination of Hydrogen in Steel (ASTM E1019 Modified)
CHEM-ICP-OP-1	Chemical Analysis-ICP (ASTM D1976 Modified) Quantitative Analysis of: Aluminum Alloys Carbon and Low Alloy Steels Cast Irons Cobalt Alloys Copper and Brass Alloys Magnesium Alloys Nickel Alloys Stainless Steels Titanium Alloys Tool Steels Zinc Alloys

(Coating and Plating)

ASTM A428	Standard Test Method for Weight [Mass] of Coating on Aluminum-Coated Iron or Steel Articles
ASTM A90 / A90M	Standard Test Method for Weight [Mass] of Coating on Iron & Steel Articles with Zinc or Zinc-Alloy Coatings
ASTM B487 / B487M	Standard Test Method for Measurement of Metal and Oxide Coating Thickness by Microscopical Examination of a Cross Section

(Fastener Testing)

ASTM F606	Standard Test Methods for Determining the Mechanical Properties of Externally and Internally Threaded Fasteners, Washers, Direct Tension Indicators, and Rivets
ASTM F606, SAE J995	Mechanical and Material Requirements for Steel Nuts
IFI 100/107, IFI 101, MIL-STD 1312-15, SAE J1965, CSA 16.01 Appendix 1	Prevailing Torque and Proof Load of Nuts
ISO 898-1, ISO 898-2 ASTM F606, SAE J995, MIL-STD-1312, GM500, FORD-ES-21001 - 5100, SAE J429, ASTM A370, SAE J1199	Mechanical Properties of Internal and External Screw Fasteners
ISO 898-7, SAE J81, SAE J78, GM 6010M	Torsional Strength Test on Externally Threaded Fasteners

(Mechanical)

ASME IX (QW-150)	Welding and Brazing Qualifications - Tension Tests
ASME IX (QW-160)	Welding and Brazing Qualifications - Guided Bend Tests
ASME IX (QW-170)	Welding and Brazing Qualifications - Notch Toughness Tests
ASTM A370, ASTM A450, ASTM A530, ASME SA-370, ASME SA-450, ASME SA-530	Test Method for Flattening and Flaring of Metallic Materials
ASTM E10	Standard Test Methods for Brinell Hardness of Metallic Materials
ASTM E18	Standard Test Methods for Rockwell Hardness of Metallic Materials
ASTM E23	Standard Test Methods for Notched Bar Impact Testing of Metallic Materials
ASTM E290	Standard Test Methods for Bend Testing of Material for Ductility
ASTM E384, ISO 6507-1	Standard Test Method for Knoop and Vickers Hardness of Materials
ASTM E517	Standard Test Method for Plastic Strain Ratio r for Sheet Metal
ASTM E646	Standard Test method for Tensile Strain - Hardening Exponents (n-Value) of Metallic Sheet Materials
ASTM E8 / E8M, ASTM B557 / 557M, ASTM A370, ASTM D3953	Standard Test Methods for Tension Testing of Metallic Materials
CSA G40.20	General Requirements for Rolled or Welded Structural Quality Steel/Structural Quality Steel
SAE J416	Tensile Test Specimen

(Metallurgical)

ASTM A247	Standard Test Method for Evaluating the Microstructure of Graphite in Iron Castings
ASTM E1077	Standard Test Method for Estimating the Depth of Decarburization of Steel Specimen Except for: Section 1.1.4
ASTM E112	Standard Test Methods for Determining the Average Grain Size
ASTM E112, SAE J418	McQuaid Ehn Test
ASTM E1245	Standard Practice for Determining the Inclusion or Second-Phase Constituent Content of Metals by Automatic Image Analysis
ASTM E3	Standard Guide for Preparation of Metallographic Specimens
ASTM E340	Standard Test Methods for Macroetching Metals and Alloys

ASTM E381	Standard Method of Macroetch Testing Steel Bars, Billets, Blooms, and Forgings
ASTM E407	Standard Practice for Microetching Metals and Alloys
ASTM E45	Standard Test Methods for Determining the Inclusion Content of Steel
ASTM E562	Standard Test Method for Determining Volume Fraction by Systemic Manual Point Count
ASTM E930	Standard Test Methods for Estimating the Largest Grain Observed in a Metallographic Section (ALA Grain Size)
MET-15	Failure Analysis (using accredited laboratory test methods)
SAE J423	Methods of Measuring Case Depth

Notes:

CAN-P-4E (ISO/IEC 17025): General Requirements for the Competence of Testing and Calibration Laboratories (ISO/IEC 17025-2005)

CHEM/CH01: In house procedures, chemical analysis

MET: In house procedures, metallurgical properties

S. Cross, Director, Conformity Assessment

Date: 2012-01-23

Number of Scope Listings: 41

SCC 1003-15/106

Partner File #0

Partner: None