



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

ARCELORMITTAL - INDIANA HARBOR
CHEMICAL AND METALLURGICAL LABS
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CHEMICAL

Valid To: February 28, 2021

Certificate Number: 0111.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests on steels (carbon low alloy, free machining, low alloy) and steel related products (zinc- or aluminum-coated, painted, formed), raw materials (coal, coke, iron pellets, iron, zinc), fastener raw materials and by-products (slags):

<u>Lab/Location</u>	<u>Test</u>	<u>Test Method</u>
3 SP Chemical	Optical Emission Spectroscopy (OES) of Steel: Al, As, B, C, Ca, Cb, Cr, Cu, Mn, Mo, N, Ni, P, Pb, S, Sb, Si, Sn, Ti, V, Zr	ASTM E415
	Carbon By Combustion and Nitrogen By Inert Gas Fusion	ASTM E1019
4 SP Chemical	Optical Emission Spectroscopy (OES) of Steel: Al, As, B, C, Ca, Cb, Cr, Cu, Mn, Mo, Ni, P, Pb, S, Sb, Si, Sn, Ti, V	ASTM E415
	Nitrogen By Inert Gas Fusion	ASTM E1019
QA Chemical	Inductively Coupled Plasma Spectroscopy (ICP) of Steel: Al (Soluble), As, Bi, Cb, Cr, Cu, Mn, Mo, Ni, P, Pb, Sb, Se, Si, Sn, Te, Ti, V	CH6W048 ¹
	ICP (Zinc Pot Spelter): Al, Cd, Fe, Pb, Sb	CH6W051 ¹
	ICP (Percent Iron In Coating): Al, Cd, Cu, Fe, Ni, Pb, Sn	CH1W137 ¹
	Optical Emission Spectroscopy (OES) of Steel: Al, As, B, C, Ca, Cb, Cr, Cu, Mn, Mo, N, Ni, P, Pb, S, Sb, Si, Sn, Ti, V, Zr	ASTM E415
	Carbon and Sulfur By Combustion/IR and Oxygen and Nitrogen by Inert Gas Fusion	ASTM E1019

<u>Lab/Location</u>	<u>Test</u>	<u>Test Method</u>
QA Chemical	Coating Weight: Zn on Steel by Weigh-Strip-Weigh	ISO: 1460; 17925; CH1W136 ¹
	Sample Preparation for Chemical Analysis	ASTM E1806
Blast Furnace Chemical	X-Ray Fluorescence (XRF) of Iron: Mn, P, S, Si	ASTM E322; 159W125
	X-Ray Fluorescence (XRF) of Iron Pellets and Slags: Al, Ca, Cr, Fe, K, Mg, Mn, Na, S, Si, Zn	ASTM E1031-96 ²
	Moisture in Coke	159W43 ¹
2 Continuous Galvanizing Line	Coating Weight (Zinc on Steel) by XRF	ASTM A754
Research and Development	Fourier Transform Infrared (FTIR) Spectroscopy	183W323 ¹ ; 183W324 ¹ ; 183W325 ¹
	Raman Spectroscopy	183W330 ¹
	Surface Analysis Using Microprobe	ISO 14594; 183W225 ¹
	X-Ray Diffraction (XRD): Pole Figures and Scans	183W045 ¹ ; 183W046 ¹ ; 183W099 ¹
	X-Ray Diffraction (XRD): Retained Austenite	ASTM E975; 183W273 ¹
	Glow Discharge (GD)-OES, Bulk Steel Analysis	183W422 ¹ ; 183W449 ¹
Mill Processing Chem	Sampling and Sample Preparation for Surface Contaminants on Sheet Steel	MPL-1015 ¹
	Surface Carbon (Combustion and Coulometer) on Sheet Steel	MPL-1014 ¹
	Surface Iron (Wipe, Digestion and Titration) on Sheet Steel	MPL-1017 ¹
	Surface Oil on Sheet Steel (IR)	MPL-1011 ¹
	Surface Anions (Chloride, Nitrite, Nitrate and Sulfate) on Sheet Steel	MPL-1016 ¹
Technical Investigations	SEM/EDS (Qualitative)	168-J-080 ¹ ; 168-J-081 ¹

<u>Lab/Location</u>	<u>Test</u>	<u>Test Method</u>
Environmental	Nutrients: Ammonia (as N)	Standard Method (18 th Edition) SM 4500-NH ₃ G
	Classical Chemistry: Cyanide (Total and Free) Suspended Solids Oil and Grease pH Phenolics Temperature Total Residual Chlorine	ASTM D2036-09 (Methods A and B) ² USGS I-3765-85 ² EPA 1664 A (HEM) USGS 1-1586-85 EPA 420.1 SM 2550 B SM 4500-Cl D

¹ In-House Method

² This laboratory's scope contains withdrawn or superseded methods. As a clarifier, this indicates that the applicable method itself has been withdrawn or is now considered "historical" and not that the laboratory's accreditation for the method has been withdrawn.



Accredited Laboratory

A2LA has accredited

ARCELORMITTAL - INDIANA HARBOR

East Chicago, IN

for technical competence in the field of

Chemical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Presented this 13th day of August 2019.

A blue ink signature of the Vice President of Accreditation Services.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 0111.01
Valid to February 28, 2021
Revised December 22, 2020

For the tests to which this accreditation applies, please refer to the laboratory's Chemical Scope of Accreditation.