

CERTIFICATE OF ACCREDITATION

In terms of section 22(2) (b) of the Accreditation for Conformity Assessment, Calibration and Good Laboratory Practice Act, 2006 (Act 19 of 2006), read with sections 23(1), (2) and (3) of the said Act, I hereby certify that:-

COLUMBUS STAINLESS (PTY) LTD

Co. Reg. No.: 1999/002477/07

Facility Accreditation Number: T0013

is a South African National Accreditation System accredited facility provided that all conditions and requirements are complied with

This certificate is valid as per the scope as stated in the accompanying schedule of accreditation, Annexure "A", bearing the above accreditation number for

CHEMICAL ANALYSIS AND MECHANICAL TESTING

The facility is accredited in accordance with the recognised International Standard

ISO/IEC 17025:2017

The accreditation demonstrates technical competency for a defined scope and the operation of a quality management system

While this certificate remains valid, the Accredited Facility named above is authorised to use the relevant accreditation symbol to issue facility reports and/or certificates

Mr T Baleni

Acting Chief Executive Officer

Effective Date: 09 May 2019
Certificate Expires: 31 October 2022

ANNEXURE A
SCHEDULE OF ACCREDITATION

Facility Number: **T0013**

Permanent Address of Laboratory:

Columbus Stainless (Pty) Ltd
 Hendrina Road
 Middelburg
 1050

Technical Signatories:

Mr JJ Groenewald (Mechanical & Metallurgical)
 Ms FT Motau (Chemistry)
 Mr EM Seedat (Chemistry)
 Ms B Havemann (Spectrochemical)
 Ms CJE Hattingh (Chemistry)
 Ms PR Khumalo (Chemistry)
 Mr HJ Lamprecht (Mechanical & Metallurgical)
 Mr K Nkosi (Chemistry)
 Mr JJ Swart (Mechanical & Metallurgical)
 Mr G Make (Spectrochemical)
 Ms M Zulu (Spectrochemical)
 Ms N Mjobo (Spectrochemical)

Postal Address:

PO Box 133
 Middelburg
 1050

Nominated Representative:

Ms SD Muller

Tel: (013) 247-2065

Issue No.: 27

Fax: (013) 247-2701

Date of Issue: 17 January 2022

E-mail: muller.sharon@columbus.co.za

Expiry Date: 31 October 2022

Material or Products Tested	Type of Tests / Properties Measured, Range of Measurement	Standard Specifications, Techniques / Equipment Used
SPECTROCHEMICAL		
	Determination of Al, B, Sn, C, N, SparkEmission Spectroscopy	ILB-TEST-219
	Determination of C by Leco	ILB-TEST-221
	Determination of N by Leco	ILB-TEST-222
High Carbon Ferrochromium	Determination of C and S by Leco	ILB-TEST-221
CHEMICAL		
High Carbon Ferrochromium	Determination of Al ₂ O ₃ , Fe, Mn, Si by ICP	WLB-TEST-205
	Determination of Cr by Autotitration	WLB-TEST-347
Process/boiler effluent and Pollution, Control Water	Determination of Chemical Oxygen Demand (COD)	WLB-TEST-009

Determination of Conductivity by Autotitration	WLB-TEST-311
Determination of pH by Autotitration	WLB-TEST-313
Determination of Fluoride by Autotitration	WLB-TEST-312
Determination of Cr, Mn, Na, Mg by ICP	WLB-TEST-016
Determination of Cl ⁻ , NO ₃ ⁻ , PO ₄ ³⁻ and SO ₄ ²⁻ by Ion Chromatography	WLB-TEST-310
Determination of the following using Aquakem:	
NO ₂ ⁻	WLB-TEST-337
NO ₃ ⁻	WLB-TEST-336
Cr ⁶⁺	WLB-TEST-341
SO ₄ ²⁻	WLB-TEST-335
PO ₄ ³⁻	WLB-TEST-340
Cl ⁻	WLB-TEST-334

MECHANICAL

Metallic materials
Austenitic & Ferritic

Tensile Testing (up to 250KN) (At ambient temperature) 0,2% Proof Stress 1,0% Proof Stress UTS Elongation	ISO 6892-1, ASTM E8 M
Impact Charpy (up to 406J)	ISO 148-1, ASTM E23
Hardness Testing (Laboratory)	
Vickers method	ISO 6507-1, ASTM E384
Rockwell method	ISO 6508-1, ASTM E18

METALLURGICAL

Metallic material

Grain Size & Microstructure	ASTM E112 (comparison method)
Inter-granular corrosion test-Austenitic	ASTM A262 (practice A & E)
Inter-granular corrosion test-Ferritic	ASTM A763 (practice W & Z)
Detrimental Intermetallic Phase in Duplex	ASTM A923

Original Date of Accreditation: 01 November 1992

ISSUED BY THE SOUTH AFRICAN NATIONAL ACCREDITATION SYSTEM

Accreditation Manager