INTERNATIONAL ACCREDITATION SERVICE®

CERTIFICATE OF ACCREDITATION

This is to attest that

MIDWAL ENGINEERING SERVICES LIMITED

5B ELEGANZA MALL, IKOTA, LEKKI
LAGOS, 101245, FEDERAL REPUBLIC OF NIGERIA

Testing Laboratory TL-603

has met the requirements of AC89, *IAS Accreditation Criteria for Testing Laboratories*, and has demonstrated compliance with ISO/IEC Standard 17025:2017, *General requirements for the competence of testing and calibration laboratories.* This organization is accredited to provide the services specified in the scope of accreditation.

Effective Date August 17, 2020

IAS ACCREDITED

President

IAS is an ILAC MRA Signatory

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SCOPE OF ACCREDITATION

International Accreditation Service, Inc.

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MIDWAL ENGINEERING SERVICES LIMITED

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Accredited to ISO/IEC 17025:2017 *Effective Date August 17, 2020*

Mechanical	
API 1104	Welding of Pipelines and Related Facilities (Clause 5.6.2, Annex A.3.4.1, Clause 5.6.3, 5.6.4, 5.6.5, 5.8, 10.3.7.2, 10.3.7.3, 10.3.7.4, Annex A.3.4.2)
ASME IX	Welding and brazing qualifications (QW-150, QW-160, QW-171, QW-180, QW-182, QW-183, and QW-184)
ASTM A262	Standard Practices for Detecting Susceptibility to Intergranular Attack in Austenitic Stainless Steels (Practice A—Oxalic Acid Etch Test for Classification of Etch Structures of Austenitic Stainless Steels and Practice C - Nitric Acid Test for Detecting Susceptibility to Intergranular Attack in Austenitic Stainless Steels) (Cl. 33.1 is excluded)
ASTM A370	Standard Test Methods and Definitions for Mechanical Testing of Steel Products
ASTM A530	Standard Specification for General Requirements for Specialized Carbon and Alloy Steel Pipe (Cl 21 Flattening test Requirements)
ASTM A615/A615M	Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
ASTM A923	Standard Test Methods for Detecting Detrimental Intermetallic Phase in Duplex Austenitic/Ferritic Stainless Steels (Method A - Sodium Hydroxide Etch Test for Classification of Etch Structures of Duplex Stainless Steels and Method C - Ferric Chloride Corrosion Test for Classification of Structures of Duplex Stainless Steel)
ASTM A956	Standard Test Method for Leeb Hardness Testing of Steel Products
ASTM E8/E8M	Standard Test Methods for Tension Testing of Metallic Materials
ASTM E10	Standard Test Method 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 E92	Standard Test Methods for Vickers Hardness and Knoop Hardness of Metallic Materials
ASTM E112	Standard Test Methods for Determining Average Grain Size

ASTM E190	Standard Test Method for Guided Bend Test for Ductility of Welds
ASTM E290	Standard Test Methods for Bend Testing of Material for Ductility
ASTM E384	Standard Test Method for Micro-indentation Hardness of Materials
ASTM E340	Standard Practice for Macroetching Metals and Alloys
ASTM E407	Standard Practice for Microetching Metals and Alloys
ASTM E415	Standard Test Method for Analysis of Carbon and Low-Alloy Steel by Spark Atomic Emission Spectrometry
ASTM E562	Standard Test Method for Determining Volume Fraction by Systematic Manual Point Count
ASTM E572	Standard Test Method for Analysis of Stainless and Alloy Steels by Wavelength Dispersive X-Ray Fluorescence Spectrometry
ASTM E1086	Standard Test Method for Analysis of Austenitic Stainless Steel by Spark Atomic Emission Spectrometry
ASTM E1382	Standard Test Methods for Determining Average Grain Size Using Semiautomatic and Automatic Image Analysis
ASTM G28	Standard Test Methods for Detecting Susceptibility to Intergranular Corrosion in Wrought, Nickel-Rich, Chromium-Bearing Alloys
ASTM G48	Standard Test Methods for Pitting and Crevice Corrosion Resistance of Stainless Steels and Related Alloys by Use of Ferric Chloride Solution (Method A - Ferric chloride pitting test)
AWS B4.0M	Standard Methods for Mechanical Testing of Welds (Part A, B and C)
AWS D1.1/D1.1M	Structural Welding Code – Steel (4.9.3 - Mechanical Testing, 4.9.4 - Macroetch Test, 4.22.4 - Fillet Weld Break Test, 4.27 - CVN Tests)
BS 4449	Steel for the reinforcement of concrete. Weldable reinforcing steel. Bar, coil and decoiled product Specification.
ISO 6892-1	Metallic materials. Tensile testing. Part 1 Method of test at room temperature
ISO 8249:2018	Welding — Determination of Ferrite Number (FN) in austenitic and duplex ferritic-austenitic Cr-Ni stainless steel weld metals